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TÜBATULABAL ETHNOGRAPHY

BY

ERMINIE W. VOEGELIN

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TÜBATULABAL ETHNOGRAPHY

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SALIENT FEATURES OF TÜBATULABAL CULTURE

Four or five generations ago--it need have been no farther removed in point of time--a traveler entering the South Fork valley of the Kern, in what is now east-central California, would have found throughout the length of this narrow, mountain-rimmed valley small clusters of domed willow and tule houses. In these houses, or ranging in groups over the valley and foothills, he would have been likely to encounter certain brown-skinned people, who obviously knew this region as their home.

Today white men's ranches dot this same valley. Automobiles speed up and down its well-signed highroad; cowboys riding beside restless herds of range cattle, and shepherds trailing slow-moving flocks of dun-colored sheep, traverse its length. But the valley and the surrounding foothills still shelter the descendants, now few in number, of those brown-skinned Mongoloids who less than a century ago spoke a Shoshonean language exclusively, and knew nothing of agriculture and herding, of metal products and writing.

During three successive summers it was my privilege to visit this valley, and to work with certain of the Tübatulabal Indians whose parents or grandparents had inhabited it in pre-white days. My purpose was to obtain as complete a description as possible of the manner in which the "old-timers" had lived out their lives in this region. By direct observation, questioning, obtaining genealogies and census lists, visiting former hamlet sites, collecting botanical specimens, gossiping, the aim was in part, at least, attained. The former mode of life of the Tübatulabal, in large measure existent today only in the minds of certain elderly persons, appeared upon consideration of its details to have been extremely interesting, despite its structural simplicity.

The Tübatulabal say that they have always lived in the region where they are found today, but, as Dr. Lowie has pointed out,[1] the absence of migration myths is a characteristic of Shoshone mythology, to which Tübatulabal mythology is fairly closely allied.[2] However, other evidence, including the economic adaptation they have made to their peculiar semidesert, semi-Californian environment, indicates that the Tübatulabal are by no means newcomers to their area, although probably they originally entered it from the desert regions to the east.

This economic adaptation of the Tübatulabal to the resources of their area is peculiarly interesting. Lacking all knowledge of agriculture, the Tübatulabal used as staple vegetable foods the natural products of two, rather than one, culture areas--the acorns of California and the piñons of the Great Basin. Similarly, their flesh foods were a combination of two varieties of wild game--the deer of California and the rabbits of the Great Basin, together with an appreciable use of fish that is more characteristic of California than of the Basin. Taken by and large, as far as the food quest was concerned the Tübatulabal might have been transplanted either over the crest of the Sierras eastward a few miles into the Great Basin desert area, or an equally short distance westward into the Great Valley of south-central California, and they could have adapted themselves with a minimum adjustment in food-gathering techniques to the resources of either of these natural areas. But there were also many varieties of plants available to the Tübatulabal within their region, of which they made no use; a few of these are listed in the following monograph. Such a list illustrates, in concrete fashion, the negative response of Tübatulabal culture to part of the floral environment and indicates selective processes at work, even in this simple culture, which materially affected the responses that the environment elicited.

In obtaining some of their foods, the Tübatulabal displayed an ingenuity that is only fully revealed when all the details of the techniques are considered. Few botanists perhaps realize that the honey dew deposited by aphids on the stalks of the common cane is capable of being collected in sufficient quantity to be made into sugary cakes, and that this was regularly done among such groups as the Tübatulabal, the Surprise Valley Paiute,[3] the Owens Valley Paiute,[4] and the more distant Yavapai and Papago groups.[5] Or that the minute saline crystals which dry weather brings out on the stems and leaves of salt grass can also be obtained in quantity, by using a technique similar to that employed for beating the honey dew off canes. Yet the Tübatulabal have been treating salt grass thus for generations, and have not yet lost their taste for this pungent plant product. Nor have they ceased to appreciate other of their "luxury" plant manufactures, including a native chewing gum, which is

[1] Lowie, 233.

[2] Gayton, 1935a.

[3] Kelly, 103.

[4] Steward, 1933, 245.

[5] Yavapai and Papago (Gifford, correspondence).

made from the milky sap of a species of Asclepias that is run into hollow sections of the stalks of an Eriogonum species and laid on hot ashes until the sap congeals; the resulting masticatory excels, in native estimation, any variety of "store gum" that can now be obtained.

The treatment of tobacco by the Tübatulabal also follows along unusual lines. Fortunately, I was able to watch the tobacco process from beginning to end; this was most opportune, since the Tübatulabal are among that compact group of central and southern California tribes[e] who use tobacco in a peculiar native form. It is true that they smoke it occasionally, as was done over so much of North America; but mainly they chew or "eat" it mixed with lime, and before the tobacco can be consumed thus, it undergoes a lengthy and varied treatment. Access to the plant is easy to the Tübatulabal, since large patches of two species of tobacco grow wild in their area; the plants are not used, however, without expenditure of some care upon them during the growing stage. Wild tobacco plants are partly deleaved and rid of their side shoots at regular intervals before the artificially enlarged leaves are finally gathered; tobacco thus occupies, among the Tübatulabal, the unique position of being the only plant upon which any effort was expended to better its natural growth. The curing of the tobacco also follows along what may seem to us novel lines; the shredded green leaves are rolled up inside bundles of leafy willows, after being sprinkled with water and the broken meats of Digger pine nuts; these willow bundles are then laid out in the sun for several days so that the tobacco inside them may cure. The tobacco is then dried, pulverized, and made up into balls. As for the lime that is eventually mixed with the tobacco just before it is consumed, some of it was obtained from burnt shells, but much of it was and still is dug from natural deposits. Digging lime thus and slaking it with water after burning it is said to have been an aboriginal procedure, though there is room for doubt concerning the accuracy of this latter statement.

The adjustment the Tübatulabal had made to their habitat entailed an appreciable amount of seasonal shifting about from one locality to another in order to take advantage of those natural resources which the region offered. During the winter and early spring they lived in small hamlets situated either on the floor of the valley or in the foothills that rim the flood-plain valley. In summer and early fall family groups moved higher up into the mountains, to fish, hunt small game, and gather piñons. In late fall groups journeyed westward to harvest the yearly supply of acorns, before returning to the hamlets for the winter. Each season had its food gathering and other economic activities peculiar to it; the period of greatest leisure was encompassed by the winter months. This was the time when the day's work was short, and of no great moment, when stored acorns and piñons, dried fish and flesh, were relied on for food, when long nights could be whiled away in story telling and making ingenious string figures that represented such well-known mythological characters as Hawk flying, or Bear in a house.

During the heat of summer both clothing and housing were at a minimum among the Tübatulabal. Men often went naked; in colder weather men and women wore knee-length double aprons made of tanned deerskin, crude leather shirts, and rabbitskin blankets draped over their shoulders. Women were tattooed slightly, and sometimes applied red paint to their faces as a bleach to lighten the skin. Both sexes ordinarily went hatless; when traveling they wore clumsy fitting moccasins, but mainly went about barefoot. Rawhide sandals were used, but only for a special purpose; men wore them when tending the crackling brush fires on which piñon cones were piled in order to force open the scales of the cones. During the summertime a willow roof, supported by four crotched poles and usually lacking side walls, served as the principal form of shelter. On piñon expeditions several families camped together, sleeping inside a circular brush enclosure, such as was also often used for dances. Hunters often utilized dry cavern-like recesses between two huge boulders for a night's lodging in the mountains. What care the Tübatulabal gave to house building was mainly expended on the domed tule- and brush-covered houses they occupied during the winters. When such a house was to be built, the man of the family obtained the willow poles and set them up in the form of a circular framework; his wife and children collected the tules to cover this framework. Such a division of labor was typical for the Tübatulabal. Men performed the more strenuous, but often irregularly recurrent tasks; women's labor involved a daily routine of duties that were time-consuming, but less strenuous than those of the men. It was always a man's work to handle the bow, woman's to make use of the pit mortar in which acorns and seeds were pounded. This matter was decided long ago, in a contest held during the mythical age, when all the birds and animals were human in form and lived as human beings do now. The humorous series of events that led to the contest arranged by Coyote which set this precedent for the division of labor are narrated in a well-integrated myth given in full in the following monograph. This myth is known at present only for the Tübatulabal, but variants of it will doubtless be found to occur in the mythologies of neighboring tribes when these mythologies become better known.

Besides her work connected with gathering and preparing plant foods it was also woman's task to weave the several varieties of twined and

[e] See tabulation on distribution of tobacco, and the general paragraph about distribution elsewhere (p. 38).

coiled baskets that she used as implements and food containers, and to fashion the few pots used in cooking. Her basketry work was often as fine and well-executed as her pottery was coarse and crude. Some women even went so far as to play with their technique in basketry making, and fashioned coiled jars out of long strands of strung piñons, while camping at the piñon grounds. These "piñon jars" were made in a coil technique, and were similar in shape to the small-mouthed, round-shouldered display type of jar that the Tübatulabal used to keep their clamshell disk currency in. After being made, a piñon jar was filled with loose nuts and brought home from the piñon grounds; eventually it and its contents were shelled and eaten.

That the Tübatulabal, in common with a few Yokuts groups, the Western Mono, and the Owens Valley Paiute, had pottery at all is somewhat of an anomaly; as a usual thing people engaged in a seminomadic, hunting-gathering type of culture lack pottery, or if they make it, have obviously borrowed the trait from near-by groups having a more complex culture. Concerning the crude gray-black unpainted ware made by Tübatulabal women, one guess about its origin might be that pottery making was a trait borrowed by the Tübatulabal from certain southern Californian groups with which the Tübatulabal have had trade contacts since early historic times at least. This facile explanation with its "common-sense" basis falls wide of the mark, however; investigation of the problem analytically soon establishes the fact that Tübatulabal pottery differs markedly from that of southern California. That the pottery-making complex as practiced by the Tübatulabal probably derived ultimately from the Southwest was suggested several years ago by Dr. Gayton;[7] a recent study of the distribution of the practice of molding and baking clay artifacts in western North America made by Heizer offers convincing evidence in support of Dr. Gayton's assumption. From northern Arizona to central California there is an almost unbroken line of continuous distribution of true pottery ware;[7a] this shows whence Tübatulabal pottery derived.

The trips the Tübatulabal made beyond the borders of their own area led them, in early historic times at least, to points a hundred miles or more west and southwestward, and somewhat shorter distances north and eastward. Men and women went on such trips, afoot, in couples or in small groups, to trade and obtain certain natural resources they had need of, that their own area lacked. Being mainly at peace with their immediate neighbors, the Tübatulabal were able to pass through alien territory with a minimum of risk from sudden attacks. By a system of silent trade they exchanged the piñons, balls of prepared tobacco, and other commodities they had brought with them, for lengths of white clamshell disks which passed as currency among all the tribes of this region. Nor did the Tübatulabal traders hesitate to avail themselves gratis of commodities which could be gathered on such trips and put to good use after they had returned home. For example, they picked up lumps of asphaltum on the beach when they visited the Ventureños, and brought them home to be used for a variety of purposes.

The Tübatulabal also traded among themselves; toward the end of winter, especially, dried deer-meat might be much in demand; chia seeds, yellow-hammer-quill bands, fine baskets, etc., each had a fixed price in the standard lengths of imported clamshell disks used as currency. There were even loans made in this currency, but no interest was charged on such. There were many other ways in which this currency was also used, besides its trade uses. Short lengths of clamshell disks were distributed to visitors arriving from afar for a "big fiesta" or mourning ceremony; they were used to pay the singers and dancers at such a fiesta; strings changed hands frequently during the gambling games that accompanied a fiesta; and lastly, loose clamshell disks were scattered in quantity among the crowd of wailing people circling the fire during the burning of the tule image that culminated a mourning ceremony. At "little fiestas" or face-washing ceremonies, given to absolve mourners from the taboo that enjoined their abstaining from meat after the death of a near relative, money jars full of currency were put on display, and their contents given to certain persons who washed the faces of the mourners before the latter could join in the feast which was served as part of the fiesta. Lastly, the familiar disks were also put to ornamental use, women and girls wearing necklaces, earrings, and bracelets made from strings of clamshell beads.

If a man possessed a large amount of this currency, he stored it, carefully coiled in long lengths, in sacks made of the entire skin of antelope, mountain sheep, or deer. These sacks he hid in some well-concealed crevice on a boulder-strewn slope of the foothills, telling no one where his cache was situated. In event of sudden death, his wealth remained hidden, its whereabouts unknown to his relatives, who might search for it assiduously, but fail to find it. If, however, either in a wealthy person's lifetime or after his or her death, a relative or even a non-relative stumbled by accident on such a cache, it was "finders keepers," and the currency passed into new hands.

Possession of wealth in the form of this native currency was also a factor entering into the selection of a new "chief" or headman, although descent and the character and abilities of the candidate were also taken into consideration by the small group of old men who met from the various hamlets to choose the chief. These old men did not constitute a formal council, nor was the office of chief itself an institution of

[7] Gayton, 1929, 250. [7a] Heizer, 44.

any sharply defined formality, yet, nonetheless it entailed upon the man who held it certain judicial and administrative duties, gave him a certain prestige among his fellowmen, and constrained him to observe certain rules of etiquette, none of which latter was, however, of a very onerous nature. "A man with a good heart," who was at least middle-aged, and who preferably possessed some wealth and was related by blood, either paternally or maternally, to a former chief, would be the sort of person the old men would choose. Such a man might expect to occupy the position of chief among the Tübatulabal for life, once he were selected. If, however, his conduct became unseemly during his incumbency, he could expect to have criticism leveled against him publicly during fiestas, to have his decisions disregarded, and finally to be supplanted by another chief whom the old men had chosen.

How large a group did a chief represent and serve? We shall never be able to state, with absolute accuracy, the answer to this question, except for the present time; the total population of the Tübatulabal now, including mixed bloods and individuals who have moved out of the area as well as those who have remained in it, numbers 145 persons. But in aboriginal times, just prior to white settlement of the area, the Tübatulabal and a closely related band, the Palagewan, probably numbered between 300 and 500 individuals. Using a system of checks and counterchecks discussed in detail in the following monograph, the above-mentioned figure seems to be as close an estimate as can now be made of the aboriginal population for the Tübatulabal proper and the now-extinct Palagewan. Together these two groups occupied a mountainous area of some 1300 square miles; much of this area was visited only occasionally, during a few brief months in summer, by individuals from the two bands; a goodly part of it may not have been traversed at all, from one year's end to the next. To say, then, that the Tübatulabal-Palagewan population averaged one person per every 3-5 square miles is somewhat misleading, for the population of these two groups actually centered in the southern third of their territory, within an area of about 500 square miles. This makes the population, for the southern third of the area, 1 person to every 1 or 1.6 square miles.

Both the Tübatulabal and the smaller Palagewan bands were essentially aggregates of a number of tiny hamlet groups; each of these hamlets consisted of from two to six household groups which were, in turn, comprised of the members of a single biological, bilateral family, plus one or two other relatives, such as widowed children or parents, or orphaned nieces or nephews, etc. Sometimes a son and his wife, or a daughter and her husband, might also be included in the household. The members of the household groups comprising a single small hamlet were generally all interrelated by blood, either matrilineally or patrilineally; this made the hamlet groups exogamous units, since the Tübatulabal regarded the marriage of lineal or collateral kin with extreme aversion, as one of the worst deeds of which human beings could be guilty. There was, however, no formal rule of local exogamy between hamlets, nor were there any other exogamic units, such as clans, phratries, or moieties within the structure of this simple society. The personnel of hamlet groups varied somewhat from year to year; families shifted their residence from one hamlet to another, often for very trivial reasons.

If a bride had been paid for, residence of a newly married couple was patrilocal; if a man served the bride's parents in lieu of paying for their daughter, post-marital residence was matrilocal for a few years. In itself, marriage was a simple enough affair; after the first child was born, the young couple generally moved into a house of their own, often situated near the groom's parents' house. For some women childbirth was easy, for others extremely difficult; if a woman were sterile she might be given herb concoctions in order to overcome this undesired condition. During a particularly difficult birth various efforts would be made to relieve the parturient's pain and cause the child to be born quickly; a person possessing an amulet having supernatural power might rub this over the woman's body. Breech presentations were prevented by holding a pregnant woman suspended upside down, with her head hanging downward, for such time until the baby had reassumed a normal position within the womb. After childbirth mother and infant lay on a warm pit for several days.

No puberty ceremonies were held for a girl when she experienced her first menses, nor were there any group initiation ceremonies for adolescent boys. Women ate neither "meat nor grease" during their menstrual periods; and since most of the salt that was procured from the salt lakes on the desert was used to cure meat and fish, and was never used to season acorn mush, the taboo against meat also included an implicit one against salt.

A girl's mother or grandmother instructed young girls in womanly matters, since there was no formal puberty ceremony. The lack of a boys' initiation ceremony likewise put the burden of responsibility for a boy's education on his father or grandfather or some other old man of the group; at sundown old men often lectured to youths about hunting customs, and how they were to behave. But the greater part of a boy's or girl's education consisted in imitation of the acts of his or her elders, with whom they were constantly associated from babyhood onward, except during such times as their parents left them with near relatives and went off on trips that were too strenuous for young children to take.

All misfortune, especially sickness and death, was (and still is) attributed either directly or indirectly to witchcraft. Witches were born to

follow their profession, and had certain supernatural guardian-helpers, such as Coyote, to aid them in their nefarious designs against such persons as had incurred their ill-will. The native term for a shaman is a·ẓowa·l; women might have shamanistic power as well as men, but there were noticeable differences as to how members of the two sexes exercised it. A male a·ẓowa·l could either sicken a person, or cure him of sickness, whereas a woman a·ẓowa·l could only use her power for evil. "Bad" a·ẓowa·ls, women and men who use their power only for giving people "hard luck," are the most feared members of the community; the Tübatulabal gossip about them in low tones and see every misfortune as a result of their malice. The deeds of evil shamans often caused the latter to meet a violent end; exasperated members of the community would first obtain permission from the chief, and then kill such individuals. Curing shamans were on the other hand respected and their prestige grew as the number of cases they cured mounted, just as it dwindled and they became suspect of evil designs when they failed to cure patients. A curing shaman devoted an entire night to ministering to his patient; he danced, sang, and sucked at the affected spot in an effort to extract the disease object which had been injected by witchcraft and was causing the illness. During the night's performance the shaman's animal helper arrived from afar off and advised the shaman how to treat the patient. Any number of persons might witness a curing performance, but the shaman conferred with his supernatural helper privately, outside of the house where the cure was taking place. After extracting the disease object, which often looked like a spider, worm, or clot of blood, the shaman oftentimes gave his patient certain practical advice, such as to move from the dwelling house where he was staying, or to take certain herb medicines. Sometimes a doctor divulged the identity of the witch who had sickened his victim; he always knew, just as he knew who had stolen anything, or where lost objects could be found; if, however, the witch was a relative of his he was likely to shield him or her.

Various herb medicines were also used to treat illness; the plants used were many, but jimsonweed (Datura meteloides) was preëminent among them. Jimsonweed was once a man, who, when he died, told the people to dig his roots if they were in need of help; therefore, before a Tübatulabal digs the roots, he makes a short speech to the plant.

Not only was jimsonweed taken medicinally for various disorders, and used as an anodyne, but young men and women who were past puberty were urged to drink a decoction made from the roots, in order to obtain supernatural guardian spirits and "long life." Small groups of young people who had decided to take jimsonweed were put under the charge of an old man who knew how to administer the drink, and were not permitted to eat or drink anything for three days; on the evening of the third day they were given a long draft of the jimsonweed drink, and soon fell into a stupor from which they awakened some 12 hours later. During this stupor various animals appeared to some of the vision seekers; these animals became the seekers' "pets," taught them songs, and told them how to obtain amulets, which contained magical properties that protected the wearers from harm. The drinking of jimsonweed was not obligatory for all members of the group, and the drink was never administered in summertime for any purpose whatsoever, since in the heat of summer people could not abstain from water for three days, and if they drank water and then drank jimsonweed they were likely to become bloated and die.

Live ants, wrapped in small balls of eagle down, were also administered to individual vision seekers, as well as to persons suffering from various ailments; the effect produced when the ants bit the lining of the stomach was similar to that produced by drinking jimsonweed.

Besides the jimsonweed ceremony, to which only a minimum of ritual was attached, two other ceremonies were held sporadically among the Tübatulabal; both of these were connected with death. Burial itself was effected with little ceremony; immediately after a death occurred the relatives of the deceased assembled at the house and spent the ensuing night in wailing; the next day the corpse was taken up in the hills and deposited in a shallow grave underneath a huge boulder. The mourners then dispersed. From three weeks to six months later, certain relatives of the deceased, who after the death had not been permitted to eat meat, had their faces washed by one or more friends, whom they paid liberally for this ritual act. If there occurred later a death that obliged one of these same face-washers to undergo the meat taboo, he or she had his face washed by the same person for whom he had previously performed this service and, theoretically at least, paid the former as much as he himself had previously received. Sometimes the return payment fell short of the original, sometimes exceeded it, but some payment in currency was always made. After the face-washing ceremony everyone sat down to a feast, at which the mourner broke his or her fast and ate meat. To partake of any flesh food before the taboo was thus removed was equivalent to eating of the corpse itself, and constituted an insult to the deceased which might be avenged by witchcraft.

A year or so after the death of a person, a "big fiesta" was held, if the relatives of the deceased were sufficiently enterprising and possessed of wealth enough to hold such a ceremony. This mourning anniversary was a six-day affair, to which visitors from other tribes were invited; it entailed the collecting of a large amount of food on the part of the person giving the ceremony,

and encompassed a variety of social activities. Dances were held during the nights of the fiesta, gambling games played night and day, and shamans held competitive "shooting" contests. Before daylight on the last night of the ceremony a tule image of the deceased, and all of his more prized possessions that had not been burned or destroyed immediately after his death, were cast into the flames of a large fire around which the people milled, wailing and crying. The widow or some other relative of the deceased threw shell currency and packets of piñon seeds and other goods into the crowd, and there was a lively scuffle on the part of the visitors to obtain as much of this largesse as possible. After the fire had died down the "big fiesta" was at an end, and the visitors soon left for home.

The souls of the dead lived in a land which lay toward the west; there is a "true story" which the Tübatulabal tell, of a man who once visited this region in search of his dead wife. The wide distribution of this myth, which resembles the Old World tale of Orpheus and Eurydice, over all of North America has recently been pointed out by Dr. A. H. Gayton.[8]

Sometimes, however, ghosts travel about on earth inside whirlwinds; occasionally they appear to vision seekers, and are held in high esteem by persons so fortunate as to obtain them for their guardians; sometimes they are sent by witches to sicken people. A variety of other spirits lived in the springs, streams, caves, and mountains of the region; most of these were conceived of as human in form, often dwarflike; they were not especially feared, but the Tübatulabal either tried to conciliate them, or fled from their presence when they encountered them. A concept of a supreme deity was lacking, but in the beliefs concerning jimsonweed there is an echo of the dying-god concept found in more pronounced form in southern California.

On the whole, Tübatulabal culture was of the borderline variety, showing affiliations in its material, social, and religious aspects with the Great Basin, (South) Central California, and Southern California cultures. Some of the traits which the Tübatulabal share with tribes in these three areas may be briefly indicated; among traits shared with Basin tribes are the use of piñons, a Great Basin staple, the pitched water bottle, use of honey dew for sugar, the wooden frame cradle, the carrying net, the eagle-down dance skirt, the lack of clans, moieties, or totemism, the classification of cross and parallel cousins with brothers and sisters, the walnut-shell dice game, the round dance, the ceremonial brush enclosure, a belief that the milky way is dove's fire, the belief in water spirits, and so forth. As Dr. A. H. Gayton has recently shown, Tübatulabal mythology is predominantly of Great Basin caste (Gayton, 1935a, 588, 595). Our knowledge of the Basin cultures is as yet incomplete, so that the foregoing list of traits cannot be taken as a basis for the relative weighting of Basin influences, as against California ones, on Tübatulabal culture. Also, several of the above-mentioned traits, such as the ceremonial enclosure, the wooden frame cradle, walnut-shell dice games, are also found among South Central and Southern California tribes, but, because they probably have had their provenience in the Basin (Kroeber, Handbook, 535, 540, 655), they are included in the foregoing list.

Some of the (South) Central California traits noted for the Tübatulabal are the rejection of all reptiles as food, looped stirrer for acorn mush, chewing of tobacco with lime, shell lime, leaching buckeye nuts, the bottleneck type of basket, bride purchase, clamshell money, unit of measure of such, and name for unit, mourning ceremony, clown, meat taboo with reciprocal washing and payments, swallowing of ants wrapped in eagle down, etc. This list could be appreciably extended, but has not been because of the lack of comparable material from the Basin.

Among the Southern California traits interwoven into the fabric of Tübatulabal culture are the use of asphalt, the coiled basketry cap, presence of steatite objects in area, the dying-god concept connected with the taking of jimsonweed, the application of lighted balls of furze to cure rheumatism, and, in historic times, the introduction of the horse. Direct contact with the Southern California Chumash is known to have occurred after the founding of San Buenaventura mission; whether there was much contact between the Tübatulabal and the Chumash before that time is questionable and seems, judging by some of the traits enumerated above, improbable.

From their contacts with tribes in the three areas mentioned above, the Tübatulabal borrowed, altered, and reshaped cultural traits, and gradually built up their own unique culture, the outlines of which as it existed at the beginning of the historic period have been only too imperfectly sketched in the following pages.

Turning now from the consideration of cultural elements shared by the Tübatulabal and their ethnic neighbors, the question arises whether there are any traits peculiar to the Tübatulabal alone, which can be assumed to have been formed within the group. Here our conclusions are always subject to revision by the addition of new data, but three traits deserve at this time specific mention. They are: the obtaining of lime from natural deposits, for chewing with tobacco; the manufacture of bottleneck-shaped jars from strung piñons; and the myth accounting for the sexual division of labor. None of these traits has been reported as occurring among tribes of the surrounding areas. But if we consider each of the three, we find that the claim of each to absolute uniqueness among the Tübatulabal is not free from doubt. The more usual way in which to obtain lime

[8] Gayton, 1935b, 266.

for chewing with tobacco, among California tribes, was to pound up calcined shells. This method was known to the Tübatulabal and practiced by them. There is a good probability that the method of obtaining lime from natural deposits began before the whites actually settled in the Tübatulabal area, but that it was learned by the Tübatulabal from the Koso, some of whom settled, in early historic times, in the area in which the Tübatulabal procured lime from the ground. The Koso could have learned this method from white prospectors who penetrated their area to the east of the Tübatulabal at a comparatively early date. Furthermore, when we consider that slaking the burned lime with water was also claimed by the Tübatulabal to have been an aboriginal process, our suspicions concerning the trait mount. The question, then, must remain an open one at present.

The second trait, that of making jars from strung piñons, seems to have more in its favor in a claim to aboriginality. But another factor merits consideration; the jars are said to have been made in the same shape as the Tulare bottlenecks, so that what we are dealing with here is the transfer of part of a technique into another medium, rather than a totally new trait. If the jars had had a distinctive shape of their own, that, plus the fact they were made with non-basketry materials, would have strengthened their claim to originality, despite the consideration that the idea is obviously a readaptation of the coiled basketry technique. But as it stands, the only novel feature of the piñon jars is that they were made with materials which differed markedly from those generally used in basketry.

In regard to the myth, there is little need to conjecture. It bears too definitely the stamp of aboriginal Basin mythology, details concerning which we know as yet very little, to be the product from beginning to end of a single people, and to be restricted solely to that group. No myth collection taken from any primitive group can hope to be all-inclusive for the mythology of the entire group, and this myth has by accident doubtless been previously overlooked, both by native raconteurs and by ethnologists when they have been engaged in myth taking. The approximate distribution of the myth, when known, will be of interest, and if it is found in only one or two other tribes, with its recording will go the last unclouded claim that could be put forward for the unique character of any trait in Tübatulabal culture.

METHOD OF STUDY

The following ethnographic study of the Tübatulabal, a Shoshonean-speaking people of the southern Sierra Nevada foothill region of California (fig. 1), is based on field work done near Weldon, Kern county, in the summers of 1931-33 on funds provided in part by the Board of Research of the University of California. My chief informants were Steban Miranda, aged 86 (father 1/2 Tübatulabal, 1/2 Palagewan; mother Tübatulabal) and Frances Philips, 68 (father Tübatulabal, mother Koso). Mrs. Estefana Miranda Salazar, 40 (father Tübatulabal, mother Yokuts), interpreted for her father, and Mrs. Legora Tungate, 45 (father Tübatulabal, mother 1/2 Tübatulabal, 1/2 Koso), for her mother, Mrs. Philips. Other informants and interpreters were Petra Nichols, 89 (father Tübatulabal, mother Palagewan); Mike Miranda, 45, Steban Miranda's son and full brother to Mrs. Salazar; Frank Chico, 30 (father Tübatulabal, mother Koso); Fernando Miranda, 47 (father Mexican, mother Tübatulabal); Rosie Pablo, 45 (father Yokuts, mother Tübatulabal); Susie Williams Nieto, 48 (father Kawaiisu, mother Tübatulabal).

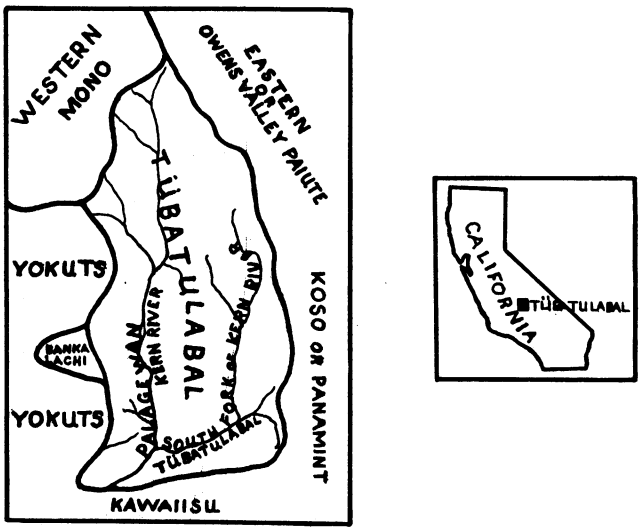

Fig. 1. Tübatulabal and neighboring groups.

To Dr. A. L. Kroeber, who directed my research, and to Mr. E. W. Gifford, who offered many suggestions incorporated in the ethnography, I am especially indebted. I wish also to thank Dr. C. F. Voegelin for frequent linguistic aid, Dr. A. H. Gayton for comparative references to mythological material, and Dr. Stanley Newman for information relative to the Yokuts names for tobacco.

Botanical specimens were identified and assigned to floral areas by Dr. Herbert L. Mason, of the University of California. Dr. Helen-Mar Wheeler, of the same institution, supplied information from field observations relative to two species of Nicotiana native to the Tübatulabal area. Miss Shirley Andress, of Weldon, allowed me to examine and photograph her Tübatulabal ethnographic specimens; Mr. P. Sumner Brown, of Kernville, put precipitation records at my disposal; and Mr. O. C. Bangsberg, of the Southern California Edison company, supplied information regarding the falls in the augmented Kern.

The occasional ethnographic specimens and models presented by informants and negatives taken during field work have been deposited in the Museum of Anthropology at the University of California at Berkeley (museum catalogue numbers 1-28226 to 28228, 28570 to 28577, 28781 to 28789, 28811; 15-10538, 10541 to 10552, 10555, 10556, 10558 to 10560). The Museum has, besides this material, 36 ethnographic specimens from the Tübatulabal (1-19789 to 19825, 21064), collected chiefly by the late Dr. T. T. Waterman, a collection of Tübatulabal baskets from the E. L. McLeod collection (1-20944 to 20961), and 34 negatives (15-6240 to 6274) taken by Dr. Waterman. Museum catalogue numbers are identified throughout by prefix 1- (for specimens) and 15- (for negatives).

Genealogies of all informants and census data collected in the field, as well as a manuscript of 37 myths and variants collected jointly with Dr. C. F. Voegelin, and supplementing Dr. Voegelin's published collection of texts (Voegelin, 1935b), have been deposited with the Department of Anthropology, University of California.

Upon Dr. Kroeber's suggestion the ethnography is written mainly in a telegraphic style. Abbreviations as follows are also used: r., river; N, north (etc.); n., northern (etc.); elev., elevation; mt., mountain; mi., mile; yr., year; Calif., California.

Statements credited to specific informants are followed by the initials of the informant's English name, enclosed in parentheses.

Native names were written in a "broad transcription" with phonetic values as given in the Tübatulabal Grammar (Voegelin, 1935a, 55-87). However, following recent recommendations for a simpler orthography (AA 36: 629), Tübatulabal affricates, for example, being single phonemes, are written with single symbols. Altogether the changes are:

Old orthography		New (modified) orthography
tc	affricate	č
ts	affricate	c
dž	affricate	ǯ
dz	affricate	ʒ
c	sibilant	š

HABITAT

Tübatulabal linguistic group includes three discrete bands: Tübatulabal proper, situated now as aboriginally on lower reaches of South Fork of Kern r.; Palagewan, formerly living on unaugmented Kern; Bankalachi, a few miles W of Palagewan on w. slopes of Greenhorn mts. (fig. 1). Tübatulabal band alone has survived white contact; this study primarily concerned with culture of this group. Information gathered from Tübatulabal informants concerning Palagewan and Bankalachi is ascribed specifically to these latter bands.

Linguistic affiliations and name.- Dialects of Tübatulabal and Palagewan, said by informants to be slightly different but mutually intelligible (Voegelin, 1935a, p. v), plus Bankalachi dialect which differed very little from that of Tübatulabal, comprise Tübatulabal language; this is sole language in Kern River branch, one of 4 primary branches, of Shoshonean stock (Kroeber, 1907, 97, 98, 100). To N and NE of Tübatulabal are Western Mono and Owens Valley Paiute (Eastern Mono), whose speech belongs to Mono-Bannock division of Plateau branch of Shoshonean; to E, Koso or Panamint of Shoshoni-Comanche division of Plateau Shoshonean; to SE and S, Chemehuevi and Kawaiisu of Ute-Chemehuevi division of Plateau Shoshonean. Farther SE, S, and slightly SW are Vanyume, Kitanemuk, and Alliklik respectively, of the Serrano division of Southern California branch of Shoshonean (Kroeber, Handbook, 577, pl. 78). To W and SW are Yokuts and farther SW Chumash (Kroeber, Handbook, pl. 78), neither Shoshonean.

Tübatulabal refer to themselves as pahkanapïl; older informants also recognize tïbatulabal which "was applied like a nickname by other tribes such as the Chumash, Kawaiisu, and some Yokuts groups" (SM, PN). PN said pahkanapïl also sometimes used term formerly to refer to themselves. Both SM, PN said 2 names given above applicable not only to group living on South Fork of Kern r., but to other group on unaugmented Kern as well; Kroeber (Handbook, 607) and Gifford (1917, 220) use Tübatulabal in this sense, treating the 2 groups as single unit. For several reasons I treat these 2 groups separately. In giving genealogy SM referred to himself and his father as pahkanapïl, but to his father's father, who lived

on unaugmented Kern, as pa·lage·wan. This is term commonly used now for unaugmented Kern, but in this instance was translated as Kern River Indian. SM's use of term bears out Powers' statement, made in 1877, that "the Pal-li-ga-wo-nap [live] on Kern r.; the Ti-pa-to-la-pa on the South Fork of the Kern" (Powers, 393); Powers' information derived from member of Palagewan group, either Jose or Bill "Viejo" Chico (Powers, 394), both dead, but known to all my informants. Bancroft, 1875, on Maltby's authority, says "the Polokawynahs lived on Kern river" (Bancroft, 456). Gatschet, 1879, locates Pallegawonap E and SE of Tulare lake, on s. spurs of Sierra Nevada (U.S. Geog. Surv., 411).

History.- Tübatulabal say they always lived where found today; absence of migration legends is one of characteristics of Shoshone mythology (Lowie, 233). On basis of specialization of their language Kroeber infers that Tübatulabal have lived in present isolated location for comparatively long period of time (Handbook, 605). Culturally Tübatulabal are borderline California-Great Basin group with probably more Great Basin traits than generally recognized; their mythology predominantly that of Great Basin (Gayton, 1935a, 588, 595); linguistic differentiation of Tübatulabal may turn out to be superficial in many respects (Whorf, 607); all these factors suggest that occupation of present location may not have been for such long period as Kroeber suggests.

First white person to visit Palagewan was Garcés in 1776 (Garcés, 280); guides for Fray Pedro Font in 1776 penetrated beyond junction of Kern and South Fork of Kern r. and met Indians there (Font, 390). During next 50 yrs. trading trips to Chumash villages near Ventura brought Tübatulabal and Palagewan in contact with San Buenaventura mission (SM), founded in 1782. By 1846 white settlers established ranches among Tübatulabal in South Fork valley (Morgan, 43). In 1857 Kern r. gold rush began in Palagewan territory. During 1862 a few Tübatulabal joined Owens Valley Paiute in hostilities against whites (Chalfant, 130; SM denied this) and about this time group of Koso Indians settled in Tübatulabal area, intermarrying chiefly with Kawaiisu, however (SM, FP). In 1863 between 35-40 Tübatulabal and Palagewan men massacred near Kernville by American soldiery (SM, FP; Chalfant, 146; C. F. and E. W. Voegelin). Later in same yr. fairly large band of Owens Valley Paiute captives were conducted through Tübatulabal territory on way to Sebastian military reserve (Chalfant, 152), but owing to intercession of Judge Sumner of Kernville no Tübatulabal or Palagewan were removed with them (SM, PN). Between 1865-75 Tübatulabal began to practice agriculture (SM, FP); in 1893 majority of Tübatulabal and few Palagewan survivors allotted land in South Fork and Kern valleys.

Habitat.- Deltoid-shaped wedge of territory claimed by Tübatulabal and Palagewan (fig. 1) consisted roughly of natural drainage area of Kern r. and its tributaries from river's source near Mt. Whitney to w. end of Kern canyon 14 mi. NE of Bakersfield; this area comprises some 1300 sq. mi., and is mainly mountainous with elevation between 2500-14500 ft. The n. 2 3 of area lies in high Sierras, with many mt. meadows and numerous peaks of 6000 ft. and more; it is well-watered, both Kern and South Fork of Kern being perennial streams, flowing southward at bottom of deep narrow canyons in parallel courses 20 mi. apart. Lawson gives 2 excellent views of canyon of unaugmented Kern and Little Kern plateau, showing character of region (Lawson, pl. 41a, b).

In s. third of area (fig. 1) mountainous character of country continues save for 3 narrow valleys, each drained by a stream, which ray out N-NE, E-NE, S-SW from common flood plain at confluence of unaugmented Kern and South Fork of Kern r. The n. valley is that of Kern r.; this flood-plain valley extends N, strewn with boulders and gravel, up unaugmented Kern for distance of 10 mi. from confluence, its breadth diminishing from 1 1/2 mi. to few hundred feet. The e. valley, that of South Fork of Kern r., extends E from confluence for 15 mi., with width in its lower part of more than one mile. In this valley, flood-plain silts and sands mantle stream gravel in large part and make agricultural land. The s. valley, or Hot Springs valley, is a little over 4 mi. long and about 1 mi. wide; it is divided longitudinally into 2 parts by low median ridge of granitic rock. On e. side of this ridge is flat-bottomed alluviated plain from 1 2-3 4 mi. wide; in this plain are situated several hot springs. On w. side of median ridge in Hot Springs valley is tortuous channel of Kern r.; stream enters this rocky channel through streamworn notch in n. end of median ridge immediately at junction of South Fork and Kern r. Alluvium which forms floor of Hot Springs valley derived from 3 incoming streams, largest of which is Erskine creek which enters valley at s.e. corner and there builds up notable fan which spreads out over its entire width. Second stream is Vaughn creek which centers at s. end and gives rise to less important fan which is confluent with that of Erskine creek; smallest creek is that which drains an incipient canyon in face of steep mt. slope which bounds valley on e. side between Erskine creek and South Fork of Kern r. (Lawson, 399). Lawson gives several photographs of Hot Springs valley and excellent view looking up South Fork valley from confluence of South Fork and Kern r. (Lawson, pls. 39a, b, 40a, b).

Near s. end of Hot Springs valley Kern r. enters precipitous gorge through which river rushes over huge boulders, creating continuous rapids for its 25-mi. course through gorge. There are no outstanding cataracts or falls in

river as it flows through gorge, but from e. mouth of gorge for 60 mi. downstream there is drop of 50 ft. per mi. in river's course. There are 2 periods of high water in Kern r.; one during winter rain-flood from Jan.-March, second during summer snow-flood, from May-July; lowest water occurs in October (Gifford and Schenck, 17). Minimum flow of Kern in dry season 2700-3000 cu. ft. per second, in season greatest capacity over 19000 cu. ft. per second (Pen Pictures, 248).

Three valleys lie at 2500-3000 ft. elevation. They are in a climatic province which is semi-arid, with mesothermal temperature and summer deficiency of rainfall (Thornthwaite, pl. 3). Temperatures from 110-115° F. not uncommon in July-August; winters not severe, but generally some snow falls in valleys, more on foothills, and there are always heavy snows in mts. Precipitation records for Kernville, in Kern valley, are:

Year	Rainfall (in inches)	No rainfall
1924	6.48	May-September (inclusive)
1925	7.43	September
1926	11.66	June-September (inclusive)
1927	10.37	May-September (inclusive)
1928	6.47	June-September (inclusive)
1929	5.04	July, Aug., Oct.-Dec.
1930	6.97 plus 19 in. snow	June-October (inclusive)
1931	9.92	May, September
1932	7.34	July-November (inclusive)

Previous to white settlement and diversion of water for agriculture, South Fork valley contained 2 large lakes, W of Onyx, NW of Weldon on Jesus ranch (SM). In 1776 Garcés, writing of unaugmented Kern near Kernville, says, "On this famous river, which I named Rio de San Felipe, there are abundant pastures, famous woods, and much irrigated ground (tierra de regadio)" (Garcés, 282). In foothills which enclose valleys are numerous hot and cold springs and intermittently flowing streams.

Vegetation of 3 valleys and lower foothill regions mixed; Shantz and Zon include valleys in chaparral area; my botanical collections from valley-foothill region contain specimens from desert, foothill, and Great Basin floral areas. This mixed vegetation area extends in E-W line across s. base of Tübatulabal territory. N of it are several different forest belts extending in N-S line; on w. edge of area along Greenhorn mts., is spruce-fir strip; E of this along canyon of unaugmented Kern strip of yellow pine-sugar pine forest; E of this another spruce-fir strip and finally on e. edge of Tübatulabal territory strip of piñon-juniper forest (Shantz and Zon). In extreme n. part of Tübatulabal area, on w. slope of Sierras, is found subalpine forest and, at higher altitudes, alpine communities (Klyver, 8). In terms of Merriam's life zones, using tree indicators of Grinnell and Storer (Grinnell and Storer, 11) all life zones, Lower Sonoran, Upper Sonoran, Transition, Canadian, Hudsonian, and Alpine-Arctic, represented in Tübatulabal-Palagewan area.

Fauna of area as whole also highly varied, but at present time several animal species Tübatulabal formerly used are either extinct or rare in foothill-valley areas. Jackrabbits, cottontails still abundant in these areas; blue squirrels numerous in foothills. In SM's father's time brown bears were "thick, like hogs" on floor of South Fork valley (SM). Prong-horned antelope (Antilocapra americana americana Ord.) formerly ranged in valley-foothill region, but have been extinct in Calif. since 1900 (Seton, 213, pl. 9). Mt. sheep or Nelson's bighorn (Ovis cervina nelsoni Merriam) formerly dwelt in foothills; California wapiti or dwarf elk (Cervus nannodes Merriam), which is found only in Kern co., Calif. (Anthony, 515), known to informants, but its range did not extend into Tübatulabal area (SM). Single species of deer found in area (SM); probably mule deer, also known as Rocky mt. mule deer or blacktailed deer (Odocoileus hemionus), primitive range of which, according to Seton, extended only into e. part of Tübatulabal area (Seton, 118, map 6), where it was hunted by Tübatulabal (Voegelin, 1935b, 227). Tübatulabal, however, also availed themselves of another species of deer, California mule deer (Odocoileus hemionus californicus) when they went W, beyond limits of their area, to gather acorns (SM).

Snowshoe rabbit (Lepus klamathensis), which lives in high Sierras, known to several informants.

Wild game birds of many varieties formerly plentiful in area; golden eagle nested in region; informants had seen bald eagles at Ventura, but none in Tübatulabal area.

Present economic status of group.- Several individuals have retained land granted them in 1893, and cultivate small garden patches, 1/2-1 acre in extent, on their grants. Principal crops are corn, beans, potatoes, tomatoes, peppers, wheat. Majority of young and middle-aged men work as cowboys and ranch hands on stock ranches in South Fork valley; women help men in cultivation of garden patches, and often raise turkeys, chickens, geese, chiefly for family use. In years when piñon crop is good, men, women, and children gather the nuts for their own use and to sell. In 1933 SM was making hair ropes, leather riatas to sell, cultivating garden; ES did a little beadwork, had garden, but relied on her husband, who worked on ranch, for support; LT and FP were being supported chiefly by LT's adult sons, who were ranch hands; MM worked occasionally on ranches, did road work at Bishop, etc. References to other types employment made in FP's, MM's autobiographies (p. 72; Voegelin, 1935 b, 223). None of Tübatulabal, so far as I know, receive any annuities. Census data for 1932 showed there was marked tendency among

younger women to leave area and seek education, permanent employment in Los Angeles, Bakersfield; young men, on other hand, tended to remain within area; this was probably because opportunities for employment at home more favorable for men than for women. Altogether, although present economic status of Tübatulabal is low, especially in wintertime, yet they are not on the whole an indigent group, but continue to be economically independent, as before white contact.

BASIC SUBSISTENCE

Tübatulabal hunting-gathering group; all forms agriculture lacking. Plant foods and game formerly plentiful in valley-foothill regions (all informants); foods most frequently mentioned by informants are acorns and piñons, deer, rabbits, fish. No famine tales; among Tübatulabal plant-food resources better than in many parts of Calif. because this group had double access within w. and e. limits of area to acorns, central Calif. staple, and piñon nuts, Great Basin staple food. As piñons biennial crop, presence of acorns in area greatly augmented food resources. Furthermore, maturing of piñons and acorns is not simultaneous but successive, acorns following piñons, so that Tübatulabal could, and did, take advantage of both crops in early and late fall.

Yearly food cycle.- February to May. Mescal, yucca whipplei stalks, tender immature pods of tree yuccas, various bulbs obtained in lower foothills and floors of valleys by individuals. Cached piñons, acorns being used. Large, small game hunted; geese obtainable in March. Fishing done by groups during April, from confluence of Kern and South Fork of Kern downstream (fig. 1). Family groups might also go W to Tulare lake to "eat ducks and fish" at this time.

May. Small seeds plentiful on floor, lower foothills of valleys; green pine nuts from Digger pine, juniper berries gathered in foothills; green plants gathered; "people went out in large groups, leaving houses early in morning, returning in evening" (MM). Cached acorns, piñons still being used. Large, small game hunted, especially rabbits, in valleys and foothills; occasional camp-hunting, bulb-gathering expeditions E across Sierras to Indian Wells valley and Mohave desert. Some fishing during early May in augmented Kern.

June. Some small seeds still available, depending on relative lateness of season; raw tule roots growing around springs eaten; wild tobacco growing in valleys pruned. Stores of cached acorns, piñons nearing depletion. Rabbit drives with nets in valleys; birds, large game hunted; little fishing as rivers in full flood from melting snows.

July to middle of August. Season par excellence for drying commodities; roots of rush dug near streams for drying; tobacco and salt grass gathered on floor of valleys, cane for sweets at Cane creek; manzanita berries gathered in mts. Fish corralled, dried; fishing at summer fish camps in canyon of unaugmented Kern after snow floods had subsided; mussels obtained near Kernville. Brush fired for rabbits on floor of valleys; communal antelope drive with Yokuts near Bakersfield in San Joaquin valley. Trading expeditions to Yokuts, Chumash at Tejon, Ventura.

Middle of August to September. Piñons gathered in lower borders of piñon areas; juniper berries gathered. Some fishing using fish poison as streams became lower; water too warm for much fishing in lower reaches of Kern r. Birds, small game trapped at piñon grounds; deer hunted.

September to middle of October. Piñons gathered and cached at higher altitudes, e. part of area; wild grapes gathered near Inyo-Kern in Indian Wells valley on return trip from piñon gathering; acorns gathered near hamlets. Small game, birds trapped at piñon grounds; deer hunted.

Middle of October to middle of November. Ripe Digger pine nuts gathered near hamlets and in Hot Springs valley; acorns gathered by women and cached in Greenhorn mts., around Poso Flat, and in Paiute mts. while men hunted deer at acorn grounds; "deer, rabbits fat at this time." Ducks obtained on rivers; fishing with fish poison on Erskine creek in Hot Springs valley. Trips made by families to Tulare lake to eat ducks and fish.

Middle of November to February. Life centered in hamlets; acorn, piñon caches, stores of dried fish, meat drawn upon. Fish speared in November and December from balsas on rivers; deer, rabbits, ducks, quail, etc., occasionally hunted, trapped. Individuals made trips across Sierras E to Mohave desert to obtain rock salt from lakes which were in flood at this season.

Food preferences and rejections.- Of vegetable foods oily varieties highly esteemed; among acorns which were staple food, oily or sweet varieties which required little leaching preferred. Buckeye nuts, obtainable in quantity on slopes of Kern r. gorge, "too bitter," although occasionally used. Of 2 varieties pine nuts gathered, nuts from piñon pine (referred to throughout as piñons) ranked second to acorns as staple; piñons which had been strung on native twine rated as delicacies; black piñon mush (p. 18) considered better than white. Among small seeds those of 2 varieties of Mentzelia referred to as being better than chia seeds "because they had more grease" (SM).

Niceties in matter of diet extended to preparation of food and tobacco. Special varieties of willows, Salix hindsiana Benth. and S. exigua Nutt., used to wrap up fish which were to be roasted, tobacco when it was to be cured, as these willows did not impart any odor to food. Digger pine nuts, not piñons, mixed with tobacco "because

they gave a better flavor" (FP, ES, SM). For roasting piñon cones, brush bed had to be of Artemisia tridentata Nutt. or A. cana Pursh; "you can't use any other kind; the cones get hard and won't open; with this kind they are soft, and open easily" (SM).

In his lifetime SM had experimented with 2 wild foods which proved unpalatable; one was cactus, Opuntia basilans Engelm., flower receptacles of which he roasted but disliked because all fine hairy stickers could not be singed off and stuck to tongue; other was fruit of Cucurbita foetidissima HBK, which proved too "bitter"; this "never eaten" (FP).

Bulbs of wild onion, Allium peninsulare Lemmon and A. hyalinum Curran, and wild garlic, A. lacunosum Watson, not eaten (SM, FP), although leaves, stalks, heads were used. Brodiaea bulbs (hocal), Brodiaea capitata Benth., B. synandra (Hcl.) Jepson, foothill floral area, not eaten; first variety important for Owens Valley Paiute (Stewart, 1933, 245). Seeds of redberry (ču·nal), Rhamnus crocea ilicifolia (Kell.) Greene, and coffeeberry (opo·bul), R. californica cuspidata (Greene) Wolf, foothill floral area, rejected as food; first-mentioned variety characterized as "berries fox eats," second as "no good; bitter" (SM).

Animals accessible to Tübatulabal, but rejected as food, include so-called "wolf," probably desert coyote, Canis estor Merriam (tïba·ič) and (California ?) coyote (išt), because they "smell bad," fox (iklo·bal), skunk (ponihw), weasel (u·ga·bič), snakes, which included rattlesnake (šïmïnt), water snake (tuhat), gopher snake (tubapïl), king snake (pokpo·go·nal), red racer (pišu·gat), lizard (šikol), bat (paca·wal), frogs (wo·hna·l, wa·ga·išt, large and small variety), land crab (ï·ba·kunt) which is "poisonous like a snake" (SM), turkey vulture (yo'olapï·n), which "smells bad," crow (akapišt), whose "meat is no good," roadrunner (ïihyïmbišt) who "eats lizards," hawk (lapa'apï·l), kingfisher, owls which included barn owl (še·gapišt), screech owl (tu·klu·lu), horned owl (muhumbišt), burrowing owl (pogoh), bluebird (a·ẓayibišt), meadowlark (u·ša·l), because "people liked them, felt sorry for them" (FP), woodpecker (ču·lušt), and yellowhammer, because they eat piss ants (MM), tobacco worms (pi'a·gïnt), earthworms (tuha·wal), grasshoppers (ka'awï·t) and other worms, grubs, insects (SM, FP). Horses not eaten; neighboring Koso on desert ate them (FP, SM).

Animal foods concerning which there were differences of opinion on whether edible or inedible included: grizzly bears (u·nal) eaten (SM) not eaten (FP), golden eagle (a·šawït) eaten (SM) not eaten (FP), dogs (pukabišt) eaten (SM, PN) not eaten (FP), sandhill and whooping cranes (wa·šal) eaten (FP) not eaten (SM), woodpeckers (culust) eaten (FP) not eaten (SM), turtles (ko·yo·t) eaten (SM) not eaten (FP), eggs (pompt) eaten (FP) "not eaten before white man came" (SM).

Animal foods, hunting.- Wild game foods included deer (tohi·l), antelope (yïta'batal), mt. sheep (pa·'at), brown bear (mo'olohy) "which some people ate, some didn't like" (SM), mt. lion (tu·gu·kwït), wildcat (mupipi·t), raccoon (kata·l), jackrabbit (šu·'it), cottontail rabbit (tahpunt), wood rat (ha·wal), mice (cïmil), gray squirrel (cawanïnt), blue squirrel (ïšï'ïgal), golden-mantled ground squirrel (pičili·t), small chipmunk-like ground squirrel (taba·yal), white-faced goose (pa·wili·gant), mallard duck (kula·bišt) which "stayed all year,--there were more of these than any other kind" (FP), blue-winged teal (obi·bu·l), canvasback duck (ku·wa·l), mud hens or American coot (ša·yal), mt. quail (tu·kt), valley quail (taka·h), band-tailed pigeon (mokowišt), dove (o·wi·t), blackbird (caki·bï·l), bluejay (a·ẓayibišt).

Men hunting deer, other large game in mts. usually went out in groups of 3-4 persons because of danger at night from White Coyote (Voegelin, 1935 b, 219); "one man who went out alone saw 4 white coyotes going up into the sky; they ran just as though they were running on the ground" (SM). Hunter out alone at night refrained from building fire lest White Coyote kill him. No especial feelings attached to white deer; "one man saw one once, up by Mt. Whitney, but wasn't afraid of it" (SM).

Night before hunters set out old man "who knew the songs" sang all night for hunters who might also join in songs; this old man usually did not accompany hunting party; if successful, hunters gave him piece of deermeat when they returned. Hunters left homes at 2, 3 a.m.; "when they got up in the mts., they sat down, looked around"; if no deer sighted, within short while space cleaned off on ground, eagle down, tobacco and beads put on it; "they gave this to the mts., and when they did this they saw deer right away. Sometimes they just offered eagle down" (SM; Voegelin, 1935 b, 219).

Deer shot with sinew-backed bow, cane arrows; at distance 600 ft. could hit, but not kill deer (SM). Wounded deer often "had to be chased whole day"; was dispatched following morning as it lay resting. Small houses or blinds (paŋhamat) made of scrub oak with 6 in.-sq. peephole in one side, sometimes built along deer trails; as beater chased deer down trail past this blind, man stationed inside shot at deer through peephole. Deer-head decoy (to·go·išt) made of deer head stuffed with grass, with horns, neck hide left on, also used. Disguise made by removing flesh, brains, and bones from head and filling up head and neck with dirt, allowing it to dry before removing dirt. Hunter put decoy over head; did not paint body white in imitation of deer; when deer sighted, hunter crept up into bushes and with body concealed, only head showing, he "pretended to fight that bush"; quarry seeing this would approach hunter "wanting to fight him." Occasionally mt. lion would attack hunter wearing such a disguise.

Pits never dug to entrap deer or other large

game; deer, antelope never corralled and killed; large game never chased over cliffs; dogs not used for hunting (SM). Antelope chased by one hunter toward second man concealed behind bush or pile rocks; Waterman has picture of pass where trail leads from South Fork valley to Kern valley, showing loose rocks which "are remains of small structure and pit, where lurking hunters shot antelope, which were run through the pass by beaters" (Mus. cat. no. 15-6258).

Once a yr. in July Tübatulabal joined with Kawaiisu, Tejon, Ventura Indians, Yokuts for antelope drive (Kroeber, Handbook, 528) in Yokuts territory on plains near Bakersfield. As many as 500 men took part; in drive men stood in circle, 6 ft. apart; circle was from 2-4 mi. in diameter at beginning of drive; men walked inward, driving antelope before them; when circle had shrunk to a few hundred feet in diameter, 10 men (Kroeber, Handbook, 529, says 2 men from each tribe) stepped inside, shot antelope with flint-tipped arrows. No antelope drives held in Tübatulabal area.

Mt. sheep shot with bow and arrow; "easier than deer to kill"; often sighted on rocky promontories along n. edge of South Fork valley, W of Onyx. Grizzlies and brown bears shot in summer with bow and arrows; never attacked in caves or shot from trees, but SM had seen latter done at Tejon. Mt. lions shot while on ground; killed after being treed.

Rabbits obtained on valley floors by firing dry brush; 20 or more men stood in circle outside burning brush; as rabbits fled men shot them with bow and arrows. Another method was to use nets (wa·na·l), propped up loosely on sticks on level ground; 15-20 men formed straight line parallel to net 1/4 mi. or so away from it and advanced beating sagebrush with sticks, driving rabbits before them. When rabbits encountered net, vertical props fell down; rabbits became entangled and were clubbed with straight sticks or shot with bow and arrows; crescentic rabbit sticks not used. Those rabbits in rear that succeeded in jumping over fallen net became entangled in second net placed short distance ahead of first one. No boss for drive; rabbits collected, evenly divided by throwing each participant a rabbit until pile exhausted. Rabbits also shot by young boys, men, singly or in small groups, with bow and arrows.

Woodrats, squirrels, small birds trapped with rock trap (togo·'i·nit) exactly like Havasupai rodent trap (Spier, 1928, 113, fig. 4). For Tübatulabal trap shallow hole 3-4 in. deep dug between upright post and base of rock; acorn impaled on lower stick as bait; when stone slab fell, bird or rodent caught in hole underneath flat rock surface, but not crushed. Men set out 15-20 such traps, especially at piñon grounds during harvest; visited them every 2 days (SM).

Small willow blinds like Yokuts model (Kroeber, Handbook, 524, pl. 45), but lacking stone platform, large enough to admit 2 men, built near springs. In early morning 2 men hid inside blind; as birds, small game came to water one man shot them, other went outside to gather them in. This done chiefly on piñon expeditions. Traps, blinds, etc., used especially on camp-hunting expeditions, when men, women went E to desert in small groups to camp for week or so and gather food (SM; Voegelin, 1935 b, 211).

Waterfowl shot with bow and arrow; mud hens when very fat "couldn't fly; it was easy to shoot them" (SM). Lighted torches, made from sticks on which pitch had been smeared, waved under trees where quail roosting at night; as birds flew down they were easily clubbed. Inflammable brush never piled up and fired to attract waterfowl; live or stuffed birds not used as decoys.

Preparation of animal food.- Deer, other large game skinned while warm as it lay on ground; incisions made with stone knife as among Havasupai (Spier, 1928, 111); skin removed with knuckles of closed hand; "not much fat left on hide when it was skinned this way" (SM). Entire deer utilized; meat, guts laid directly on live coals to broil; meat never eaten raw, preferred "half done." Bones roasted, cracked, and marrow extracted. Old people with few teeth given liver (nï·man), which they pounded in small mortars or on flat rock. Flesh of other large game also either broiled on coals or stewed in clay pots; birds gutted (not gutted, MM), and plucked, roasted in ashes or impaled on stick and roasted over fire. Rabbits skinned, gutted, and broiled on coals, roasted in ashes, or stewed. Raccoons, of which Tübatulabal "ate lots," squirrels, woodrats gutted, hair singed off, roasted whole in hot ashes. All small game removed from ashes with "any kind of a stick." Deer head roasted in pit oven (šo·li·l, hole). Hole dug in ground, sides and bottom lined with flat rocks heated on open fire; head, unwrapped, denuded of horns, put into pit, covered with hot flat rock and pit sealed with sand or earth. Pit opened 12-14 hours later; head generally put in around sundown, taken out and eaten next morning. Cow heads now occasionally roasted in this way.

Fish and mollusks.- Fish, both fresh and dried, of importance in Tübatulabal diet. Obtainable in South Fork of Kern r., augmented and unaugmented Kern, streams such as Erskine creek, former lakes in South Fork valley, mt. lakes in hinterland. Fish (kuyu·l) included trout (ha'ayal), said to be native in mt. creeks (SM, FP), whitefish or bullheads (co·h), suckers (nimal), catfish (kaŋa·ganan), minnows (ko'oši'). Whitefish caught in irrigation ditches 30 yrs. ago so large that "when a man carried one over his shoulders, the tail of the fish scraped the ground" (FM); MM said man could hardly lift some of fish caught in corrals (below) and FP commented on how large fish were formerly.

Fresh-water mussels (čono', twins), which Gifford suggests are probably Anodonta oregonensis,

obtained from unaugmented Kern, near present town of Kernville.

Fishing techniques and use of certain localities for fishing varied according to height of streams and temperature of water; location of few fish camps noted (p. 40). In spring before water too warm, fishing carried on at sites on augmented Kern. At rapids near w. end of gorge "there were lots of fish; the Tolowim (Bankalachi) used to camp there to fish, also the Tejon Indians (Yokuts) and Pahkanapīl too. Sometimes the Monilabal and Palabatal (Yokuts groups) came up there to fish" (SM). Groups of Tübatulabal also camped at rock paintings farther upstream; fish harpooned from rocks mainly at these locations as water swift-running, with many pools. Pronged harpoon California type (Kroeber, Handbook, 86) consisting of pole (mi·št) 7-8 ft. long, with pair 6-in. foreshafts; toggleheads (wili·li·nist) 1 1/2 in. long, carved from deer bone; heads sharply pointed, barbed. Later in summer fishing activities shifted higher up river to sites on unaugmented Kern and to mt. lakes and streams. Round nets made of native twine, with 3-4 in. meshes and lacking handle, were used, being held up on each side by 2 men standing in water (FP); SM denied use of nets. Large nets, similarly made, stretched across stream, held up by 4 men (PN, FP). Net sinkers not used (FP, PN). Tule basket trap (wa·mat), similar to Pomo trap (Kroeber, Handbook, 172, pl. 33a), used in smooth water. Fish taken in nets speared (PN). Fishhooks (wele·haništ) were said to have been 2-piece, with single bone barb made from shank bone of deer. Barb filed to point on rock, blunt end attached at 45° angle to base of shank with wrapping of native twine which was given coating of asphalt to make it fast. Line made from native twine, smeared with asphalt; attached to end of long willow pole (wipšat). Earthworms, grasshoppers used for bait (tï·hat). Fishhooks and pole "not used very much" (SM); post-white (?). No double hooks, gorgets used.

Bulk of communal fishing in streams, rivers done to obtain fish for drying. Informants dwelt upon one method of communal fishing, although it is no longer practiced. Fish corral (pa·nil) built in shallow, fast-running water (fig. 2), "when there were lots of fish running." Wall of corral 2 1/2-3 ft. high; built up of large stones filled in with willow branches; diameter of round enclosure 7 ft., width of opening to corral 3 ft. Men went about 2 mi. downstream from corral, threw stones in water to drive fish upstream. Two men, stationed on either side of gateway to corral, beat water with long willow poles so that all the fish would swim into corral. Inside corral 2, 3 men bailed out fish, throwing them up on bank to women who collected them in large pile. Each participant in undertaking shared equally in distribution of fish, which was effected in same manner rabbits apportioned after drive (p. 13).

Another method of obtaining fish in large

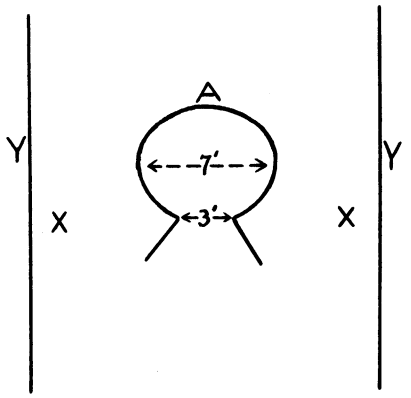

Fig. 2. Fish corral. A, wall of corral, X, men with poles, Y, banks of stream.

quantities was to stupefy them; roots, stalks, leaves of plant (pa·lu·l) which "looks like cane, grows in moist soil, has leaves that get reddish-yellow in fall" and which SM identified from drawing as sp. of Smilacina, mashed slightly, thrown into quiet pools. Buckeye, turkey mullein, soaproot, all available to Tübatulabal and used by other tribes as fish poison, not used (SM, FP). In poisoning fish, no dam built; as fish floated to surface they were scooped up in conical twined tule baskets.

In winter fish sluggish, "hardly move"; mainly harpooned or speared from rafts in Kern r. and South Fork valley lakes by individuals. Fish spear long pole with 2 wooden points sharpened by rubbing on rock.

Fresh fish cleaned, roasted whole; 4 large fish often tied together, wrapped in branches of odorless willows (poyiwošt; p. 11) and cooked in ashes at fishing place; carried home in willow wrapping. Mussels cooked by roasting in shells in hot ashes. Fish one of foods Tübatulabal stored for winter use.

Ethnobotany.- Botanical collections made chiefly in South Fork, Kern valleys, and surrounding foothill regions in May-July; collections checked with SM, ES chiefly. Some 220 species collected, 130 of which informants said were put to economic or medicinal uses; 56 of these ethnobotanical species belong to foothill floral area, 40 to desert floral area, 10 to Great Basin floral area; remainder general in distribution.

In identifying specimens, informants tasted, smelled plants if dubious about identification.

Of plant foods, those starred mentioned most frequently by informants; possibly these plants used most commonly for food in aboriginal times.

Nuts, large seeds (generic term, punẓil) included: *Acorns (generic term, wa'ant). Six varieties used: (1) acorns (maŋi·l) from blue oak (maŋi·'u·l), Quercus douglasii H. & A., foothill floral area; these grow on n. slopes of Paiute mts. at s. borders Tübatulabal area; nuts mature annually, large, "don't taste bitter after leach-

ing" (SM); "pretty good; not very bitter" (FP). (2) Acorns (wiŋiya·l) from black oak, Q. californica (Torr.) Cooper; grow in Greenhorn mts.; nuts mature biennially; "good, oily; don't need much leaching" (SM); "these were the best; we went for them every yr." (FP). (3) Acorns (yu·mukt) from Wislizenus or live oak (yu·mu·gul), Q. wislizeni A. DC., foothill floral area; grow in some profusion in lower foothills of 3 valleys; nuts small, mature biennially, "bitter" (SM), "take all day to leach" (FP). (4) Acorns (takwat) from California scrub (takwa·dul), Q. dumosa Nutt. (?); grow "over by Paiute mts., also on Greenhorn mts."; nuts mature annually, "rather small, bitter" (SM). (5) Acorns (wa'anwït) from maul oak (wa'anul), Q. chrysolepis Liebm., foothill floral area; grow "up in mts. W of Chimney meadows" (SM); nuts mature biennially, "pretty bitter" (SM). (6) Acorns (ši·bi·l) from valley oak (ši·bi·'ï·l), Q. lobata Nee; grows in San Joaquin valley; nuts large, abundant, mature annually; "sweet"; Tübatulabal made trips into Yokuts territory "around Porterville" to gather these (SM).

*Piñons (tïbat) from single-leaf or piñon pine, Pinus monophylla, Great Basin floral area; cones mature biennially; nuts rich in oil; piñon pine found at altitudes 4000-6000 ft., chiefly in e. part of Tübatulabal area.

*Pine nuts (wohont) from Digger or gray pine (wohonol), Pinus sabiniana, foothill floral area; cones mature biennially; trees common throughout foothills in area.

Buckeye nuts (pa·ša·'ul) from California buckeye, Aesculus californica Nutt., foothill floral area; grows in great profusion on steep sides of Kern r. gorge.

Sunflower seeds (ta·lata·ugibï·l); post-white; formerly planted in gardens.

Seeds, berries (generic term, anht) included: *Chia seeds (pa·ši·l), Salvia columbariae Benth.; *thistle sage seeds (pacist), S. carduacea Benth.; desert floral area.

*Bunch grass or wild rice (u·gibï·l), Echinochloa crus-galli (L); alkaline weed.

*Mentzelia albicaulis Dougl. (ku·l) and M. gracilenta T. & G., desert and Great Basin floral areas.

*Wild oats (ma·št).

*Rabbit's foot or beard grass (po·mbikanan, furry), Polypogon monspeliensis (L.) Desd.; general in distribution.

*Seeds of wild heliotrope, Heliotropium curassavicum L., alkaline areas in general, and seeds of Eriogonum species (tu·nabo·l). Specimen of 2 other varieties of seed plants (šo·'itih and pa·waẓul) not obtained.

*Gooseberries (wopnil), Ribes quercetorum Greene, foothill floral area; abundant in lower foothills of area.

*Boxthorn berries (pi·'ict), Lycium torreyi Gray, desert floral area.

Manzanita berries (kïnal), Arctostaphylos sp.

*Juniper berries (wa·'at), Juniperus californica Carr, var. utahensis and J. utaliensis Lemmon; Great Basin floral area; berries of both species mature second yr.

Elderberries (ku·hupïl), Sambucus velutina D & H; foothill floral area; eaten (SM), not eaten (FP).

Wild grapes (wo·lo·nt), probably from Vitis californica Benth.; gathered in Koso territory near Inyo-Kern.

Deadly nightshade berries (mane·ẓa'), Solanum nigrum L., foothill floral area.

Roots (generic term wi·šin) included: Tule roots (si'i·bï·l), Scirpus acutus Muhl; marshes in general.

*Cattail roots (to·ibï·l), Typha latifolia L.; general in ponds.

Bulbs (generic term ko·mbin) included: Mariposa lily bulbs (ho·ẓišt), Calochortus venustus Dougl., and C. palmeri Wats.; foothill floral area.

Bulbs (yambal) which were 1 1/2 in. long, "looked like potatoes"; plentiful at Fay ranch in mts. N of Weldon and at Tejon (SM).

Stalks (generic term u·'un) included: *Spanish bayonet (kuyat), Yucca whipplei Torr.; foothill and desert floral areas. Cf. kuya'dibï·l, center stalk of Y. whipplei, used in manufacture of bull-roarer.

*Red thistle (čiyiyal), Cirsium occidentale (Nutt.) var. coulteri Jepson; foothill floral area.

Mescal (kukt), Nolina parryi Wats.; desert floral area.

Wild rhubarb (aba·nal), species of dock.

Leaves (generic term naŋhabï·l), pods, receptacles (ča'a·bil) included: *Leaves, stalks, heads of wild onion (ši·wil), Allium peninsulare Lemmon, A. hyalinum Curran, and wild garlic (wowo·l, testicles), A. lacunosum Wats.; foothill floral area.

*Leaves of Coreopsis bigelovii (Gray) Hall (ibi·l, also generic term for flower); desert and dry interior floral areas.

*Leaves, stems of small red variety of clover (panwal); of larger variety (panwal u·wan), Trifolium involucratum Ort., foothill floral area; and of variety which was tall, "sour" and grew in moist places (panwal tuwuganan).

*Leaves (tu·t), stems of salt grass (tu·bu·l), Distichlis spicata (L.) Greene; saline soil.

Leaves of Cotyledon laxa (Lindl.) Brew. & Wats. (ma·šali·nu, Spanish loan word); foothill floral area.

Leaves of fiddle necks (ugabul), Lotus scoparius (Nutt.) Ottley, and Ellisia membranacea Benth. (ka·mu·yah), foothill and desert floral areas, respectively.

Leaves, stalks of Monardella candicans Benth. var. exilis Gray (ka·lukt, the armpit); desert floral area; of Pellaea compacta Max (tča), foothill floral area; of mountain tea (u'tu·dul), Ephredra viridis Coville.

Leaves, stems watercress (beros, Spanish loan word), Radicula nasturtium-aquaticum (L.) Britt. & Rendle, not eaten aboriginally; sometimes boiled now for greens; leaves of wild mustard (hi·ulit), Sisymbrium officinale L., fried in grease; "learned this from Mexicans" (SM).

Immature pods of tree yucca or Joshua tree (umu·bï·l), Yucca brevifolia Engelm.; desert floral area.

Receptacle of cacti (ïya·l), Opuntia caseyi Britt. & Rose var. magenta Pursh and O. basilans Engelm.; desert floral area.

Some plant species named, but put to no use, as: wild lilac (to·bu·l), Ceanothus divaricatus Nutt., foothill floral area; choya cactus (u·šil), desert floral area; California poppy (yogobul), Eschscholtzia californica Cham. and E. minutiflora Wats. (same name), foothill, desert floral areas, respectively; several varieties of lupines (šïmïndïŋ taman, rattlesnake's teeth, so named because pistils and stamens protrude from keel of flower like teeth, SM), Lupinus sparsiflorus Benth., L. odoratus Heller, desert floral area, L. albifrons Benth., L. densiflorus Benth. var. lacteus C.P.S., foothill floral area, L. microcarpus Sims, var. ruber C.P.S., L. micranthus Dougl. Few other plants also named, rejected as food (p. 12).

For 86 plant species SM could give no economic, medicinal uses or names, referring to all of them as weeds (mašil): Albronia pogonantha Heimerl.; Achillea millefolium L. var. lanulosa Piper; Agoseris alpestris Greene; Azolla filiculoides Lam.; Baeria chrysostoma F. & M.; Brickellia californica T. & G.; Bromus rubens L.; Castilleia miniata Dougl.; Centaurium venustum Rob.; Centromadia (Henizonia) pungens (T. & G. Greene); Cerastium arvense L.; Chaenactis stevioides H. & G.; Cheilanthes covillei Max.; Chenopodium californicum Wats.; Chorisanthe staticoides Benth., C. watsonii T. & G., C. thurberi (Gray) Wats.; Chrysothamnus teretifolius Hall; Cotula coronopifolia L.; Cryptantha miriculata (A. DC.) Greene; Cuscuta californica Choisy; Datisca glomerata Brew. & Wats.; Delphinium hansenii Greene, D. purpusii Brandegee; Dicentra chrysantha (H. & A.) Walp.; Emmenanthe penduliflora Benth.; Encelia actoni Elmer; Epilobium californicum Hausskn.; Epipactis gigantea Dougl.; Ericameria cuneata (Gray) McCl. var. spathulata Hall; Erigeron divergens T. & G.; turkey mullein, Eremocarpus setigerns Benth.; Eriogonum argillosum J. T. Howell, E. angulosum Benth., E. mohavense Wats.; Eriophyllum ambiguum Gray, E. pringlei Gray, E. confertiflorum Gray; Euphorbia serpyllifolia Pers.; Galium angustifolium Nuss.; Gilia latiflora Gray, G. capitata Dougl.; Godetia viminea Spach; Greeneocharis circumscissa (Torr.) Rydb.; Gymnogramma trianularis Kaulf.; Hugelia filifolia Jepson; Langloisia matthewsii (Gray) Greene; Lepidospartum squamatum Gray; Linanthus aurens (Nutt.) Greene; Lotus strigosus (Nutt.) Greene, L. oblongifolius (Benth.) Greene, L. argophyllus (Gray) Greene; Lycum cooperi Gray; Marrubium vulgare L.; Malacothrix californica DC.; Melilotus indica All.; Mimulus gluttatus D.C., M. cardinalis Dougl.; Mirabilis laevis (Benth.) Curran; Montia perfoliata (Donn) Howell; Nama demissum Gray; Oenothera alyssoides and O. alyssoides T. & G. var. decorticans Jepson, O. bistorta Nutt., O. caespitosa Nutt., O. contorta Dougl., O. pallida Lindl., O. palmeri Watson, O. scapoidea T. & G.; Pallaea and romedaefolia Fee; Penstemon laetus Gray, P. palmeri Gray, P. breviflorus Lindl.; Phacelia tanecilifolia Benth., P. hispica Gray var. cicutaria McB.; Platystemon californicum Benth.; Polygonum persicaria L.; Ranunculus aquatilis L.R. var. cymbalaria Pursh.; Rumex crispus L., R. hymenosepalus Torrey; Senecio douglasii DC.; Sidalcea malvaeflora Gray; Sisymbrium incisum Engelm.; Sphaeralcea (Malvastrum) exile (Gray) Jepson; Stenotopsis linearifolius (DC.) Rydb.; Stephanomeria exigua Nutt. var. pentachaeta Hall, S. virgata Benth.; Tropidocarpum gracile Hook.; Vaccaria vulgaris Host.

This list probably represents only small fraction of indigenous plants available to Tübatulabal, of which they made no use; it serves to illustrate, in concrete fashion, selective processes at work, among people of hunting-gathering culture, in their utilization of their floral environment, and negative rôle which part of that environment played in their culture.

Plants put to other ethnobotanical uses, for curing, house building, etc., referred to in discussions of these subjects.

Gathering of plant food.- When acorns ripe, "all the people except very old persons and young children went together to get them" (SM); women chiefly collected them while men hunted, trapped. Acorns gathered from ground in small conical baskets, transferred when baskets full to large basket, in which they were brought back to camp and spread out on deerskins, tule mats for 3-4 days to dry, this preventing acorns from sweating when cached; then stored at acorn grounds, in elevated caches. Acorns gathered near home packed back to hamlets, cached near houses.

When berries ripe on shrub (opo·bol), Rhanmus californica cuspidata (Greene) Wolf, which grows in foothill floral area, "the people knew piñons were ready to be gathered in the mts. So some men went out first to see where the piñons were good; just any men went; they decided, and then everybody went to the places where these men said the nuts were plentiful" (SM). All inhabitants of hamlet or of several hamlets went together; sometimes very old persons might not stay at piñon camp when weather became too cold, but return to hamlet alone. Piñons gathered when cones reached maturity, but before they had opened; men, boys knocked cones off trees with staves or pulled down branches with "shepherd's crook" staff; men, women picked up cones, put them in conical lug baskets which were emptied into larger conical

pack baskets as in gathering acorns. At camp when sufficient quantity of cones gathered, men, women prepared bed of sage (uyuga·dul), Artemisia tridentata Nutt. or A. cana Pursh., cones dumped on this, brush fired. Cones tested from time to time to determine whether heat from burning brush had caused scales to open sufficiently; if by time brush burned down cones not sufficiently open, more brush was piled on top of them, roasting continued. After cones fully opened, allowed to cool; nuts shaken, picked out by hand from charred cones or winnowed from dirt and spread out on hides laid on ground around camp to dry for 3-4 days, as for acorns. Cached in pits. Those piñons which fell to ground from cones which had opened on trees as season advanced gathered by hand, brought home unroasted. Roasted piñons often pierced with sharpened twig of mt. lilac (utugu·bï·l), Ceanothus cuneatus, foothill floral area, and strung on long lengths of native twine; lengths of strung piñons festooned over houses when owners returned to village, or made into baskets (p. 32) at piñon grounds. Later these strung piñons eaten as delicacies.

During May, green cones of Digger pine twisted from branches, chiefly by men, boys; sliced down sides with obsidian knife; nuts picked out of soft shells, eaten immediately. Later in fall when cones matured but scales still closed, cones gathered by men, boys, roasted and treated in same manner as piñon cones.

Small seeds such as chia, wild oats, Mentzelia seeds, juniper berries, gooseberries, manzanita, and boxthorn berries gathered with seed beaters as Steward describes (Steward, 1933, 239). Bunch grass and Polypogon gathered on stem, dried in sun; seeds of wild heliotrope taken out by hand, eaten raw on spot. Elderberries broken off on stalk, stalk shaken over basket into which berries fell. Tule, rush roots, mariposa lily bulbs dug in moist ground with digging stick; woman knelt on both knees, dug to one side or other of her body. Sunflowers treated as Steward describes (Steward, 1933, 239). Center stalk of Spanish bayonet and mescal knocked down at base with stave before stalks budded; prickly buds of Opuntia speared with sharply pointed stick; buds of tree yucca knocked off limb with staves. Leaves, stalks, small plants cut with obsidian knife.

Digging stick (u·lu·ini·l) straight stick, 4-5 ft. long, unweighted; made from piece of dry oak sharpened to point on end by rubbing on rock. Straight long stick (ma·wišul), 10 ft. or longer, used for knocking piñons off trees; shepherd's crook staff (olodi·l) had handle 3 1/2 ft. long with 5-in. crook at end. Crook made by bending end of green stick over knee and tying it in bent position with bark rope; stick then left to dry in hot sun for 3 days before crooked end untied.

Preparation of plant foods and beverages.- Mortar and pestle or grinding slab and rub stone used in preparing different types plant food. Mortars (pahal) included pit mortars, which were depressions 2-10 in. deep, 3-5 in. wide in level or gently sloping granite outcrops (Kroeber, Handbook, 524, pl. 45). Manufacture of pit mortars attributed to Coyote, but fact recognized that mortar holes enlarged with use until at depth of 10 in. they became unusable.

Portable stone mortars (ku·pahal) from 6-35 in. in total diameter; made by pecking out depression in round soft gray stone with harder, pointed rock (SM). Small stone mortars readily transportable; taken on piñon expeditions. Large wooden portable mortars (ku·pahal) of Yokuts type (Kroeber, Handbook, 524, pl. 45) made from hard wood, oak (SM), juniper (FP); bowl burnt out and interior smoothed with rough rock. These latter "easier to make than stone mortars" and commonly used around home, but were too large to take on trips. Basketry hopper used. Pestles (poho'owal) for all types mortars were roughly cylindrical, granite or slate rocks, picked up in river beds, used as found; length of pestles varied from 5-20 in., width from 2 1/2-5 in., depending on size of mortar.

Grinding slab (mana·l) oval or roughly rectangular piece of granite or black slate, from 14-20 in. long, 10-15 in. wide, and 2-4 in. thick; used on one side only; grinding surface flat or slightly concave. Suitable slabs fairly abundant in area, and woman always kept one such in house, leaning up against wall. With slab, either small ovoid rub stone (takibit) 3-4 in. long, about 3 1/2 in. wide, 2 in. thick, flat on top and bottom surfaces (Gifford and Schenck, 92, pl. 31), or larger stone of same shape (takin) used; these picked up in river beds. Long cylindrical mullers not used. When in use, grinding slab set up with flat rock, about 2 in. thick, placed under upper end of slab, so that slab slanted downward, away from operator. Lower end of slab rested on flat basketry tray.

All informants familiar with 3-legged metate and horned muller (Steward, 1933, 341, pl. 5g), because one such introduced among them by former Jesus Miranda, Mexican who married Petra Miranda, Tübatulabal woman; this metate used primarily for grinding corn (FP). However, present-day Tübatulabal ordinarily pound parched corn or wheat into meal in pit mortars, following older pattern.

Cooking techniques included stone boiling, boiling in clay pots, parching with live coals on basketry tray, parching in fire, roasting on coals, in ashes, in pit ovens, on spits, in fire. General pattern of native cookery, which resulted in economy of effort, was to apply heat only once to any variety of food intended to be eaten in cooked state. Thus small seeds which had already been parched, and previously roasted piñons, after they were ground into meal, were merely mixed with cold water when made up into gruel (u'u·gil); neither seed nor piñon meal recooked by stone boiling (or any other method), parched foods being

regarded as "already cooked" (ES). Same applies now to parched corn or wheat ground into flour; further instances of this general rule of using heat only once in treatment of plant foods can be noted below.

Acorns shelled as among Northfork Mono (Gifford, 1932 b, 21); if woman had large family "everybody helped" (Voegelin, 1935 b, 227). Shelled kernels dried; pounded in pit mortars; flour sifted with basketry tray and leached with warm water in round pit scooped out of wet sand; woman tasted meal occasionally to test it for sweetness; leaching took about 1/2 day, depending on variety of acorn. Acorns never buried in mud to leach. Sometimes 2 varieties of acorn meal mixed; maul oak acorn flour too bitter to use alone, so was mixed with sweeter variety. Leached meal and water put in cooking basket; hot stones added with looped-stick stirrer (wo·do'oli·l) of Yokuts type (Kroeber, Handbook, 446, fig. 38) made of willow (PN), Digger pine, oak (SM), and tied with twine. Mush (ča·mil) cooked until of consistency of "canned tomato soup" (FP); eaten with meat. Sometimes hot mush poured into small coiled baskets which were set in cold water until mush had cooled, then mush taken out in form of biscuit which would keep 2-3 days (SM).

Piñons which had been previously roasted in cones, heaped by handfuls on grinding slab, gently crushed with small rub stone, using rotary motion; this done outdoors, where wind blew some of shells away, remaining shells winnowed from nut meats on large basket tray. Nut meats then "cooked like beans" in clay pot or reduced to meal on grinding slab; this latter operation accomplished with larger rub stone (supra) which was grasped in right hand and drawn backward and forward up and down surface of slab. Meal mixed with cold water, made into white piñon mush which was eaten occasionally with meat, but mainly alone (SM). Black piñon mush was made from those nuts which had been gathered from ground; these were cracked, winnowed as described above, nutmeats were then parched in ovate tray with small pieces of live charcoal, pounded into meal in pit or portable mortar and water added to meal to make thin dark mush.

Digger pine nuts which had previously been roasted were cracked on grinding slab, shells winnowed out, nutmeats eaten thus or "boiled like beans" in clay pot. Buckeye nuts peeled, leached whole in warm water for 3 days, boiled in pot or dried, pounded into flour in pit mortars, water added to flour and mixture stone boiled.

Small seeds treated in variety of ways; chia, wild oats, Eriogonum and Mentzelia seeds winnowed, parched with live coals "for about a minute"; hot sand not used. Chia and wild oats pounded in pit or portable mortars; Mentzelia seeds ground on slab. Bunch grass and heads of Polypogon burned; seeds of bunch grass caught on tray as they fell out, ground on grinding slab; heads of Polypogon held over fire to singe off awns, head rubbed between hands to extract seeds and these pounded in pit mortars. All small seeds mixed with cold water and made into thick gray-colored gruel (ha·yi·l) which was drunk for refreshment, "like lemonade"; women often gave children drink of this gruel between meals. Two varieties of chia might be used mixed together, but neither mixed with Mentzelia seeds. Although small seeds now regarded as something of delicacy, they are still occasionally gathered in large quantity, using aboriginal methods; in 1933 some Kawaiisu brought 10-lb. flour sack of chia seeds to SM's rancheria, offering them for sale.

Wheat now cut by hand, piled up on piece of canvas and thrashed with 4-ft. pole; winnowed in flat tray, parched in oven, pounded into flour in pit mortars, and flour mixed with water and little sugar to make stiff mush. Corn is eaten on cob in roasting ear stage or allowed to dry on cob; 2 cobs twisted against each other to remove kernels, which are parched, pounded, winnowed, and meal made into mush.

Juniper berries boiled fresh; when dry and fully ripe seeded by hand, flesh pounded in pit mortars and eaten raw; pounded mass never dried into cakes or beverage made from berries. Flesh of juniper berries "sweet." Ripe boxthorn berries pounded in pit mortar, taken up in hands, mixed with small amount of water and made into "biscuits" which were dried in sun; no fat added. These small balls stored; when used broken up, soaked in water, eaten; tasted "just like grapes." Elderberries boiled in clay pot with water and eaten (SM); FP said they "tasted queer." Never stored for winter.

Rush roots peeled, sun-dried, pounded into flour (obolinil) in mortar, mixed with water and stone boiled into mush.

Several plant foods roasted; for mescal short trench dug, fire made in trench, tender young stalks cut in half, laid on fire, covered with dirt and left overnight. In morning stalks uncovered, peeled, and eaten. Quantity of Spanish bayonet stalks laid directly on top of blazing brush fire; stalks turned once while cooking; when soft, stalks buried in dirt or sand, left to cool; burying made peel "slip off easier" (SM). Fleshy receptacles of Opuntia buds held over fire on end of sharp-pointed stick to singe off stickers (ukun), then spread on hot flat rock placed at bottom of pit, covered with another hot rock and pit filled with loose earth or hot ashes. Receptacles left to roast for about 8 hours; when taken out of pit outer skin peeled off and inner part eaten. Fleshy stalks wild rhubarb roasted overnight in hot ashes, eaten next morning.

Immature pods of tree yucca, while still inside green sheath, "boiled like cabbage" in clay pot (SM).

Several plant foods eaten raw by gatherer on spot; such included berries of deadly nightshade;

wild grapes; green Digger pine nuts; seeds of wild heliotrope, which "smell like piñons, taste like hot peppers"; leaves, stems of salt grass, which was eaten plain or rolled in palm of hand with clover, Cotyledon laxa, or Ellisea membranacea; leaves of Coreopsis, wild onion, and fiddle-necks; leaves and heads of wild garlic; tender leaves, stalks of clovers. Some greens, etc., gathered in quantity by women, brought home and fed to family raw; these included gooseberries, tule roots, clover species, young tender stalks of red thistle, which were gathered before plant blossomed, and mariposa lily, yambal bulbs; latter peeled and eaten raw.

Manzanita berries crushed with rotary motion on grinding slab or in mortar, made into drink as fully described by Gifford (Gifford, 1932 b, 22, pls. 4b, 5). Dried whole boxthorn berries pounded in pit mortar, treated in similar fashion. Entire plant of Indian tea and Monardella candicans, either dried or fresh, boiled for short time in water, decoction drunk; sugar now added to tea from Monardella. Salt grass put in pot, covered with water; when saline crystals had dissolved in water, grass removed and decoction drunk. Mint, which grows around springs near houses, also used occasionally for nonmedicinal tea. Fermented or intoxicating beverages formerly unknown.

Manufactured foods and gum.- Honey dew, which is produced in summer by aphids on stalks, leaves of cane (paha·bil), Phragmites communis Trin., utilized as sweet (ha·bišt). Canes cut in July, August, spread out in hot sun to dry; then heaped on bearskin, "because bearskins are good and thick for beating," and flayed vigorously with hardwood stick beaters. Beating caused saccharine crystals on canes to adhere to bearskin; these crystals scraped off skin, winnowed on flat tray, put into small cooking basket, and made into stiff dough with cold water. Doughy mass removed from basket with hands, spread on twined tule tray (fig. 8a); end of tray folded over wet sweets, and tray put away for 6-7 days to allow sugary substance to dry. When dry, lumps of sweet broken off the hard brown loaf with rock and eaten dry with chia gruel. Presence of excess of carbohydrate which aphids derive from cane and are unable to assimilate, leaving it on cane as honey dew, SM accounted for as follows: "The little bugs (tohawal, generic term for insects) make the sugar on the cane, like bees, and then they fly away. They do this in summertime, about in July; they leave a sticky stuff on the cane; this dries when the cane is cut, then is beaten off by pounding the cane. The bugs aren't on the cane when it's pounded. It isn't the juice inside the cane the bugs get out." Use of honey dew as sweet also noted for Surprise Valley Paiute (Kelly, 103), Owens Valley Paiute (Steward, 1933, 245), Yavapai and Papago (Gifford, correspondence). Owens Valley Paiute, like Tübatulabal, use honey dew which forms on Phragmites communis, also on rush, Juncus; Yavapai and Papago obtain it principally from willow, but also from cane.

Tübatulabal also occasionally sucked sections of freshly cut cane for its sweetness (SM).

Saline crystals which form in dry hot weather on salt grass made into "salt" (tu·t). Salt grass grows in saline areas, on valley floors, at base of foothills; its utilization among Tübatulabal depended on weather, as "after a rain it takes a month for salt grass to get salt again" (SM). Grass cut, spread out on mats to dry in sun; after grass thoroughly dry same process followed as described above for obtaining honey dew, save that collected crystals made up into balls or flat cakes instead of being spread on tule tray. Chunks equal to 2-3 full tablespoons broken off dry ball, dissolved in cupful of water and drunk either for refreshment or as laxative and to rinse out stomach. Salt-grass crystals also obtained by children who took willow switches and "swept" salt grass with them early on summer mornings; when sufficient quantity of crystals had adhered to stick, child took it to shady spot and licked off crystals. Fresh salt grass soaked in water and this water sprinkled over raw chopped clover, or sprigs of salt grass and clover rolled between hands and eaten. Substance manufactured from salt grass never used to season meat or mushes.

Chewing gum made from milky juice of Asclepias erosa Torr. (pololi·wa·bï·l); stalk of plant cut near top before it blossomed and juice collected in 4-in. tubular sections of jointed stalk of Eriogonum elongatum gramineum n. var. Stokes (ined.), (šiko·ništ). Joint of stalk served as natural stopper for bottom end of tubular section; juice run into stalk through open upper end; filled sections of stalk set in hot ashes to roast until plant juice inside has congealed; stalks then cut open, gum removed and chewed. This gum "better than store gum" (ES).

Meals.- Meals eaten twice daily around sunrise and before sundown. At morning meal (wi·lil) and evening meal (tu·kil) men, children ate first, then women. Meat eaten at both meals, "if people had it." Men, women used spoons (ta·mil) made from antelope horn (ša·wun) for eating acorn mush (SM), or wooden spoons (FP); PN said spoons of elk, antelope horn not made. Acorn mush eaten with fingers (MM). No formula spoken before eating. Children pieced during day; "mothers gave them a cup of chia gruel" (SM). Food rarely eaten after dark as ghosts "come around at night; they might throw something in the food that would make a person sick" (SM, FP). Because strangers potential enemies who might put poison in food, person avoided eating with them. Women when out for day gathering seeds, tending tobacco, etc., took lunch with them which they ate about 10 or 11 a.m.; men hunting deer "didn't take any food; they came home in the evening" (FP).

Salt.- Rock salt (uŋa·l) obtained in winter chiefly, from dry salt lake to E in Koso territory between Randsburg and Cantil on n. edge of Mohave desert. Individual men went for it, afoot; "a man started out at 2-3 o'clock in the morning, taking water with him in a basketry water bottle. He returned home the same evening or the next day, bringing back 1/2 sackful of salt, enough for about one month, on each trip" (SM). Route followed led S from Weldon to Kelso valley in Kawaiisu territory, thence SE to Jawbone canyon and Mohave desert and NE to Dry Salt lake. Another route from Onyx led over Walker pass, S across Indian Wells valley to Dove springs and through Red Rock canyon to Cantil. Either route about 40 mi. long. Salt transported in large lumps, in deerskin sacks; when used pounded in mortars or pulverized on slab; used sparingly on cooked meat and for drying meat and fish, but not to season acorn, piñon mush, or any other plant foods. Salt per se not specifically tabooed at certain times (SM, FP), as among Diegueño, Mohave (Kroeber, Handbook, 721, 747, 748, 750); food taboos related specifically to meat (including fish), grease, and cold water. However, as it was only with meat and fish that salt was used, practical result was that observers of meat taboo also abstained from salt during taboo periods.

Storage and preservation of food.- Acorns stored in granary (la·lwašti·l) of Miwok type (Kroeber, Handbook, 446, pl. 38) but lacking center post and with framework consisting of 4 large posts, 6 ft. high, set upright in ground 3 ft. apart to form square. Bottom of granary cleared ground by 2-4 in. Granary lined with sagebrush; after acorns dumped in, layer of brush piled over them and bark slabs put over brush to keep out rain. Granaries built at acorn grounds used from yr. to yr.; during winter man and wife made trips to their granary and drew upon contents as needed. Smaller granaries of same type sometimes set up near dwelling house to use for acorns gathered nearer home.

Piñon cache (pača·i·ništ) consisted of circular pit, about 5 ft. in diameter, 2 1/2 ft. deep, dug with sticks in floors of natural rock shelters near piñon grounds. Pits lined with flat rocks (SM) or brush (FP); loose piñons dumped into cavity, cache covered with large flat rocks or grass and small stones. During winter men made trips to caches, packing home piñons in skin sacks.

Families generally had storage house near family dwelling; this storage house as large and made in same fashion as living house, save that it lacked fire pit and smoke hole and walls were thatch and mud covered. In this house were kept large wide-mouthed coiled baskets, some "as big as washtubs" and trays used as receptacles for stores of dried meat, fish, small seeds, piñons, acorns, as well as articles of domestic or occasional use such as pack baskets, baby cradles, fishing gear, sacks, etc.

Fresh meat dried in sun by being cut into thin strips, 6 x 12 in. or smaller, hung up, either salted or unsalted, on branches of tree or on line made from native twine strung between 2 trees; drying generally took from 6-7 days. Fish split, cleaned, salt rubbed over them; hung up on willow branches to dry in sun during summer months. Neither meat nor fish smoked or dried over fire; dried fish "would last a long time" (FP, SM). Wild grapes spread out in sun to dry "like raisins" then stored for winter use; boxthorn berries dried whole or in cakes; rush roots sun-dried, stored; small seeds stored, either parched or unparched, in skin sacks or baskets, in storage house.

Staples; yearly consumption of food.- As food calendar shows (p. 11), during spring and summer seasons Tübatulabal had relatively varied vegetable diet, but by fall their plant foods decreased in variety and during winter they "just ate acorns, piñons, and meat of any sort they could get, and dried and fresh fish" (SM). Of 2 vegetable foods eaten during winter, acorns figured as staple; "more acorns were eaten than piñons; old-timers ate acorn mush with deermeat, like bread. We just get acorns now once in awhile, because now we have white flour" (SM). That piñons were, however, also important in Tübatulabal diet, is shown by amount stored during good piñon yrs. However, abundant crops occur at best only every second yr., whereas acorns, of which Tübatulabal had 6 varieties to draw upon, could be procured in one locality or another annually.

Regarding proportion of animal, vegetable food eaten, my meager data on subject indicate meats, including birds and fish, may have comprised 40 per cent of food consumed throughout yr., acorns, piñons (if crop good) 40 per cent, small seeds, stalks, raw foods, etc., 20 per cent. As to amount of food consumed by family throughout year, data lacking for flesh foods, but for acorns SM said family 2 adults, 3 children needed one acorn granary (of dimensions given above), full, to have sufficient acorns for year. "If they had a larger family, they made a bigger granary" (SM). To this amount of acorns should be added contents of smaller acorn granary family might have near home. Piñon supplies varied, but in yrs. of good crop family of 5 stored cache such as described above, full of piñons, besides bringing several sackfuls home at end of piñon-gathering period.

Since all foodstuffs in order to be kept properly had to be sun-dried before being stored, weather which prevailed at season when wild foodstuffs were available for gathering and storing often regulated to a degree amount of food stored from yr. to yr. This consideration applies especially to storage of fish and some of minor plant foodstuffs, such as salt from salt grass,

sweets made from cane, wild grapes, etc. Acorns and piñons on other hand required shorter drying periods than any of above-mentioned foods, and furthermore, after gathering them, drying could be postponed for few days, if necessary, without danger of their spoiling.

Control of water.- Tübatulabal controlled water to degree of making ponds (pacu'a·t) near sweat houses; these ponds large enough for person to jump into after taking sweat bath. Ponds dug out with stick (nahat, also used for cane); water run into them from near-by spring. Springs also dug out to obtain drinking water, but no boxing in of sides, as is done now (SM).

Patches of wild seeds never irrigated as among neighboring Owens Valley Paiute (Steward, 1933, 247). An irrigation ditch, course of which is still traceable, formerly brought water from Canebrake canyon to former Indian settlement at mouth of Chimney canyon in arid e. end of South Fork valley. This ditch constructed by Koso Indian refugees who settled in Tübatulabal territory at this spot ca. 1863. At time of its construction white settlers had been ranching in South Fork valley nearly 20 years and ditch seems obviously native borrowing of white culture item.

Domesticated and captive animals.- Regarding possession of dogs (puŋgul, pet; pukubišt, specifically dog), and their use as food, PN, oldest informant, stated Tübatulabal had dogs and roasted them to eat, as Yokuts did (Kroeber, Handbook, 526), before whites entered region. She described native dogs as "small, white, short-haired"; denied they were procured from Mexicans or other outside sources.

SM, however, said Tübatulabal did not possess dogs until whites brought them in. His statements at different times on use of dog for food contradictory; once he said Tübatulabal roasted and ate dogs after latter introduced, but subsequently stated dogs never eaten. He knew of use of dogs by Yokuts, stating: "The Bakersfield Indians always had dogs and ate them; they'd buy dogs from each other for (the equivalent of) $2 apiece." FP said Tübatulabal "had dogs pretty early, but got them from whites; after they got dogs they did not eat them." These statements reconcilable because they probably reflect cultural divergency between Palagewan and Tübatulabal bands; Palagewan, situated nearest Yokuts, in all likelihood most affected by Yokuts customs. PN's mother member of Palagewan group; PN's second husband a Yokuts; in discussing dog PN probably had Palagewan in mind, although this point not specifically stated at time. Reason for SM's confused statements may also have been this cultural divergency, but in statement of FP, whose affiliations lay with Tübatulabal and Koso to E, we have clear-cut denial of trait.

Cave, now closed, on Jesus Miranda's ranch 1 3/4 mi. NW of Weldon on N side of South Fork of Kern r., said by several informants to have been former abode of wild dogs. According to SM, "the Indians heard the wild dogs bark in the cave, but never saw them"; FP had "heard people talk of the wild dogs down by Miranda's," but knew nothing more about them, nor could PN give additional information.

Young golden eaglets (a·šawït) taken from nests in steep cliffs on n. face of Nichols peak (elev. 6078 ft.). Men scaled peak on gentler sloping S side, generally taking with them boy 9, 10 years old. At top of cliffs boy was tied around waist with rope made from native twine, or put in net attached to long rope and lowered over face of cliff to nest, where he got eaglet; if parent birds attacked him he was speedily hauled back up over cliff. Grown men also sometimes lowered over cliffs thus.

Eaglets brought home by captors in carrying net and kept in cage (hani·la·nil) about 5 x 5 x 5 ft., made of willow poles; cage hung up on branch of tree outside house. Birds fed squirrels, rabbits, other meat through small door made in one side of cage; water provided in small coiled basket (hom'mobit). Wing feathers collected when bird molted; down (pi·wi·l) plucked from breast twice yearly. After being kept year or so "eagles grew so big they bit and clawed and men were afraid to handle them, so they set them free" (SM).

Adult eagles snared at watering places in Greenhorn mts., in same way Owens Valley Paiute snared rabbits and wildcats (Steward, 1933, 254), except that Tübatulabal used willow pole and scattered seeds and acorns inside loop for bait (SM). Adult eagles never kept in captivity; if not killed when caught in snare they were dispatched by owner of snare who addressed no formula to eagle, but clubbed bird to death and then plucked it (SM). Eagles and eaglets "hard to find" (SM), but any man free to get them; eyries not owned. Although eagle prominent in mythology, being chief in Mythical age, SM, FM, FP stated unequivocally that eagles were kept only in order to obtain feathers and eagle down from them; their statements agree with data on use of eagles among Kawaiisu (Kroeber, Handbook, 603). Occasionally an eagle was made pet, but this was of no esoteric significance and traces of any bird cult (Gifford, 1932 b, 39; Kroeber, Handbook, 495) seem lacking. Kroeber's statement that "condors, crows, hawks, and geese and even young coyotes were kept as pets, and sometimes inherited by the son from the father" (Handbook, 608) brought negatives from SM for all birds mentioned; "they just kept eagles" (SM). However, FM said his sister "had kept a pet crow once," but attached no esoteric significance to fact. That keeping of pets might be significant was not, however, foreign idea to informants, as they recognized that a Yokuts man who formerly lived among them had mystical bond with a rattlesnake,

his "pet." Regarding coyotes SM said occasionally coyote pups caught at den and kept tied up near house, being fed deer, rabbit meat, but they "weren't kept for very long, because they ran away the first chance they had." PN denied coyotes were ever kept.

Horses (pungun, his pet; term also used for sheep and one of words used for dog) procured by Tübatulabal and Palagewan in trade from San Buenaventura and Santa Barbara mission Indians previous to advent of whites in area (SM). Around 1800 SM's father owned 10 head of horses, worth $10 apiece in clamshell currency. Occasionally groups of Koso Indians from E stole horses from Tübatulabal and drove them out to desert to eat them; Tübatulabal did not eat horses (SM). Oxen, mules, cattle, sheep, goats, cats, geese, ducks, chickens obtained after whites settled in area.

DRESS AND ADORNMENT

Clothing.- Men, women wore double-apron skirts (nawi·l), which fell 1-8 in. below knee. Skirt consisted of 2 rectangular pieces of tanned deerskin (antelope skin, Garcés, 282), both same size, laced together at sides with buckskin thongs (yu·wil). Back apron was attached to leather belt or had thongs at both upper sides which tied in front; front apron had similar thongs which tied in back, "like 2 kitchen aprons" (FP). Some skirts plain, others had 1 1/2 in. buckskin fringe around bottom, also short bead fringes. If worn in rainy weather skirts became stiff, had to be rubbed and pulled between hands to soften skin. Skirt lasted 2, 3 years; usually one such garment "kept for best; go visiting, put it on" (FP). Made by women. Skirts of tules, fibers not worn. Leggings not used.

Breechclout (talu·mat) consisted of square piece of tanned buckskin folded, brought between thighs, held up around waist by leather or braided milkweed fiber belt (mohkat) tied in back. Breechclout, together with skirt, worn by women when menstruating or in cold weather (SM); myth mentions woman wearing breechclout as protection against Coyote's raping her (C. F. and E. W. Voegelin). In 19th century breechclout worn generally by men, boys, but not used by them aboriginally (SM).

Children went naked, but in cold weather wore double-apron skirt; babies on cradles wrapped in cold weather in soft, well-tanned wildcat skins (mupipul) which had hair left on.

Rabbitskin blankets (wihnibï·l) worn draped over shoulders and held closed over chest with hand; such blankets "good for rainy weather" (SM); Garcés saw fur mantas (Garcés, 282). Vest which laced up front, made from single piece tanned buckskin with 2 slits for armholes cut in it, worn by men, women, children in winter (SM); sleeveless coat, consisting of front, back piece of tanned buckskin with lacing like that on skirts at top of shoulders and from armholes down sides, and with 10 to 12-in. laced slit in front from neck downward, worn against cold (FP).

Bearskin robes with hair left on may have been worn occasionally, but were "too heavy" (SM). Feather, squirrelskin capes never made; sea-otter capes not obtained in trade though SM had seen them worn by Chumash at Ventura.

Shamans engaged in curing, competitive contests, and dancers wore skirts (wi·la·t) made same style as Owens Valley Paiute, Koso skirts (Steward, 1933, 347, pl. 7d; Kroeber, Handbook, 508, pl. 42a). Some dancers also wore bands of yellowhammer feathers around waist (FP).

Men when hunting in winter kept fingers warm, limber by putting them inside wildcatskin quiver, which had hair left on inside and was worn slung across chest.

Headgear and footwear.- Men went hatless; women wore coiled basketry cap (poŋgat) when using pack strap for carrying loads, but not habitually; these caps round at top, came down nearly to eyebrows. Hair nets not used. Men rarely seen now outdoors without hat; women wear them less frequently; FP habitually wore black cloth stocking cap resembling basket cap in shape. Some 60 years ago FP's aunt (Koso) made coiled hats of same material used for basketry cap, but patterned hats like "store hats"; sold these to several Tübatulabal men who wore them "all the time" (FP, SM).

Shamans and dancers wore feather headdress consisting of fillet (še·mapun) of eagle down, and crown (anambul) of magpie (?) feathers, similar to Owens Valley Paiute dancer's headdress (Steward, 1933, 347, pl. 7a, b).

Moccasins (wahcibï·l), made from tanned buckskin taken from neck region of deer "where the hide is thick" (SM); made to extend well above ankle (fig. 3). FP in cutting out model in cloth

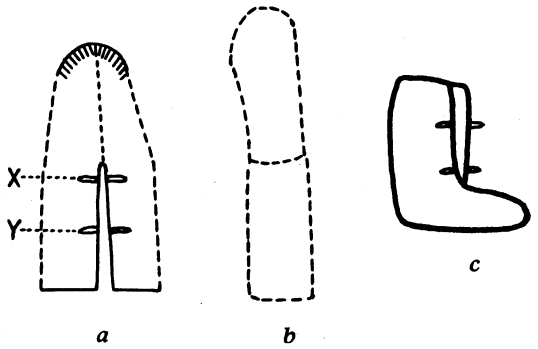

Fig. 3. Moccasin. a, side strips, puckered at toe ends; thongs at x and y; seams occur along dotted lines. b (upper half), sole, (lower half), back strip. c, completed moccasin.

(Mus. cat. no. 1-28226) first cut out sole, then sewed straight piece of cloth 6 in. long, 3 1/2 in. wide onto back section of sole and then 2 straight pieces 12 in. long, 4 in. wide on sides and front of sole, puckering 2 pieces at toe end.

These 2 pieces were then seamed together from front of sole as far up as ankle and also seamed to each side of back piece. In front, from ankle upward 2 side pieces were tied together with 2 sets of buckskin thongs; sometimes upper set of thongs was wrapped around leg and tied either in front or back. To make soles wear longer, melted pitch from Digger pine smeared over outside of soles (FP). Deerbone awl used to punch holes for seams, which were stitched with sinew. Moccasins made by men; worn by men, women in summer, "not in rainy weather" (SM), when hunting, wood gathering, piñon gathering, etc.; children also wore them if "going some place," but footgear was not worn habitually or on short trips.

Sandals (same name as moccasins) were made of heavy buckskin sole to which a straight strip of buckskin 3 in. wide, 8 in. long was sewed in back (fig. 4; Mus. cat. no. 1-28227, 15-10538). When worn, this buckskin flap was brought upward

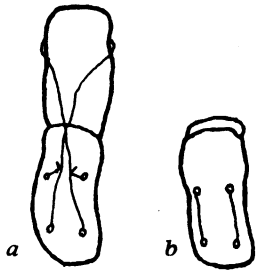

Fig. 4. Sandal. a, front view, showing strap arrangement; b, under side of sole, with strap.

to lie flat against back part of lower leg. Flap secured against leg by long buckskin thong, middle part of which held flap against lower leg. Ends of thong were brought forward on either side of leg, crossed in front over instep and threaded downward through 2 slits on each side of sole at instep; ends were then run up on under surface of sole to 2 holes underneath great and 4th toes and threaded up through these 2 holes. One end of thong passed between great and first toe, other between 3d and 4th toe; ends tied to upper sections of thong just below point where these were crossed over instep. Such sandals were used only when roasting piñons, to protect feet "when there was a hot fire to walk around" (SM). Fiber sandals never made, used.

Snowshoes not used, there being "not much snow in the valley" where majority of semipermanent winter settlements were situated.

Coiffure.- Men wore hair long, loose (SM); sometimes parted it in middle and tied it in back (FP); never braided it. Women wore hair long, loose, parted, banged in front (Gayton, 1929, pl. 97a, b); banging done by holding front hair out from forehead in bunch, burning ends off with glowing stick of Atriplex canescens James (cïw'wï·ïbï·l). Woman's back hair sometimes braided, tied (FP wore hair thus; aboriginal?). When pounding acorns, otherwise employed in hot sun, woman bound string around head, hair rolled up to project over string, thus shading face. At death of husband woman burned back hair to neck length (Gayton, 1929, pl. 95a, b). Bulb of soaproot (ho·olo·hpi·l), Lathoe pomeridiana (DC) Raf., pounded, or roots Chenopodium californicum Wats. (ho·oha·l) pulverized by rubbing on rock, and used for shampoos; later these and inside of fruit of Cucurbita foetidissima HBK (ïihabï·l) used also to wash cotton clothes. Women brushed hair every day; Garcés comments (p. 282), "women . . . . take great care of the hair and do it up in a topknot (copéte)," probably referring to rolling up of hair to project over string (above). Lice removed by washing hair with alkali (pi·šil) solution and letting powder stay on scalp for several days. At dances women put loose eagle down in bangs. Children wore hair loose, girls of 5 having bangs.

Brush (wïŋït) made from fibrous outer sheath of soaproot; bulb dug in March-April when plant green, outer sheath removed, shredded, and 3 bunches of fibers, each 3/4 in. wide, 4-5 in. long, twined together at one end with native string to form flat, narrow brush. This hairbrush similar to one women used when pounding meal, tobacco, except that mealing brush was wider, consisting of 4 bundles of fibers twined together. Museum specimen 1-19800 has fibers wrapped at lower end with sinew (?) to form triangular handle; said to have been "used for hair and flour." Porcupine tails, pine cones, pine needles never used for brushes.

Nails kept short by filing them on piece of rough rock, or else allowed to grow long, break off.

Both sexes bathed frequently, summer and winter, in pools at springs or in streams; "the young men are fine fellows, and the women very comely and clean, bathing themselves every little while" (Garcés, 282).

Ornaments.- Necklaces of white clamshell disks (tugumbal) worn by women only, chiefly at dances. Small concave white shell beads, olivella shells, long shell cylinders (hobo'apïn) made from columnella of giant clam (?), and in historic times red, blue, black glass beads used in combination for necklaces (pl. 6b). Both shell and glass beads, shell cylinders obtained from Chumash, who made shell beads, and also to some extent from Yokuts.

Nose plug (mupipugišt) made from shell cylinder; 2-3 in. long, 1/4 in. thick; worn by women only "when they danced." Women also wore strings of small clamshell beads in nose (FP). Earrings (naŋgawili'at) consisting of short strings of clamshell beads worn by women only. Bracelets (mašabu·nun) of clamshell or other beads worn by young girls. Men "never wore anything" in way of bead ornaments (SM, FP).

Facial decoration.- Paint made from red earth (yahawa·l) mixed with water, smeared over face by

men, women (SM), women only (FP), for dances. Women, young girls sometimes rubbed mashed roots of Plagiobothrys nothofulvus Gray (ši'iwišt), foothill floral area, over cheeks to color face red; this done merely "to make themselves pretty" (FP). Women also sometimes painted faces with earth and kept paint on all day, staying indoors, "to make face lighter" (FP). Shamans engaging in contests painted faces with alternate stripes of red and white raying out from nose across cheeks; rest of body not painted; paint not applied in honor of visitors. Red earth obtained from vicinity of Koso Hot Springs, east of Little lake in Koso territory; Tübatulabal either went for it or Koso brought it to them.

Tattooing done on women only; women "had it done because they liked it, to make them look pretty" (FP); not done at any specific age, although small girls were not tattooed "because it hurt too much" (FP). Old woman, not necessarily relative, did the tattooing; all women formerly had one or more marks. Pattern drawn on skin with charcoal (tu·l), obtained from "any wood" (FP); pricked in with spine of Tetradymia spinosa H. & W. (pokpo·giništ); marks, black at first, later turned blue. Usually done on face between mouth and chin, on back of hand, inner surface of forearms (fig. 5).

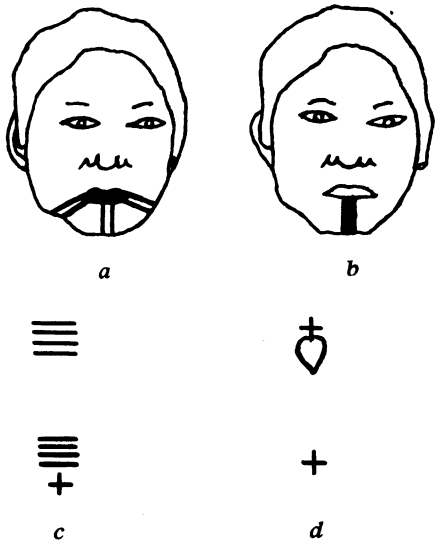

Fig. 5. Women's tattoo patterns. a, b, facial; c, 1½ in. long, inner surface of forearms (FP); d, inner surface of forearm.

Women had septum of nose pierced with pointed hot stick for nose plugs; after piercing, stick kept in hole about 7 days until wound healed. This done "any time" (SM). Lobes of female infant's ears pierced for earrings shortly after birth, "because the baby doesn't feel it much then" (SM). Some men pulled out facial hair around mouth; others wore sparse mustaches (kaŋa·l), 4-5 in. long.

SHELTER

Semipermanent dwelling house.- Thatch or tule mat-covered dwelling house (mohošt) was circular, dome-shaped, one-family house, about 8-10 ft. high at top of dome, some 20 ft. in diameter, although for large family dimensions enlarged. Floor for house was dug out about 6-12 in. (SM), or "not dug out at all" (FP); willow poles (u·'ut) from Salix laevigata Bebb. (ha·l), about 2 in. in diameter, were stuck in ground 3 ft. or so apart to form circle; tops of poles were bent inward and attached to round hoop (olo·igin) some 2 ft. in diameter which was fastened inside at top of dome, for smoke hole. Bands (u·mat) of willows 2 in. in diameter, spliced and tied with withes when necessary, were laid horizontally 1-2 ft. apart around frame of house. Armfuls of brush from Chrysothamnus sp. (ši·bapul) were piled over frame and secured by second series of bands; outside of structure then plastered with wet clay. Finally tule mats (paht) were laid over clay; mats secured by third series of bands.

Door (yïhpal) of house faced E to catch morning sun (FM); door wicket-shaped, about 2 ft. wide, 4-4 1/2 ft. high; lower horizontal bandings on house stopped short on both sides of doorway. Tule mat hung over door; Tübatulabal houses had no porchlike entrance way, such as Northfork Mono houses had (Gifford, 1932 b, pls. 2b, 3c), but were similar in structure to tule house of Owens Valley Paiute (Steward, 1935, pl. 3c).

Fire was built in shallow pit in center of house, immediately beneath smoke hole. Men procured willow poles and set up house frame, women gathered brush and tules, made tule mats. Mat-covered houses were "drier, and warmer" than plain brush and mud-covered houses, but "some people were too lazy to get tules" (SM, FP) so their houses lacked tule covering. Houses could be set up in single day; lasted 2-4 years (MM). In winter families cooked, ate, worked, and slept in these houses.

House furnishings scanty; tule mats were spread on floor; beds consisted of tule mats with cylindrical heap of earth piled up under one end of mat for pillow. Bearskin, deerskin, rabbitskin blankets used for coverings; in daytime sleeping mats and coverings rolled up, shoved against side of house out of way. Man and wife slept next to each other, feet toward fire; children slept on opposite side of house, in same position. Menstruating women stayed inside family living house or camp; did not occupy separate menstrual hut.

Most of Tübatulabal now live during all or greater part of year in one-room frame shacks; about 20-30 years ago they built rectangular gabled houses with partitions and fireplaces which were nonaboriginal in ground plan, but constructed from native materials. Cottonwood posts were used for uprights and roof beams; tules, doubled over series of horizontal willow

bands, used for walls, and 7-in.-thick layer of tules, secured with series of willow bands inside and out, formed roof. Wreckage of such house, first used as dwelling, then as stable, standing in 1932 (pl. 6c); this house built by "Little Bill" Chico 38 years ago; MM had built similar house for his wife 27 years ago. Houses of sun-dried adobe bricks occasionally built, from 40 years ago to present time; SM frequently employed to lay out such.

Shades and summer shelters.- Simple shade or ramada (koma·l), still used occasionally; rectangular, built on 4-post foundation with 2 willow poles resting lengthwise in top of forked uprights; willow branches piled at right angles to these 2 top poles, to depth of 3-4 ft. These simple shades 4-6 ft. high, 6 x 8 ft. long and wide; made chiefly for women to work under during hot weather.

More elaborate type of summer shelter, referred to by same term as above, built as protection against wind; this consisted essentially of 4-pole shade, built higher and longer than ordinary ramada, with back and sides added, front left open. Series of willow poles, 1 in. or so in diameter, with small branches left on, were stuck upright in ground in straight line close to each other, between the forked uprights; these series of poles formed walls, which were banded on inside and outside with series of horizontal willow bands spaced 1-2 ft. apart. Tops of these shelters covered with willows in same manner shade covered. Families ate, slept under such shelters in summer; in summer 1933 several families at Onyx rancheria using such. FM remembered having seen long rectangular communal shelter of this type, sufficiently large to accommodate several families, in use during fiestas at hot springs near Kernville in Palagewan area; women cooked at separate fires in open front part of this shelter, which faced E to get morning sun.

Camps.- At piñon grounds Tübatulabal often camped in large group, within circular corral-like brush enclosure (ho·yat), 30-50 ft. in diameter, which had brush walls 3-4 ft. high and single entrance on E side. Supplies kept inside this enclosure and families ate and slept there in family groups.

Single families out gathering piñons often use shelter (mohošt, also term for dwelling house) made by leaning poles along both sides of horizontal limb of tree; these poles slope downward and outward and are covered with brush, slabs of pine bark being laid over brush to form shelter, 4-6 ft. high, which serves as storage place and as sleeping quarters in event of thunder showers (MM).

On bulb-gathering expedition to desert FP had camped in single-pole greasewood shade similar to Northfork Mono shelter (Gifford, 1932 b, pl. 3b). Men hunting deer in mts. camped in natural rock shelters (tɨŋgi·l) under overhanging ledge of rock or beneath 2 huge boulders whose tops met gable-fashion.

Women pounding meal, etc., at pit mortars on hot days piled up scrub oak or willows to height of 4-6 ft. around mortar bed, in order to have shade while working.

Sweat house.- Exterior of sweat house (mu·šaht) resembled that of Koso sweat house (Kroeber, Handbook, 590, pl. 56), save that door of Tübatulabal house was lower. Interior looked much like Serrano or Pass Cahuilla sweat house (Kroeber, Handbook, 596, pl. 60), according to SM.

To build sweat house, round hole some 4 ft. deep, 15 ft. wide excavated near stream or spring where artificial pool could be made. Three oak posts, 15 in. or so in diameter, 7-7 1/2 ft. high, forked at top, planted upright in straight line equidistant across pit. Ridgepole some 8 in. in diameter, 15 ft. long, set into forks of uprights. Series of smaller poles extended side by side from ridgepole to edge of pit on front, sides, back of house; these poles had bands laid down over them at 1-2-ft. intervals and brush of same variety as that used to cover houses piled on top of them, with dirt piled on top of brush. Door was in line with center upright and faced S; it was 3-3 1/2 ft. high, about 2 ft. wide, and was not hung with tule mats or any other covering because "then it would get too hot inside the sweat house" (SM). Sloping runway led from the door to floor of house. Small sweat houses with single upright pole never made (SM). "One man built sweat house; everyone used it" (SM).

Sweat houses heated by fire, which was made between door and middle upright; 2 firetenders (po·'anapï'l) sat on each side of fire, each with his oak firewood piled up in back of him near the door. These 2 men alternated in feeding fire; sometimes they "fought" each other by blowing flames toward each other and making hissing noises after adding fresh fuel to fire. Bathers sat between 4-ft.-high dirt walls of house and uprights, in circle opposite fire, or "all around the house" if group large one (fig. 6). As many as 30 persons could be accommodated in house described.

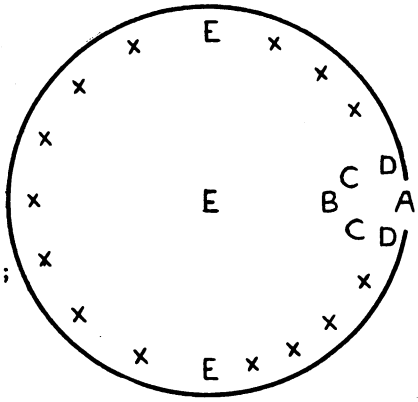

Fig. 6. Diagram of seating arrangement in sweat house. A, entrance; B, fire; C, firetenders; D, firewood; E, upright supports; x, sweat bathers.

Both men, women took sweat baths, women usually sweat bathing at night, before the men, "every day" (PN), "once in awhile" (SM), "whenever they wanted to" (FP). After bathing women jumped in cold water, "the same as men" (FP). Men, women did not bathe together, nor did woman enter sweat house during menstrual period. Boys had to be "over 14" (PN), "about 16" (SM), to be able to stand sweat bathing; girls "about 14." There was no ceremonial significance attached to boy's or girl's first sweat bath and from early childhood children allowed to romp around inside sudatory at will when it was not in use. Adults used sweat house almost daily; sweat bathing caused one to feel "light" and "good" (FP, SM). Men and women were wont to sing when taking sweat baths which lasted, for men at least, as long as 3 hours; men took such baths in evening, sometimes after breakfast as well. While they sweated, men, women smoked sparingly or chewed tobacco mixed with lime. Sometimes single men, widowers, or very old men used sweat house as sleeping quarters (SM); this denied by FP. Married men always slept with their wives, however (above). Hand games never played in sweat house, although informants aware Owens Valley Paiute utilized their sweat houses for this; PN said dances sometimes held in sudatory, but all other informants denied this; possibly PN's statement reflects Palagewan custom, as opposed to that of Tübatulabal. Jimsonweed administered to small groups in sweat house (p. 5). Sudatories no longer used by Tübatulabal and ruins of only one such known to me (pl. 6a); this was on Bloomfield ranch near small flat on W side of South Fork r., close to village site no. 4 (fig. 11). Entrance to this house faced E.

Ceremonial brush enclosure.- For dances, round brush enclosure (ho·yat, also used for brush enclosure at piñon grounds), with walls of willow and brush 5-6 ft. high and single entrance on NE side, built; this similar to piñon-camp enclosure (above). Visitors from different localities who were attending dance were assigned places to camp within wall of enclosure; fire built in center and dancing done around this fire (see fig. 15, p. 69). Such enclosures made by adolescent boys at order of dance manager, and appear to have been used more by Tübatulabal than Palagewan, latter using flat-topped shade with sides (above) for camping purposes during fiestas. Covered dance house did not occur.

MEANS OF TRANSPORT

All traveling accomplished on foot; burdens of all varieties, from firewood to babies, packed on back; dogs not used for transport. Streams crossed by swimming; rafts known, but used only for fishing.

Conical pack basket.- Acorns, piñons, camp equipment, firewood transported by women in conical pack baskets (wo·niht); baskets carried well up over shoulders by means of pack strap (poŋgon), center of which passed across forehead or across chest (MM); 2 ends of strap were fastened to 2 buckskin loops set into basket. Basketry cap protected forehead. Conical carrying basket said never to have been used inside carrying net (SM, PN); RP, however, remembered having seen her grandmother carrying pack basket "in some sort of net."

Firewood, if not carried by women in pack basket, was tied into load with native rope and load, attached to rope which passed over chest, carried by women on back (FP, PN). Men sometimes packed home large pieces of firewood, carrying such over shoulder (SM).

Carrying net.- Men used carrying net (tambahal) exclusively (SM), to pack home deer, other large game, also when trapping eagles; net, with burden inside, slung over one shoulder and passed downward across chest.

Basketry water bottle.- Water carried by men, women, in pitched basketry water bottles (iwat); such bottles also used for storing water at dwelling place. They were carried on back, by means of pack strap, ends of which were attached to 2 loops set into side of bottle, similar to loops on pack basket (supra). Small girls packed their own water in small pitched bottles, during trips over dry areas.

Baby carriers.- Two types of baby carriers used; babies, from time of birth up to about 5 months old, kept on small cradle (wodawlil), "just the size of a little baby." This cradle consisted of an oval frame, 21 in. or so long, with parallel rows of small willow sticks laid transversely across frame. Single oak branch, 1/2 in. in diameter, peeled, and 2 ends bound together with sinew or twine to form frame. Tules wrapped around edge of frame, and small tule mat (paht) put over transverse rods; cradle lacked hood. Infant lay on it, wrapped in soft tanned wildcatskin; when infant nursed, mother held cradle in crook of arm; carried child about in same manner. No specimen of such cradle obtained, but FP said she had made one such for youngest grandchild few years ago.

Between ages of 5 months and year, child "crawled around indoors," but if mother had work to do outside she tied baby in Y-shaped cradle (umbo·al), similar to Yokuts, Kitanemuk cradle (Kroeber, Handbook, 535, fig. 48d), save that length of stick below crotch shorter in Tübatulabal specimen. Forked branch of Fremontia californica Torrey (u'upul) peeled, used for frame (naši·la·'waga·na'). One cradle (1-28570) measures 31 1/2 in. overall, 28 in. from crotch to top, has 10 crossbars lashed to frame with

deer sinew (tohi·lïŋ tapn); all bars except bottom one bound on underside of frame. Second specimen (1-28571) measures 43 in. overall, 35 in. from crotch to top; has 10 crossbars, nailed to frame as above; both specimens made and used by SWN. Both these cradles lack hood (ku·man); formerly tule hood, narrow at sides where it was fastened to cradle near top, and wider across central section, would have been attached to such cradle (SM, FP); strings of beads, which served to amuse child, depended from hood. Child lay on tule mat, wrapped in wildcatskin, tied down with native twine. Woman packed cradle on back, using pack strap; when she arrived at destination she leaned cradle up against tree or boulder, in shade, planting sharpened end of forked-stick frame in ground.

Sex of child occupying cradle not indicated by any sort of decoration on either type of cradle (all informants); repeated questioning on this point always brought negative response.

Rafts and ferriage; horses.- Large green tules (ši'i·bï·l), Scirpus acutus Muhl., from 6-8 ft. long, were tied with native twine into bundles of 4; these bundles were laid side by side and lashed together with native rope to make raft (ni·ht) 6-8 ft. long, 6 ft. wide (SM). This raft was square at both ends and not built up on sides; could carry 2 men and was used for spearing large fish on smooth stretches of Kern r. or on former lakes in South Fork valley, during winter only. Such raft serviceable only so long as tules remained wet; when tules dried out, raft became leaky, was discarded. Single individuals made such, but any man might use raft; when not in use, rafts kept drawn up on river bank.

Willow pole 6-7 ft. long, 2-3 in. in diameter, pointed at one end, used to propel raft. Man doing poling either stood or sat, shifting pole from one hand to other, while second man speared fish.

Kroeber mentions "balsas of bundled tules, with a keel, a slender prow, and a square stern, (which) were made" by Tübatulabal (Handbook, 608); this information evidently based on Powers' statement (Powers, 393), obtained from widely-traveled Tübatulabal named Chico at Tule River reservation (Powers, 394). None of my informants knew anything about craft such as Powers describes. Garcés "supplicated [the Indians] that they should make a raft" to take him across unaugmented Kern, "and they answered me that they knew not [how to do so]. They conveyed me across between four of them by swimming, two taking me by the arms, and the other two by the body" (Garcés, 281). Garcés' statements accord with PN's assertion that goods or young children were ferried across large streams on men's backs, and SM's that men, women, children were all good swimmers, and that tule rafts were used only in winter, for very specialized purpose. Pots, large baskets not used for ferrying; breast stroke used chiefly in swimming (SM).

Horses mounted on right side; bridles made of native twine, saddles of tules.

WEAPONS

Bow chief weapon; spears may have been used in warfare; clubs not used, "because men didn't get that near to each other when they fought" (SM); spear thrower, shield, armor not used; aboriginal use of slings denied.

Bow.- Both for war and hunting large game, used sinew-backed bow (a·lit tupani·l), made from juniper (wa·dul), Juniperus californica Carr., var. utahensis Engelm., foothill floral area; bows also occasionally made from tamarack (išwa'adul). Such bows were "hard to make," and "took a long time to shape" with flint knives; furthermore one could not "get a good piece of wood for a bow every day" (SM, ES). Method of manufacture was to select suitable piece of wood, cut it, peel bark off immediately and shave bow into shape with knife, then warm bow in hot ashes or hold it over fire and flatten 2 ends over knee. Next, cord tied taut from one end to other, over back of bow, thus bowing length of wood in arc opposite to that in which it would bow when used. Tied thus, bow left to season for 6-8 days; was then untied and 2 1/2-in.-wide strip of water-wetted sinew (tupani·l), from backbone of deer, glued on to back of bow and overlapping edges glued down on sides. At 2 ends of bow, ends of sinew backing wrapped around wood several times to form knobs which prevented bowstring from slipping; neither end of bow notched for stringing. After sinew had dried, bow wrapped at grip (po·ho·nil) with strip of buckskin. Bowstring (piho·lit) of sinew, 3-ply, rolled into cord on knee (SM). Sinew-backed bows were some 48 in. long, 2 in. wide, 1/2-3/4 in. thick at grip; back and under side flattened, edges rounded; ends about 1 in. wide, 1/4 in. thick and either slightly re-bowed, or straight.

For hunting small game plain bow (a·lit) with rounded edges, made either of willow or juniper, used. Bowstring for such made from native twine. SM said such bows were about 45 in. long, 2 in. wide at grip; specimen 1-19808, of willow, is 50 in. long. In 1932, FC had willow bow he had made, which MM said was similar to bows Tübatulabal used formerly for shooting rabbits; FC had made his from green willow, first shaping it with knife, then bowing it in at grip by laying length of willow on 2 flat rocks which were set some 16 in. apart, so when weight was put on top of central section of willow it bowed downward between the 2 rocks. Ends were rebowed by placing flat rocks beneath and on top of each tip and suspending rock from underneath unfinished bow at points 8 in. inward from ends. Thus weighted, bow was left to dry and season for 8 days. Length of this

bow was 68 in., width at grip 1 3/4 in., at tips 3/4-in. SM denied that Tübatulabal formerly ever bowed in grip; FC very probably had introduced this feature.

Boys used small plain willow bows and willow arrows "before they began regular hunting" (SM). Bows, arrows made by men only.

Arrows.- War arrows (pa·hal) were 34-36 in. long, with wooden foreshaft (wawpit), some 8 in. long, made from hard wood set into cane mainshaft made from stalks of cane (paha·bï·l), same variety as that from which women obtained sweets (p. 19). Mainshafts also sometimes made from wood. Cane mainshaft (u·gat) straightened by being gently rolled at joints in round groove and over shallow incisions of heated stone arrow straightener (u·gišt). Mainshaft notched at upper end for insertion of bowstring; foreshaft split at end for insertion of arrowhead. War arrows had 3 vanes, square-trimmed, 1 in. wide, set on spirally and attached at each end with sinew; "if only 2 feathers were put on, the arrow didn't shoot straight, it went sideways" (SM). FC's arrows nevertheless had 2 vanes, set on spirally. Feathers from eagles, crows, owls, 3 varieties of hawks among those used. Arrowheads (kïyi·l) were flaked from obsidian (tu·gu·-pïl tïnt, black rock), obtained near Mt. Whitney (SM); from bluish gray rock procured in mts. (SM), at Koso (FP); from a red rock (flint?) obtained near Tejon or on Mohave desert. Stone "cooked" first in fire, then broken into small pieces (FP). Deer-bone awl used to flake arrowheads; palm of left hand protected with piece of buckskin. Heads varishaped (fig. 7), "because some men liked this kind, some that" (ES), but all heads shouldered. Beautifully shaped head (fig. 7), 3 1/4 in. long, 1 in. wide at top, found by FC on old battlefield on Nichols peak, in s. border of Tübatulabal area; SM said this probably head for war arrow, as heads for such often 6 in. long(!). Asphalt (tu·šanat) used to set heads into foreshaft; no mention made of sinew lashings. Poison (pohil), source of which was unknown to informants, said to have been used on both war, hunting arrowheads (MM); only on hunting arrowheads (SM).

Hunting arrows (šu·mu·na·l), for use on large game, similar to war arrows save that they were 48 in. long, with 9-in. wooden foreshaft and were often tipped with smaller, black obsidian heads which were inserted rather loosely into foreshaft so that shaft fell out after animal was shot, leaving head firmly embedded; or if shaft did not fall out, it could be pulled out easily, head then cut out with stone knife.

Arrows of foregoing type used with sinew-backed bow; with willow bow cane arrows (šu·mu·-na·l), 40 in. long, 2-3-vaned, tipped with wooden foreshaft, point of which had been sharpened by rubbing on rough rock, used to shoot rabbits, etc. For birds, shorter cane arrows with pointed

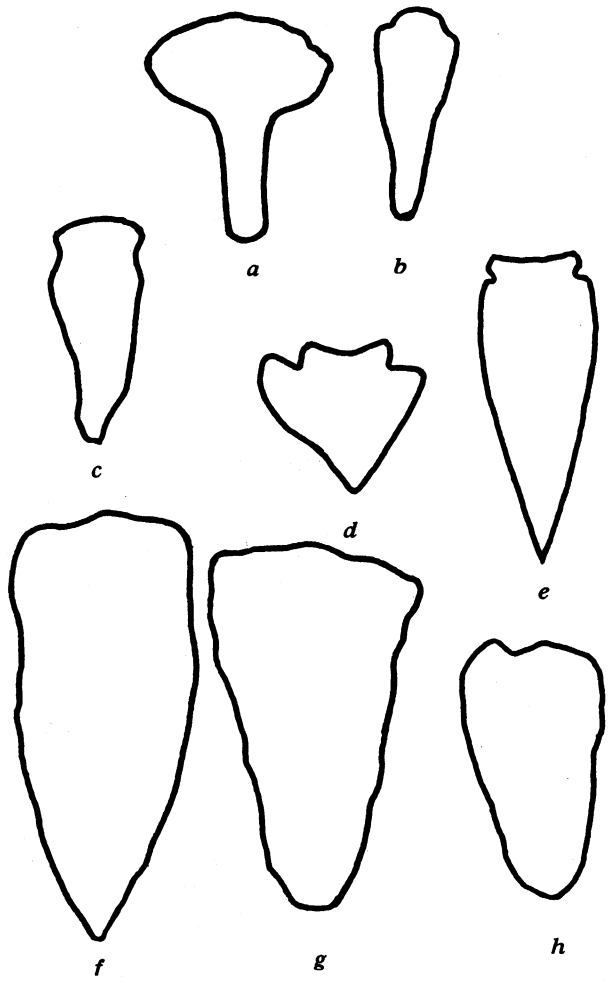

Fig. 7. Flaked artifacts from Andress collection. a, white quartz strike-a-light, 1 5/8 in. long, 1¼ in. wide; b, c, obsidian arrowheads, 1½ in. long, 5/8-in. wide at shoulders; d, red flint arrowhead, 1 in. long, 1¼ in. wide; e, arrowhead from Nichols peak (see text); f, g, h, red flint artifacts, lengths respectively, 3¼ in., 2 3/4 in., 1 7/8 in., widths at top, respectively, 1¼ in., 1½ in., 1 in., either spearheads (FP), unfinished arrowheads (SM), or knife blades (?).

wooden foreshaft used; for waterfowl, cane arrows had sinew wrapped thickly around joint where foreshaft entered cane mainshaft, so as to produce bulge which made arrow skip over water in flight, similar to Owens Valley Paiute arrows for ducks (Steward, 1933, 261, fig. 3d). Specimen 1-19809 consists in part of 2 unfeathered arrows with cane mainshafts 46 in. long, foreshafts 4 1/2 in. and 2 in. long; such arrows might have been used by boys or else are simply, as collector has noted, very poor specimens.

Quiver.- Sacklike quiver (ma·šat, also term for sack), made from whole untanned antelope, coyote, or wildcatskin with hair left on; men going hunting carried quiver in carrying net,

which was used later to pack back deer; if going to war, man carried quiver slung over left shoulder and tied under right arm with twine.

Arrow release.- Man shot either standing or kneeling; if kneeling, weight rested on left knee, which touched ground; squatting position (Kroeber, Handbook, 822, pl. 78) never assumed for shooting (SM). When standing man held bow perpendicularly; if kneeling, horizontally; primary release used in both positions (SM).

Spear.- Although SM denied spears used in warfare, MM, FP both said they were, the spear (ku·yi·l, FP) being a 4-ft. shaft of any sort of hard wood, tipped on end with an obsidian head some 10-12 in. long (MM). This head was "sharp on both edges" (FP); what may have served as spear heads are shown in outline (fig. 7f-h), although SM when shown the red flint originals, from the collection of Miss Shirley Andress, said they were unfinished arrowheads.

TOOLS

Knife.- Knives (pigat) used for skinning large game, etc., flaked from obsidian or red quartz; 18 in. (?) long, unhafted, similar in shape to Owens Valley Paiute knife (Steward, 1933, 261, fig. 3i). General utility knife (same term), used for cutting buckskin, shaping bow, etc., consisted of flaked obsidian blade about 5 in. long, set in wooden handle; similar to Owens Valley Paiute knife (Steward, 1933, 261, fig. 3j), except that Tübatulabal set blade in handle with asphalt, did not lash it with sinew. Hafted knives aboriginal (SM).

Adz, wedge, maul.- Informants could give no information on adz, wedge, or maul; presumably these lacking. SM did not know whether trees ever felled, and if so, how; stone axe apparently lacking. Holes in wooden mortars made by burning out wood; stone mortars chipped out; "the gray stone was soft" (SM).

Scraper.- Entire lower leg bone of deer used as scraper (iši·bišt) to dehair skins.

Awl.- In sewing moccasins, sacks, quivers, etc., and in flaking arrowheads, knife blades, an awl (niŋa'adol) similar to Miwok awl (Kroeber, Handbook, 806, fig. 67h) used; this awl about 4 in. long, made from leg bone of deer topped with lump of asphalt; when used, strip of buckskin (ma·pu·ništ) wound around palm of right hand; this awl essentially man's tool.

Women used smaller awl (wïŋabït), shaped like man's awl, but made from spine of barrel cactus (kïče'apïl) surmounted with small lump of asphalt, when making coiled baskets.

Fire drill.- Hearth (a·da·wa·yat) for fire-drill made from piece of dry cottonwood root (utu·lan wi·šin) from Populus fremontii; single hole in hearth; powder drained into channel leading to edge of hearth. Drill (a·da·wa·yišt) 2-2 1/2 ft. long, made from stalk of Baccharis glutinosa Pers. or B. viminea DC. Shredded cottonwood roots used for tinder.

Arrow straightener.- Arrow straightener (u·gišt) similar to Cahuilla straightener (Kroeber, Handbook, 530, pl. 49d); made from soft rock (steatite?; slate, FC), obtained near Chimney canyon in Tübatulabal area. Central groove (loho·wi·nil) and incised lines on top surface of straightener cut with flint knife. SM's straightener, duplicate of steatite specimen from s. San Joaquin valley (Gifford and Schenck, pl. 17o), 3 in. long, 1 1/2 in. wide, 1 1/2 in. high at center, 1 in. wide at ends; single transverse groove 1/2 in. deep cut across top center, dividing convex top surface into 2 halves. Series of diagonal parallel lines, incised to depth of 1/16 in., cover one of halves of top surface; on other half series of 11 short parallel ridges cut out in low relief; incised lines and serrated ridges used for same purpose as noted among Yokuts (Kroeber, Handbook, 530). FC's straightener round, with 2 grooves; lacked incised lines, ridges; specimen 1-19802,4 in. long, 1 1/2 in. high, has single groove, no lines; specimen 1-19803 is 4 in. long, 1/2 in. high, has 2 grooves; SM said some little individual variation in size, markings on straighteners, depending on man's preferences.

Netting shuttle.- No information obtainable; SM thought some variety of shuttle formerly used.

FIRE

In winter, small fire inside dwelling served for cooking, heating, and lighting house at night; in summer, cooking fire often built outside under shade. Women also often cooked acorn mush at spot where they leached meal. During summer hand games played at night around fire, outside in open; brush enclosures illuminated at night by fire built in center; sweat house heated, illuminated by open fire. Shamans used small open fire during shooting contests. Torches used for hunting quail (p. 13), but not for lighting.

Firemaking.- Fire made by men only, with simple hand drill (supra); man knelt (Kroeber, Handbook, 822, pl. 78); SM said it took from 15-20 minutes to make fire with drill, but this seems unlikely. In 19th century Tübatulabal learned to make fire from Mexicans by striking upper edges of 2 white quartz strike-a-lights (ki·li·l) together (fig. 7a); "the Mexicans used one of these pieces of stone against a piece of

steel, but we used the 2 pieces of stone and no steel" (SM). Quartz for these strike-a-lights obtained from Koso Indians at Koso (FP).

Firewood.- Small trunks of willow (ha·l), Salix laevigata Bebb., branches of Fresno tree (a·wilibï·l), Fraxinus oregana Nutt., stream alder (pawiču·l), Alnus rhombifolia Nutt., and dry oak used chiefly for firewood (kutuga't); cottonwood (u·'ut, generic name for tree), "too light" (SM). Firewood broken into 3 to 3 1/2-ft. lengths for carrying in pack basket; women packed on back loads of slightly longer lengths, but "not too heavy" (FP); men brought in larger pieces on shoulder.

GLUE, PITCH, AND ASPHALT

Glue.- Deer horns boiled in small amount of water, in pot, to obtain glue (a·wadin pa·hn, horn water); used to apply sinew backing to bows.

Pitch.- Several varieties pitch (ša·nun) used for different purposes; pitch from Digger pine applied to soles of moccasins to make them wear longer (FP); pitch from bull pine smeared over torches used in quail hunting. Basketry water bottles made watertight by putting handful of red earth of same variety used for face paint, plus lump of piñon-pine pitch inside finished bottle, together with quantity of heated pebbles about size of person's thumb. Hot pebbles shaken vigorously inside basket for 5-10 minutes, thus causing pitch to melt, combine with red earth, and coat inside of container. Hot melted pitch also smeared over outside of bottle with small stick; when it had cooled slightly red earth, mixed with little water, was smeared on top and mixed in with pitch coating. The red earth, used in combination with the pitch, made water "taste sweet"; if pitch alone used, water had "bitter" taste.

Pitch or gum (ya·bul), obtained from greasewood, used to fill walnut-shell dice (FP).

Asphalt.- Lumps of asphalt brought into area by "the Indians from around Ventura, when the latter came up for piñons. The Tübatulabal also visited at Ventura, and one of the things they brought back from the ocean was asphalt" (SM). This commodity used in variety of ways, some of which were: to attach prong to shaft of harpoon, to attach bone point to fish hook, to cement foreshaft in cane mainshaft of arrow, and socket arrowheads into foreshaft, to secure knife blade in handle, to attach basket hopper to mortar. Asphalt also used to smear over fishlines made of native twine, and lumps of it served as knob handles for bone, cactus spine awls. Asphalt was softened by melting; often applied with small stick. Gifford and Schenck (p. 53) also note presence of asphalt beds on surface in hills SW and W of lake region in s. San Joaquin valley, and are of opinion material was well known in lake region at least; Tübatulabal data extends area of distribution for use of asphalt eastward.

BASKETRY, WOVEN WARE, AND CORDAGE

Basketry.- Tübatulabal basketry "scarcely distinguishable from that of the southern Yokuts; it appears to average a little better in fineness" (Kroeber, Handbook, 608). Coiled and twined ware still used to some extent, but new pieces rarely made now; U.C. museum has collection of 34 Tübatulabal baskets and basketry implements. All basketry ware manufactured, used by women with exception of tule basket fish traps, made by women, used by both men and women, and basketry tray (wa·t), article of domestic use, but also employed by shamans in shooting contests.

Basket techniques were (a) coiling on multiple-rod foundation, (b) plain twining, (c) 2- and 3-rod diagonal twining. Stitches on some of finer coiled ware run 20-22 to inch, with 9-10 coils to inch. Sewing was from left to right as among Owens Valley Paiute (Steward, 1933, 346, pl. 6b); this opposite to Northfork Mono (Gifford, 1932 b, pl. 16a, b).

Split willow or tree yucca roots used for 1-2 rounds to start coiled basket; foundation material (wïnapï·l) consisted of 2-3 whole stalks or 4-6 halved stalks of deer grass (mašil, weed), Epicampes rigens Benth., plus, for larger coiled ware, one small peeled shoot of redbud (kada·dihpul), Cercis occidentalis, willow (ša·hat), Salix laevigata Bebb, S. araquipa (Jeps.) Ball, or arroyo willow (ha·l), S. lasiolepsis Benth., S. lutea var. Watsonii (Bebb) Jepson. For finer coiled ware, such as trays, money jars, stalks of deer grass, the foundation materials were split in half; otherwise used whole. Deer grass gathered when green, laid out to dry, then tied up in bunches 2-3 in. in diameter and laid away until needed, grass being split when used.

Light-colored weft material (šï·l) for coiled baskets made from finely split willow roots (FP); also from finely split roots of tree yucca, which at certain seasons are light yellowish, at other times red (ES). Coiled baskets decorated in red, or red and black; red weft obtained from tree yucca roots, black material from roots of unidentified shrub (mo·nunt), which grows in wet places (PN, FP), or from antennae of pods of devil's horn, Martynia proboscoidea Glox.; latter plant, which is classified as weed, grown occasionally in gardens now, pods sometimes saved.

For one special type coiled basket (below), foundation consisted of strings of piñons strung on native twine; weft was of twine.

Warp (šï·l, also term for weft material), for plain twined baskets made from small whole or split peeled willow or redbud shoots; for diagonal twined ware same, but for some twined ware

small willow or cottonwood roots used. Weft for various types twined ware made from whole or split peeled willow or redbud shoots, roots of tree yucca, outer bark of willow. Tules used considerably for baskets, mats; there are few tules in either Kern or South Fork valleys now, but formerly they were plentiful at certain localities, especially in South Fork valley. Warp and weft of tule baskets consisted of whole tules, which were gathered, trimmed, dried, then soaked before being used, as was all fibrous material used for basketry.

Coiled baskets included:

(a) Cap, which was flat topped, resembled Owens Valley Paiute (Eastern Mono) type (Kroeber, Handbook, 560, pl. 55d). Specimen 1-20960 (illustrated in O. T. Mason, 284, pl. 40), is 8 in. high, 4 1/2 in. wide at rim; design is in black and red; specimen 1-20961 (Mason, ibid.) is 7 3/4 in. high, 4 in. wide, has 14 stitches, 9 coils to inch. Caps started with yucca root; foundation consists of 2 stalks deer grass split in half; sewn with yucca. Worn by woman whenever she used pack strap, also when gathering piñons to protect hair from pitch.

(b) Sifter (wa·t) or small tray; slightly concave on inside. Specimens 1-19821-22 are 16 1/2 in. in diameter; 1-19823-25, 15-15 3/4 in. in diameter; 1-19814, 10 1/2 in. in diameter. Coil is clockwise, looking down on inside; one specimen has foundation consisting of 6 halved stalks of deer grass and one finely split willow shoot; is sewn with yucca root. Start leaves round hole 1/4 in. in diameter in center of tray; specimen 1-19824 has piece of cloth plugged into hole at start. Of all basketry ware extant in 1932, sifters seen most frequently; uses have been referred to (ante).

(c) Parching tray (ša·gišt); was "made like a sifter, only larger"; used for parching small seeds, such as chia, with live embers. This tray may have been used also for women's dice gambling game; FP said game played on sifter, but PN said on "a pretty big basket, with rather high sides"; no specimen extant.

(d) Cooking basket (hom'mol); these were large flat-bottomed baskets with flaring sides; sizes varied, some being 22 in. tall, 11 in. wide at top, 5 in. in diameter at bottom; others smaller. Used for stone boiling, to drain manzanita cider into, as storage baskets, etc. Specimen 1-20945, 20948-50 (illustrated in O. T. Mason, 478, pl. 192) are probably cooking baskets; 1-20947, large flaring basketry bowl, 17 1/4 in. high, 8 in. in diameter at top, 4 1/4 in. at base, is labeled "to be burnt on grave," which suggests that some of baskets of this type were made for display purposes only; unfortunately I did not inquire into this matter.

(e) Basketry ladle (hom'mobit); was small shallow basket, shaped like cooking basket, only difference being one of size. Specimen 1-19813, identified by ES from sketch as ladle, is 2 1/2 in. high, 6 1/2 in. in diameter at top, 4 in. at base. Used by individuals for drinking soup; also used for shaping biscuits of acorn mush (p. 18).

(f) Meal basket (ponol); was about 16 in. high, flat-bottomed, with sides which curved inward toward top; latter about 6 in. in diameter. Used as container for freshly ground chia seeds, etc. (Fig. 8b.)

(g) Mortar hopper (hoyanut, PN); was made from old cooking basket with bottom cut out; height, diameter varied, depending on size of mortar; some hoppers 6-8 in. deep, 16 in. in diameter across top. Attached permanently to mortar with asphalt; PN had seen hopper attached to small portable stone mortar used for mixing tobacco and lime; FP had seen Bob Rabbit, widowed Kawaiisu rain doctor, using hopper on mortar hole in log at piñon camp, "where there was no stone." Hopper helped prevent small seeds from flying out of mortar during pounding.

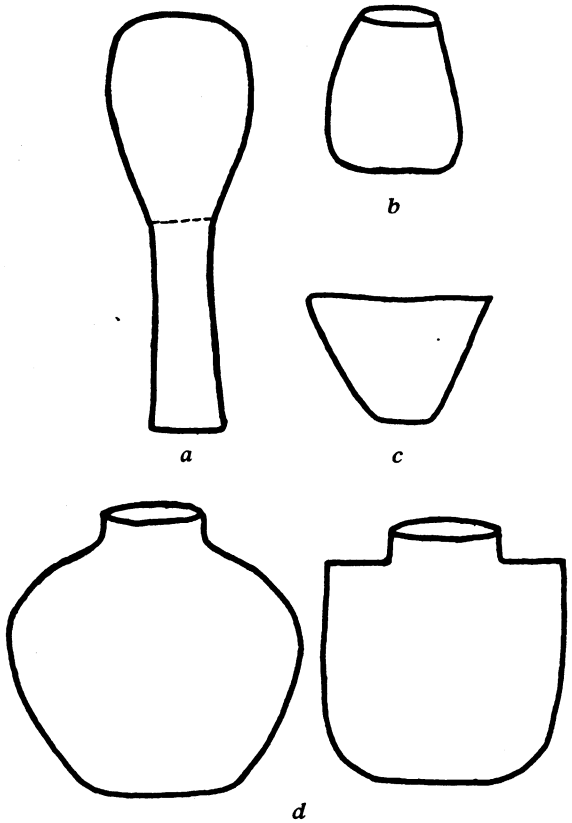

Fig. 8. Basketry and pottery shapes. a, tule tray for drying sweets; upper part, body of tray, lower part, handle end which was folded over at broken line. b, coiled basket used for storing small seeds. c, pottery bowl in Andress collection, height 4 in., width at mouth 4½ in., thickness ¼ in.; surface find in mts., Tübatulabal area. d, bottleneck money jars (1-20952, 20953).

(h) Money jar (ukulušt) or "Tulare bottleneck" (fig. 8d); most elaborate basket type; specimen 1-20951, 20953 (O. T. Mason, 479, pls. 193, 194), made by FP's mother, ornamented around

shoulders with red yarn and mt. quail crests. Specimen 1-20955 (O. T. Mason, pl. 41) lacks quail-crest decoration. These jars varied in size; base and mouth equal in diameter; specimen 1-20952 is 6 1/2 in. high, 5 1/2 in. wide at shoulder, 3 1/2 in. wide at base, mouth; specimen 1-20951 is 9 1/4 in. high, 5 1/2 in.wide at shoulder. Shapes of Tübatulabal bottlenecks in Museum collection (fig. 8d) differ noticeably from those of Yokuts specimens (Kroeber, Handbook, pl. 50a); most of Tübatulabal specimens have straight or rounded sides instead of flaring ones and rounded instead of horizontal shoulders; however, informants immediately identified 2 Yokuts baskets in Handbook as money jars. Split stalks of deer grass used as foundation; specimen 1-20952 has 22 stitches, 9 coils to inch. Used solely as containers for strings of clamshell-disk currency (SM).

(i) Piñon jar (tïbat ukulušt); had as foundation 2 strands of piñons strung on native twine; sewed with twine. These jars similar in shape to money jar; made by women while at piñon camps (SM, ES). Strung piñons, a delicacy, put inside these jars for transportation back to hamlets.

Plain twined baskets included:

(a) Lug basket (ča·mušt), which was small conical openwork twined basket, 16-18 in. high, 10-12 in. wide at top; used for collecting piñon cones from under trees; cones later dumped in large conical pack baskets.

(b) Ovate winnowing tray (pu·'išt); specimen 1-19816, made by PN, is 22 in. long, 20 in. wide at widest point; specimen 1-19817 is 14 in. long, 12 in. wide, and is mended with yucca root in 2-rod diagonal twining at bottom end on upcurve. Such tray put to variety of uses: to winnow piñon meats from shells, to roast shelled piñons on, to pile manzanita berries on during cider making, etc.

(c) Seed beater (wa·lat); had scoop in plain openwork twining; hand end of scoop of 2-ply, handle of 3-ply, diagonal twining. Warp and handle material of peeled willow shoots; cactus roots used for weft in diagonally twined sections. Seed beaters comparatively long when new, although they might be used until handle became mere stub; specimen 1-19818 has scoop 11 in. long, 8 in. wide at center; handle 8 in. long, 4 in. broad at scoop end; specimen 1-19819 has scoop 12 in. long, 9 in. wide, with handle 6 in. long; specimen 1-19820 has smaller scoop, 8 in. long, 7 in. broad, with handle 7 in. long, 4 in. wide at base. Beaters used to knock small seeds, berries into conical seed basket.

Trays for suspension, such as Yokuts made (Kroeber, Handbook, 530, pl. 50b) not manufactured by Tübatulabal (SM).

Diagonal twined baskets included:

(a) Seed basket (wili·'iništ); conical, 2-ply diagonal closely twined basket; specimen seen in field measured 16 1/2 in. in height, 16 1/2 in. in diameter; 2 willow rods (pi·mun) sewn around top for reinforcement; 2 cloth lugs attached to rim on opposite sides. Seeds, berries collected in this basket as they were knocked off bush with seed beater.

(b) Burden basket (wa·niht); conical, 2-ply diagonal closely twined basket, about 29 in. deep, 26 in. in diameter at top. Warp and weft of peeled willow shoots; basket banded with oak rod attached to rim with split willow shoots. Two pieces of willow, 3 in. long, sewn on inside of basket horizontally 9 in. below rim and 6 in. apart; lengths of twine attached to these pieces of willow to make 2 loops (pu·niwa·n) 6 in. long, which came through basket and hung down on outside; pack strap attached to these 2 loops. On some baskets 3 willow bands encircled basket on outside as reinforcement, being put on at top, 1/3 and 2/3 of way down. Specimen 1-19815, small burden basket made by PN, is 20 in. deep, 23 in. in diameter at top; has 2 willow rods around top, with top rod left bare except at intervals where it is stitched to rod underneath it. Rod sewn on inside basket for attaching twine loops. Uses have been mentioned (ante).

(c) Water bottle (iwat); resembled that of Kawaiisu (Kroeber, Handbook, 560, pl. 55e), but had flat base (all informants). Made in 2-ply diagonal twining with warp of whole peeled willow shoots, weft of split willow shoots; 2 loops attached to side as on burden basket, with long string which passed over carrier's forehead, fastened to loops. Bottle pitched inside and out (see section on Glue, Pitch, Asphalt); stoppered with roll of grass (pa·nišwa·n). Small girls packed little water bottles "like the one in the picture" (Handbook, ibid.); adults larger ones, some 16 in. tall, on trips into dry country. Large bottles, often 17 in. in diameter, used to store water in at dry piñon camps and as water containers at hamlets.

Tule baskets and traps were all of 2-ply diagonal twining; soft tule baskets such as Yokuts made (Kroeber, Handbook, 530, pl. 50c) not manufactured among Tübatulabal.

Tule objects included:

(a) Conical trap; some 4 ft. deep, 3 1/2 ft. wide at top, made similar to burden basket; this trap set below fall in river, secured between 2 sticks as among Owens Valley Paiute (Steward, 1933, 251); set in evening and left overnight.

(b) Tubular trap (wa·mat); similar in shape to Pomo trap (Kroeber, Handbook, 172, pl. 33a), but made from tules; this staked down in smooth water; "when a big fish got inside, it couldn't turn around to get out" (SM).

(c) Conical scoop (či·dišt); similar in shape to Pomo trap (Kroeber, Handbook, 172, pl. 33b), but lacking inner cone and made from tules; used to scoop up stupefied fish from pools.

(d) Tule tray (ši'i·bï·l u·ẓi·l); shaped something like seed beater but with broader

handle (fig. 8a), used for drying sweet substance obtained from cane (p. 19).

(e) Saddles were formerly made from tules.

In contrast to twined ware, all of which was plain, all coiled ware except piñon jars had designs in red, or red and black basketry material; money jars further decorated with row of black mt. quail crests and, in post-white times, red yarn, inserted around shoulders. Pieces of abalone shell, shell or glass beads not used for decoration.

Either informants had forgotten them, or else few designs had names; when shown some 26 designs taken from Tübatulabal basketry collections, SM recognized 3 (fig. 9) which had descriptive names, king snake design (pokpo·go´no·lo·wun),

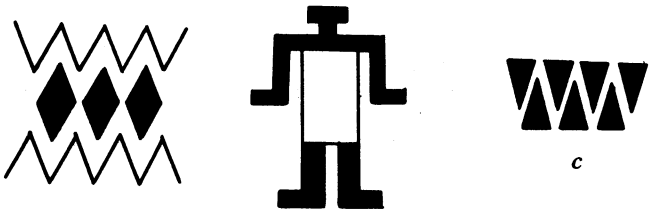

Fig. 9. Basket design elements. a, rattlesnake; b, little boy; c, kingsnake.

little boy design (anayhi·lo·wun), rattlesnake design (cïmïndiŋlo·wun), "a hard pattern" (ES). Human figure design aboriginal (SM); pictographs of human figures in territory tend to confirm this, although Kroeber holds human figures on baskets result of American influence (Kroeber, Handbook, 541). ES recognized several Yokuts designs (Kroeber, Handbook, 533, fig. 47, nos. 1, 8, 15, 16) which she had seen on Tübatulabal baskets, but did not know names for them.

Mats.- Mats (paht) were made from whole dried trimmed tules, which were soaked before being woven; mats 3-5 ft. wide, of varying lengths, made in plain twined weave with each series of tule weft elements spaced about 3 in. apart. Top, bottom edges finished with tule braid (ta·ža·bil). Specimen 1-21064, large tule mat used for house covering, has braid edge, as has fragment of mat 1-28574; specimen 1-28575, also fragment, has wrap edge. Large mats used to cover walls, floors of living houses, to sit on while working outside, to sleep on. Small tule mats bordered with tule braid, but lacking weft bandings, used on both types baby cradles; hood for baby's second cradle also of tules.

Rabbitskin blanket.- Fur blankets (wihnibï·l) made from jackrabbit skins; woven on 4-post frame (fig. 10), chiefly by men. About 12 (SM), 40 (FP) skins needed for blanket, which was "as big as woolen double blanket" (MM), 6 x 8 ft. (SM). Jacks skinned, making cut down belly; fresh skin cut from head to tail into strips 1 1/2 in. wide, about 15 in. long; these rolled on thigh immediately and ends tied together to make long strip which was stretched between 2 trees to dry for 2-3 days (SM). FP said whole skins dried first, then cut into strips which were rolled, then tied together.

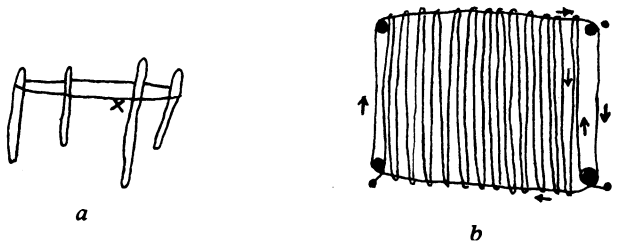

Fig. 10. Rabbitskin blanket weaving frame. a, model of frame, with beginning of warp setup shown (x); b, completed warp setup.

To set up warp (fig. 10), 4 posts 3 ft. high set in ground several feet apart to form square or rectangle of same size as blanket would be; length of native twine tied around post, near top, then run around outside of 4 posts; when it was brought back to starting point twine was passed under and over string on 2 opposite sides of frame until complete warp set up. Rabbitskin weft element then tied to warp at one corner and twined under and over warp threads. SM, who set up model of frame and warp, did not know whether weft was tied to each warp at point of intersection. Blankets used as capes, bed coverings. Squirrelskin, feather blankets not made (SM, FP, PN).

Beadwork formerly lacking (SM); ES had learned to make beaded hat bands on bow loom (Steward, 1933, 273, fig. 6) from her sister-in-law, an Owens Valley Paiute who occasionally visited among Tübatulabal.

Nets.- Nets made, used by men; manufactured from 2-ply native twine. Rabbit net was 200 ft. long, 3-3 1/2 ft. wide, with 3-in. loops; man's carrying net similar to Koso net (Kroeber, Handbook, 591, fig. 53): was tied at both ends with twine and had 2 ends tied together; net carried over shoulder (SM). Fish nets, according to FP, who could not remember names for them, were of 2 types (p. 14), but details of their manufacture could not be obtained.

Pack strap.- Pack strap (poŋgon) made from native rope with forehead band (le·winišt) which was flat, 1 in. wide, made from 4 strands of native twine. Used with pack basket.

Twine, cordage.- String (u·wil) made from inner fibers of milkweed shoots (ma·wil), Apocynum cannabinum L., foothill floral area, as among Northfork Mono (Gifford, 1932 b, 28); twine always 2-ply, but of varying thickness depending on use for which it was intended. As length of cord grew when it was being rolled out on thigh,

it was wrapped around left wrist. Made by men, women; used extensively for nets, fish lines, bridles, forehead band on pack strap, loops on pack basket, on water bottles, as warp for rabbitskin blankets, bowstring for rabbit bows, foundation for eagle dance skirts, to tie babies on cradles, tie newborn child's umbilical cord, as thread to sew up sacks, etc.

Rope (tu·mayu·t) made from outer bark of Fremontia californica Torrey (u·pul); long branches, trunk of shrub peeled, fresh bark softened between hands and 3 strands braided into rope which was used to lash bundles of tules together for raft, to tie up crook on piñon staves, to bundle firewood into load, for 2 ends of pack strap, etc.

LEATHERWORK

Tanning.- Tanning done chiefly by men, although women sometimes dehaired skins. Green hides (tu·šu·but) hung up to dry, doubled over line with skin side out, for 6-8 days. If not to be tanned immediately they were folded up, stored in house. When tanned, hide soaked in cold water 3 days (SM); MM said soaked for week, being taken out at intervals and as much hair as possible pulled out with fingers. After thorough soaking, hair and fat, if any, scraped off with deer-bone scraper as among Surprise Valley Paiute (Kelly, 118). Hide put in warm water to which deer brains had been added, and soaked overnight. Next morning hide dried, then returned to brain solution, soaked again for 24 hours. Hide then rinsed out in clear water, looped around post and wrung out using short stick as lever (Kelly, pl. 21a, b). Lever, with hide still tightly twisted into coil around it, stuck between pole on which hide was looped and another pole 1 ft. away and hide left thus, tightly twisted, for about 30 minutes; after this hide slipped off lever, flattened out, stretched, rolled, and rubbed between hands. After fibers thus partly softened, hide draped over horizontal bar set into forks of 2 upright posts 3 ft. high, 3 ft. apart; hide pulled back and forth over bar, man often working with hide thus at intermittent intervals for 2-3 days. Tanned hides (takta·šat) not smoked; sometimes whitened; negative 15-6273 shows Tübatulabal man softening clay-whitened deerskin.

Skins to be tanned with hair on, as wildcat skins used for wrapping up infants, were scraped clean on skin side, skin wet, and deer brains, which had been soaked in small amount water, rubbed into hide with hands. Hide then allowed to dry and pulled, rubbed between hands until soft. Bear hides also tanned with hair left on, brains being worked in with scraper.

Fresh deer brains could be used for tanning hide, but usually dried brains used, prepared as follows. Deer skull cracked open with rock, brains scooped out, smeared over both sides circular mat (či·gon) 3 in. wide, 1 1/2 in. thick, made of shredded native twine. Mat hung up on tree to dry; then stored away; when used, mat soaked in warm water and broken into several pieces; brains sank to bottom of container, shredded twine skimmed off surface of water with hands and thrown away. Brains then stirred into water and hide put in.

Sacks, purses, flat hides.- Sacks (ma·šat) made from untanned deer, antelope, coyote, wildcat skins. Skin removed whole from carcass by cutting it around neck, lower legs, and anus and peeling it off; skin then turned hair side out, except those used for quivers, and anal and leg openings sewn up with native string, using bone awl. Skin then set up on end, loose dirt poured in through neck hole and skin left to dry for 2-3 days. When dry, dirt poured out and sack ready to use for carrying acorns, piñons, arrows, or for storing food, shell money, etc.

Purse (mu·gulat) of weaselskin used in post-white times to carry silver dollars. Specimen 1-19804, weaselskin purse, labeled "used for Indian money," consists of entire skin which is dehaired, tanned, turned inside out, left open at mouth; SM probably correct in denying such purses used for shell money as latter was kept strung, coiled and any large amount would be too bulky for such small container.

Bear hides tanned with hair left on; scraped, brains rubbed in as among Surprise Valley Paiute (Kelly, 119). Salt grass, cane laid on these tanned hides and flayed; occasionally, hides used as bed coverings.

RECEPTACLES

Besides using basketry and rawhide containers, Tübatulabal also made pottery and horn receptacles and apparently used imported steatite ware to slight extent.

Pottery.- Despite fact that "all the women used to make pots" (ES, FP), no informant could manufacture one for me, nor are any pots (ka·ẓul) now extant except one small mended specimen (fig. 8c), provenience of which is doubtful. However, FP had seen her grandmother make pots and SM remembered process sufficiently well to describe it briefly, as follows.

Red clay (yahawa·l), obtainable from several deposits on floor of South Fork valley, used for pots; ES pointed out one deposit of clay on knoll below village site no. 9 (fig. 11) in field belonging to Charles E. Andress, 1/4 mile E of road leading to village site; another deposit near village site no. 8. Clay dug, finely pounded in pit mortar and mixed with water into dough; no binding material added (FP, SM). Lump of clay flattened into disk with hand, set down on board or, formerly, basketry sifter; roll of clay about

as thick as thumb laid around upturned edge of circular base and one roll after another used to build up side of pot as among Yokuts (Gayton, 1929, 242). Inside and outside of pot smoothed with fingers only (SM, FP); twig, chip, or acorn husk "might have been used a little" (FP), but small polishing stone such as Yokuts employed (ibid., 243) not used, nor were fingers dipped in syrupy substance while smoothing pot as among Owens Valley Paiute (Steward, 1933, 267). After pot shaped and smoothed it was sun-dried and then put on "a blazing fire made from any kind of wood"; pot allowed to get "red hot" (FP); firing caused clay to turn gray-black (SM, FP). After cooling, pot ready for use; coating acorn mush (Gayton, 1929, 245) not given it. SM had seen Tübatulabal pots shaped like middle and right-hand specimen in upper row of Yokuts pots pictured in Kroeber's Handbook, 530, pl. 51, but had never seen incised lines, such as those on Yokuts specimen, on any Tübatulabal pottery.

Pots were used for boiling meat, small game, whole piñons and buckeye nuts, tobacco stalks; FP said that occasionally acorn mush cooked in them although it was usually stone boiled. Pottery pipes not made (SM), cane cigarette pipes being used for smoking; FC had seen old Koso woman make clay pipes for her own use. Little girls sometimes made crude unbaked (SM) clay dolls (a·na·wišti·l) from red clay; SM thought such to have been aboriginal; children also occasionally made animal figures of clay, baked them (Voegelin, 1935 b, 227). Although pottery generally made by women, MM as boy had tried to make pots, but his cracked when heated, whereas "old-time pots were so hard they wouldn't break if you threw them down or hit them with a rock" (MM).

Contiguous distribution of this type of pottery limited to a few Calif. and Great Basin tribes (Gayton, 1929, 248, fig. 3; Steward, 1933, 269).

Horn objects.- Mt. sheep horn used as container for pounded tobacco and lime (see section on Tobacco); spoons (ta·mil) "shaped like a kitchen spoon" were made from antelope horn, using base of horn for bowl; "men and women used spoons for eating acorn mush" (SM); PN denied use of spoons.

Steatite objects.- Stone olla, 3 ft. high, "carved out of rock," was mentioned by FM, who said his father had found it among boulders on hill behind Jesus ranch in South Fork valley 40 yrs. ago. FM could give no further details.

Small steatite bowls and tubular pipes with bird-bone mouthpieces (pl. 1a) used as part of rain doctor's outfit. Outfit pictured, now in possession of SM, inherited by him from his stepfather, Francisco Sasterray, Tejon Indian (probably Chumash); this makes these objects foreign importations among Tübatulabal; however SM said latter possessed similar objects, used for rain making in early days, but that such "were buried with owner when he died."

MUSICAL INSTRUMENTS

Musical instruments few, simple; 3 varieties rattles used; drum (tamburin, Sp.) lacking; SM had made one at Tejon and brought it home, but "Tübatulabal didn't use them." Musical rasp also lacking.

Rattles.- Split-stick rattle (ka·ba·ba·yništ) made from peeled stalk dry elderberry (ku·hupïl), Sambucus velutina D. & H., foothill floral area, split down center; split ends both same length; total length of specimen made by SM 18 in., length of split section 14 in., handle 4 in. Made by men; used at dances to accompany dance songs (SM).

Cocoon rattle (pa·ẓo·alginišt) similar to Maidu rattle (Kroeber, Handbook, 420, fig. 37b); consisted of slender stick about 12 in. long with 4-6 cocoons (či·ko·lolondiŋ hani·n, butterfly's house) tied on upper end. Slit made in cocoon at one end, 2-3 small pieces rock put in, slit end tied with twine and cocoon attached with twine to stick. Old men used cocoon rattles to accompany songs they sang softly to themselves at night after going to bed (SM).

Dewclaw rattle (ša·lišt) consisted of 8 dewclaws (ša·lu·n) threaded through short buckskin thongs knotted at one end and tied to stick about 5 in. long. When rattle shaken, end of stick to which dewclaws attached held downward. This rattle used by rain doctor.

Whistle.- Quill whistle made "from a big feather cut like a [cane] pipe," mentioned by FP; her father had used such (see p. 73). PN agreed quill whistle used, but neither informant could remember name for this whistle or give further details; SM knew nothing about it.

Boys and girls made whistles from short hollow sections of Eriogonum nudum Dougl., foothill floral area (šiko·nišpu·l).

Flute.- Flute (lu·lu'išt) made of peeled elderberry stalk from which pith had been poked out with stick; about 26 in. long; had 6 holes, first of which was 8 in. below mouth end, other 5 spaced at 1 1/2-in. intervals beyond it toward distal end; end blown. Man played flute to himself, for own amusement during daytime; did not take it into sweat house to play; young men sometimes played it when courting (SM).

Musical bow.- Musical bow (pi·bi·wi·ništ, also name for jew's-harp) used occasionally, "not very much"; man plucked bowstring of hunting bow with index finger as he held one end of bow in mouth (SM).

Bull-roarer.- Bull-roarer (ku·lišt, lit., instrument for playing, i.e., toy) made from stalk of Spanish bayonet, Yucca whipplei Torr., foothill, desert floral areas. Stalk dried, split in half, section 8-10 in. cut off, attached at center (sic) to 4-ft. length of native twine; stick handle lacking. Boys' toy (SM).

TOBACCO

Two species of tobacco (šo'ogonht), Nicotiana bigelovii Wats. and N. attenuata Torr., grow wild on floors of Kern and South Fork valleys and on slopes of lower foothills, at elevation from 2500-2800 ft. Of 2 species, N. bigelovii commoner than smaller-leaved N. attenuata, but native term is same for both and 2 species grow side by side, sometimes less than 1 ft. apart. At various points in South Fork valley not yet under cultivation wild tobacco plants are concentrated in 1- or 2-acre patches or fields (šo'ogonhtiŋ ugan), sparsely interspersed with low clumps of brush and turkey mullein; from such fields (pl. 3) tobacco was and still is (1933) being gathered for use by Tübutulabal women.

Tending and preparation.- Tobacco patches never burned over in fall; although ES drew my attention to half-burned clump of brush situated in patch she and FP were "working" in 1932, saying tobacco seemed to grow better where ground had been burned over, she and SM both said tobacco patches were never fired in order to produce better stands of plants next year. "The rain is what makes the plants grow" (SM).

In spring, about June 1, when plants 18-24 in. high, and beginning to blossom, women working singly or in groups of 2-3 began tending wild tobacco. This first tending consisted in snipping off, with thumb and index finger of right hand, side shoots and occasionally tips of plants. Hardy plants, mainly of bigelovii species, which did not have too many small shoots clustering around base of main stalk, selected for attention; after woman had pruned plant she would sometimes, but not always, wrench off some of large leaves which grow flat on ground around base of plant, and occasionally she would uproot weed growing close by plant. Selection of plants to tend made more or less at random from among numerous healthy specimens surrounding women workers; according to MM it was owing to this that later, several pruned plants were overlooked at final harvesting of crop. At first pruning of their 1932 crop ES and FP worked from 6 a.m. to around 10 a.m.; all trips to tobacco patch made early in morning, to take advantage of comparative coolness for, although pruning itself not difficult, it necessitates almost constant stooping over plants in full glare of hot midsummer sun. Also sun makes tobacco "strong" and sticky to handle after morning coolness has passed off (ES).

Week after first pruning, plants again denuded of sideshoots which had sprouted out afresh; new bottom leaves and some of flowering tips also snipped off. By this time tended plants had 6-8 leaves on solitary mainstalks; these leaves noticeably larger and thicker than more numerous leaves on bushier, untended plants growing beside them.

One more pruning, week later, followed; plants left to develop further for 10 more days, then leaves gathered. Fleshy leaves, which were often 3-4 in. wide, 7-10 in. long, still green, stripped off stalks by hand; stalks left standing, leaves deposited, after gatherer had accumulated as many as she could hold in sheaf in left hand, in sack gatherer kept on ground beside her. In 1932 LT assisted ES and FP in gathering crop; this was longer and more arduous task than previous prunings had been. The 2 younger women, LT and ES, actually gathered leaves; FP sat on ground in middle of patch and, as sacks of leaves brought to her, she emptied contents of sacks on piece of canvas spread out in front of her and tore leaves apart, discarding midrib (u·n, stalk) of each leaf. If midribs had not been removed, "they would have tasted just like wood" in the tobacco (FP). Later in morning, after ES and LT had finished gathering leaves they assisted FP in her task. Five wheat sacks of leaves gathered; this amounted to 2 washtubs, 2 ft. in diameter and about 20 in. high, of half-shredded leaves from which midribs had been removed.

Tobacco, thus far prepared, taken home by FP and LT and allowed to stand in washtubs 2 days. On morning of second day 2 youths sent to banks of South Fork of Kern r. to obtain small truckload of willow shoots (poyiwošt), Salix hindsiana Benth., S. exigua Nutt. When boys returned with willow FP and ES took shoots, pailful of cold water to which cupful of shelled, slightly crushed pine nuts had been added, and the 2 tubfuls of shredded tobacco and set to work on ground in shade of large cottonwood tree. Aided by ES, who handed her bunches of willow shoots, FP spread 12-15 shoots on ground parallel to each other to form leafy mat; she then took 1 or 2 generous double handfuls of green tobacco and spread it out in center of matted willows, sprinkling tobacco thoroughly with water in which pine nuts floated. After doing this she took more willow shoots which she spread on top of tobacco to cover latter completely; whole affair then tied with strips of burlap into cigar-shaped bundle 4 ft. long, 1 ft. in diameter. Ten such bundles prepared; set out in sun in open field adjacent to FP's house, where they were left for 10 days, after which they were piled up in shade, untied, and opened. Tobacco, black, wet, strong-smelling, removed from willow casings with fingers and spread out thinly on squares of canvas to dry in sun; willows in which it had

been wrapped piled up around sides of canvas to form windbreak and barrier against straying fowls. By middle of July, or 10 days after being unwrapped, tobacco considered sufficiently dry; it was gathered up from canvas and it almost filled 50-lb. flour sack.

Next step was to pound tobacco. Early one morning FP took the tobacco, round coiled basketry tray, and small brush, up to SM's rancheria where ES lived, and 2 women prepared to pound tobacco in pit mortar holes on rancheria. Two youths cut some scrub oak and made rude arbor almost completely encircling pit mortar bed, and in this shady workplace FP and ES sat down, as described by Gifford (Gifford, 1932 b, 24), and started to pound tobacco, using for pestles rude boulders 12-15 in. long, 3-4 in. thick, which were at mortar bed. Each woman put double handful of tobacco into hole and pounded with steady up and down motion, pestle being grasped near its top end with both hands and not being lifted more than 12 in. above mortar hole. When tobacco leaves well pulverized powdered tobacco scooped out of mortar with both hands and piled up on basket tray, which was shaken gently from side to side with occasional flip up and down, until coarse and fine particles were separated. Fine portion was put in empty sack, coarser powder returned to mortar hole for additional pounding. What loose tobacco fell around edges of mortar hole brushed back into hole with soaproot brush; later when pounding finished, basketry tray also dusted off with brush. When all tobacco had been pounded into olive-drab-colored powder which was about as fine as snuff, total amount half-filled 50-lb. flour sack. This work took ES and FP 2 hours to accomplish; pounding tobacco not considered by either of them as hard work as pounding acorns, "because tobacco is dry" (ES).

Within next 2-3 days, FP made tobacco into balls and plugs (pa·mil). An infusion of whole fresh tobacco plants, which she gathered near her home, was obtained by boiling the plants in water 1-2 hours, "until the water was black, like coffee" (ES). This infusion was then strained, allowed to cool, and added to powdered tobacco in sufficient quantity to make stiff dough, which was kneaded with hands, and shaped into oval balls 3-4 in. long and little less than 3 in. thick, or into plugs 5 x 5 x 1 in. Plugs made by putting dough into 4-sided, top and bottomless form, similar to those used in making adobe bricks, which rested on flat piece of wood; use of these forms not aboriginal, all tobacco having formerly been made up into balls. Balls and plugs were then set on plank in sunny place to dry for about 10 days; when thoroughly dry tobacco ready to be used. In final form, crop gathered by ES, FP, and LT yielded 10 plugs, 14 balls; ES given as her share 5 balls. Both balls and plugs valued in 1932 at $3 apiece; constituted, both in aboriginal times and to some extent today, article of intra- and intertribal trade (Voegelin, 1935 b, 239).

Lime.- Tobacco as prepared above used with lime (či·ut), obtained from calcareous deposits in South Fork valley, from burnt fresh-water mussel shells, or by magical means. Lime from deposits dug out of ground near surface of soil in form grayish, powdery mass which was put in fire and burned; sometimes water poured over it to "make it stronger" (ES). Informants said slaking aboriginal technique. Shells of river mussels also burned and pounded to powder in pit mortars. In order to obtain lime by magical means, "an old man used to go to a spring E of Fay creek and scatter eagle down on the water, saying, 'Give me your lime'; then the old man would leave the spring and go and lie down in the shade for about 2 hours. When he returned to the spring the lime would be piled up for him at the edge of the spring, ready for him to take away. An old woman who lived in the spring, šo·ubišt, gave him the lime. Anyone could get lime that way" (SM).

Tobacco and lime mixed by taking chunk of tobacco broken off ball, equivalent to teacupful, putting this, together with tablespoonful of lime, into small portable stone mortar kept in house for this purpose, and pounding 2 ingredients with small pestle 3-5 in. long, until they were of consistency of snuff. In aboriginal times this snuff-like admixture (šo'ogonht) kept in container made from horn of mt. sheep (SM).

Uses.- Tobacco and lime chewed, drunk, snuffed, eaten by men and women, and also used as offering. For chewing, pinch of mixture sprinkled in palm of hand and palm licked off; FP when using tobacco and lime applied tongue directly to contents of her open tobacco container, which happened to be tin snuff box. Tobacco and lime, mixed with water, also made into small pellets size of marbles; one of these held on tongue for minute or 2, then spit out into palm of hand; this done 6-7 times a day, whenever person felt like it; made person feel "dizzy" and "drunk" (MM). Tobacco without lime never used for any form of chewing; it was "no good, and made one feel sick; taken with lime it tastes peppery and strong" (SM). Many persons chew habitually; children 6 yrs. old "too young to chew tobacco" according to LT, who added, however, that her own son, barely 6, "likes to take it whenever he can get it."

Before retiring at night tobacco and lime, mixed with water, drunk; this causes vomiting whereby stomach is rinsed out and person assured of sound, dreamless slumber. Cupful of decoction sufficient for 6 people; those who drank tobacco thus "mainly old people, although young ones sometimes drank it, too" (MM). SM in 1932 drinking tobacco every night; "he doesn't dream bad dreams then" (MM). Whether person took it alone or with group optional.

Tobacco without lime smoked by old men and by male shamans while curing patients. Women and female shamans or witches did not smoke. Chunk of tobacco broken off ball, finely crushed in

small mortar, and powdery substance stuffed into tubular pipe (wo·ša·giništ) made from 4- to 10-in. length of hollow cane (paha·bul), Phragmites communis Trin. Old men smoked once or twice daily while in sweat house or after morning, evening meals, "not all the time, like people do now" (MM). Smoker held pipe horizontally; took long slow puff from it, inhaling deeply, then removed pipe from mouth and closed lips; exhaled smoke slowly through nostrils. "The smoke went up from the smoker's lungs right to the top of his head, because that smoke was so strong" (MM). From 2-3 such long puffs, no more, taken at one smoking; tobacco so strong it soon caused smoker to tremble violently as though intoxicated. After indulging thus, smoker extinguished pipe by rubbing it in palm of hand, then set it aside for future use. When tobacco in pipe consumed, cane tossed away. Pottery pipe not used; steatite pipes used by rain makers.

Distributional discussion.- In general discussions of the use of tobacco in North America the trait of chewing tobacco with lime is mentioned as having a continuous distribution from the North Pacific Coast tribes S through the greater part of Calif. (Linton, 2; Wissler, 26, fig. 6; Sayce, 200; West, 99-100). Dixon, however, has shown that it was not tobacco, but some unknown masticatory, which was chewed with lime by the Tlingit and Haida (Dixon, 146-150). For Washington, Oregon, and n. Calif. tribes I have found no references to the chewing of tobacco, or any other plant substance, with lime; for the Quinault (Olson), Klamath (Spier, 1930, 87), Karok (Harrington, 10), and Wishram (Spier and Sapir, 269) the trait is denied. It is only when the Miwok of central Calif. are reached that chewing of tobacco with lime is reported; from the Miwok S the trait has a continuous distribution among a compact group of c. and s. Calif. tribes, as is shown in the tabulation below.

Tobacco chewing is not mentioned for any other S Calif. tribes; among Kamia (Gifford, 1931, 25; 1932 a, 25), Southeastern Yavapai (Gifford, 1932 a, 213), Akwa'ala (Gifford and Lowie, 342) absence of trait noted.

In regard to the use of tobacco and lime outside of California, MacLeod has pointed out the interesting fact that green leaves mixed with lime and tobacco mixed with the ashes of burned insects were used in Valley of Mexico; he also refers to a mention of the chewing of tobacco in the origin myth of the Chitimacha, and to the swallowing of a tobacco composition in the form of a pill, among the Natchez (MacLeod, 418-419).

Tribe	Tobacco species	Native names	Uses	Source
C.,S. Miwok	N. bigelovii	ka'sü; kaku; hū'tĭa	Eaten with lime by men, women, to induce vomiting.	Barrett and Gifford, 193, 195
W. Mono		pamu; cokx	Smoked; eaten with lime (?).	Gifford, 1932 b, 23; Kroeber, 1907, 77, 94; Tüb. informant (SM)
O. V. Paiute	N. attenuata	pāmüpi; páʰmū; sāgō	Smoked by men, doctors; chewed with lime by women only.	Steward, 1933, 319-320
Koso		sohon, shogun	Chewed (?).	Kroeber, Handbook, 627
Tübatulabal	N. bigelovii; N. attenuata	šo'ogonht	Chewed with lime by men, women; emetic; smoked by men, doctors.	
Kawaiisu	N. attenuata; N. trigonophylla	soóda; koópi	Chewed with lime by men, women; emetic; smoked.	McCown, MS.
Yokuts		sɔhɔw, personal name of plant; só.Gɔn, tobacco, tobacco plant; ba'um, tobacco smoke, cigarette	Chewed with lime by men, women; emetic; smoked by doctors.	Newman; Kroeber, Handbook, 516, 538, 617
Costanoan			Chewed with lime; smoked.	Kroeber, Handbook, 469, 826
Salinan			Chewed with lime; emetic; smoked	Kroeber, Handbook, 548; J. A. Mason, 165
Chumash	N. species		Chewed with lime.	Garcés, 277
Kitanemuk	N. species	tsiwut	Chewed with lime; emetic.	Kroeber, Handbook, 613, 628
Alliklik	N. species		Chewed (?).	Kroeber, Handbook, 538
Gabrielino	N. species	shuki	Eaten with lime, medicinally.	Kroeber, Handbook, 627, 628
Cahuilla	N. attenuata	pivat	Chewed; smoked.	Barrows, 74

POPULATION AND ETHNOGEOGRAPHY

Population estimates.- Population figures and estimates, 1770-1932, are:

Year	Tüb.	Pal.	Tüb.+Pal.	Bankalachi	Authority
(1) 1770			1000		Kroeber, Handbook, 608, 883
(2) 1854			100(100?)	50?	Henley, 511, 515
(3) 1855-60	228	65	293		Village site estimate, 1932
(4) 1863			220		Massacre estimates
(5) 1910			105		Ind.Pop. U.S., Alaska, 18
(6) 1932	145	0	145		Field census

(1) Kroeber's estimate admittedly a guess; probably too high.

(2) Henley, 1854, reports 100 "Kern River Indians"; his assistant mentions "Joaquin's band of 20 men from Kern River" which had been sent away from Sebastian Military reserve in 1854 previous to Henley's visit to Kern r. If Joaquin's band was not at Kern r. when Henley was there, we should add 100 persons, assuming each man represented 5 individuals, to Henley's figures. Henley's mention of small group to W of Kern r. may refer to Bankalachi.

(3) Village site estimate derived from SM's list of 12 Tübatulabal, 3 Palagewan hamlet sites (p. 41); SM's estimated hamlet populations totaled 475 Tübatulabal plus 110 Palagewan; these totals reduced by 50 per cent because person-by-person listing of inhabitants of hamlet No. 5, in which SM lived as a boy, totaled 14 persons; SM had previously estimated population of 30 for this site.

(4) In massacre 1863, 39 adult Tübatulabal and Palagewan men killed (SM); military reports say 35 (Chalfant, 146). Five adult males survived (SM, PN); these, together with males killed, comprised all adult males of 2 bands. Taking 44 as number of adult males prior to massacre, assuming each represented 5 persons, total population of 2 bands is 220.

(6) Population 1932 distributed as follows: within home area full, 3/4 bloods 65, 1/2 bloods 21, 1/4 bloods 10, total 96; outside home area full, 1/2 bloods 40, 1/4 bloods 9, total 49. Males, 74, females 71; grand total 145.

All estimates seem to point to figure somewhere between 200-300 for combined Tübatulabal-Palagewan population ca. 1850, when whites first settled in area. In accepting figure as low as this for population in aboriginal times 2 possibilities have to be considered; San Buenaventura mission, which Tübatulabal visited, may have drawn on population between 1775-1825 or if, as SM stated, it did not, epidemics originating at the mission may have caused early depopulation. Possibly the population totaled nearer 500 than 300 in aboriginal times.

Causes of depopulation during last 75 years have been Kernville massacre, 1863 (see Autobiography of FP); measles epidemic, 1902; influenza epidemic, 1918.

Territorial boundaries.- Boundaries of Tübatulabal and Palagewan territory as defined in general way by SM, FP extended W of line drawn from Mt. Whitney along crest of Sierra Nevadas S to Walker pass and from Walker pass SW along s. edge of South Fork valley and down Kern r. gorge to stretch of rapids 1/2 mi. upstream from w. mouth of gorge. From latter point boundary line extended NE along crest of Greenhorn mts., past headwaters of Bull Run creek and NE to Mt. Whitney (fig. 1). The n. two-thirds of area served chiefly as hunting range; SM could give few place names in it, never having penetrated far into it; in myth (Voegelin, 1935 b, 193) Coyote and Wolf go to Mt. Whitney to hunt. The s. third of area, in aboriginal times as today, more intimately known and was focus for human activities.

Whether Tübatulabal and Palagewan ever laid claim to definitely bounded subareas not clearly determined; in all probability did not, as land ownership, either by individuals or hamlet, band groups consistently denied by informants. Examples numerous of members of both bands ranging in each other's habitat while hunting, fishing, seed gathering.

The Bankalachi SM located ca. 1855 at Poso Flat, which is 12 mi. W of junction of Kern r. and Erskine creek, and 5 mi. W of Greenhorn mts. "When I was a boy I visited them there; we had relatives there. There were lots of Tolowim at Poso Flat then" (SM). PN located them at Deer creek. SM's location of Bankalachi is 15 mi. S of territory Kroeber assigns them at headwaters of Deer creek, White r., and Poso creek (Handbook, 610; pl. 47), but evidently Bankalachi were shifting about ca. 1850, as Powers says, "the dwellers on Poso Creek and White River often suffered terribly from (malaria) and, finally, within the American period or very soon before it, they all removed to a place called Whiskey Flat, in the more salubrious region of the foothills, from which they went down to their old home only once a year, in the spring, to gather food seeds" (Powers, 363). "Whiskey Flat" was first American name for Kernville (Pen Pictures, 274), which is on e. slopes of Greenhorn mts. in Palagewan area; Powers may be referring to another Whiskey Flat W of Greenhorn mts., as only a few individual Bankalachi ever lived E of these mts. among Palagewan, although they often visited Tübatulabal area to gather piñons (SM, PN).

Neighbors.- Tübatulabal had as neighbors to S the Kawaiisu (ka·wišm); to W at Poso Flat the Bankalachi (to·lowim); to W and SW various Yokuts groups living at Porterville, Shoko, Altau, and Tejon (monila·bal). At Bakersfield and along slough S to Kern lake lived another Yokuts group (pa·labatal). It is interesting to note that these Yokuts groupings as given by SM do not agree with Kroeber's map of the Yokuts terrain (Handbook, pl. 47), SM's information probably relating to later period than Kroeber's.

Farther SW of Tübatulabal were the Tejon Indians or Kitanemuk (witaŋhatal), the Chumash or Ventureño (cucpinu); NW around Tulare lake the Tachi Yokuts (taši); N the Western Mono (winaŋhatal), including the Northfork Mono (winaŋapul); NE and E the Owens Valley Paiute (i·wi·naŋhal); E the Koso or Panamint (ši·gawiyam). Kroeber gives Amahaba as Tübatulabal name for the Mohave (Handbook, 607), but none of my informants recognized this term.

Place names.- Large geographical features, as mt. ranges, not named, but several peaks, lakes, streams, and numerous small springs each had designation. Several Tübatulabal place names refer to mythical events which occurred within area; many other names mark sites which were of economic importance. Since entire area not traversed with informant, my list of place names probably represents only fraction of total. Translations of some of place names given below are those offered by informants and do not represent etymological analysis. Locations are listed from E (Owens lake) to SW (rapids of Kern r.), thence NE to Mt. Whitney. Section, township, and range are taken from U.S. Geological Survey topographical sheet of Kernville quadrangle.

1. pabunta·bop, Owens lake; Kroeber, Handbook, 607, gives Patsiwat for Owens lake: SM, FP said paca'awat name of village site (p. 41).

2. wïŋa·l, Walker pass; general term for summit; piñon grounds.

3. a·nandu·giš, mts. E of Canebrake creek; piñon grounds.

4. u·ga·bičiŋ elegapï·ban, Weasel's lookout; boulders on point of hill, W side of mouth of Chimney canyon, SW quarter, sec. 20, T25S, R36E. In a myth, Weasel kept a lookout here for soldiers approaching from W.

5. holomup, mt. and spring at head of Chimney canyon in piñon grounds.

6. šo·hoptap, creek 1 mi. W of Chimney meadows in piñon grounds.

7. i·wa'kana·p, 2 mi. N of Chimney meadows in piñon grounds.

8. palu·hi·yam, Little water; South Fork of Kern r.

9. ha·'alap, spring at head of Smith canyon; piñon grounds.

10. poiwištap, Willow place; head of Scodie canyon; piñon grounds.

11. pa·ša·pan, spot at which there is a split boulder at base of mts. (pl. 6d), 3 mi. SW of Onyx and 1/2 mi. E of Kelso creek, SW quarter, sec. 20, T26S, R34E. Coyote broke this long boulder in 3 pieces when Bluejay tried to build a bridge from top of mts. across valley to Nichols peak.

12. hamboyam, Cane creek; general term for cane.

13. punẓi·ba·n, meadow containing pit mortar at base of foothills, 1/2 mi. NW of Onyx, SW quarter, sec. 5, T26S, R35E.

14. lelet, Nichols peak. At end of Mythical age Eagle elected to live on this peak (Voegelin, 1935 b, 207).

15. cu·iyala'a ka·ẓa·ban, Spider's pot; rocky ledges on w. edge of first flat SW of Weldon, NE quarter, sec. 22, T26S, R34E. Spider had cooked chia mush; he came here and spread it out on a rock for his children to eat.

16. kutu'wi·ban, spring at head of canyon, first flat SW of Weldon, sec. 23, T26S, R34E. Eagle and his wife lived here.

17. ku·či·a·pu·lap, spring, head of second flat SW of Weldon.

18. wa·tiništ, Juniper place; 3 mi. SW of Weldon in foothills on s. edge of South Fork valley at mouths of 2 intermittently flowing streams; SE quarter, sec. 29, T26S, R34E.

19. Cave, 3 1/2 mi. W of Cook peak on Goat ranch; NW quarter, sec. 6, T27S, R34E. Abode of a mythological man-monster.

20. anayupun, flat, 4 mi. NE of Isabella on Murphy ranch; the E and W winds fought here.

21. paẓat, springs 2 mi. NE of Cook peak, E side of wide plain; SW quarter, sec. 24, T26S, R33E.

22. pi·li·wi·ban, mt. (?) near Isabella; given in Kroeber, Handbook, 607, as Piliwinipan, near Whiskey Flat or Kernville.

23. yaha·waban, junction point of Kern and South Fork of Kern r.; "just a name; there was no village there" (SM); Kroeber, Handbook, 607, gives Yahaua-pan as name for village site here.

24. yu·mu·gi·wala'aŋ pa·i·na·'aban, obscure meaning in reference to mythological creatures; junction point of Kern and South Fork of Kern r.

25. palakuč, fishing site on Kern r., 3 mi. SW of confluence of Kern and South Fork of Kern r.; NE quarter, sec. 1, T27S, R32E; near Indian mound, now leveled, on Monroe Bechtel ranch. Pictographs abundant at this site.

26. pi·ta·lap, summit on road from Hot Springs valley to Caliente and Tejon ranch.

27. palakuič, Walker basin.

28. paluntanakamapan, water where it falls; fishing site at rapids near w. end of Kern r. gorge; given in Kroeber, Handbook, 607, as name for Bakersfield.

29. pawačahalap, acorn grounds 3 mi. W of Kernville, in Greenhorn mts.

30. wa·gi·na·pu·ban, Split mt., NW of Kernville; Kroeber, Handbook, 607, gives Wokinapüipan as village site on Kern r.

31. palage·wan, unaugmented and augmented Kern r.
32. ho·hlam, fishing site in canyon of unaugmented Kern, between Kernville and Cowell creek.
33. holo·'odap, fishing site in canyon of unaugmented Kern r., between Cowell and Bull Run creeks.
34. lohlam, Bull Run canyon.
35. šehnalom, fishing site in canyon of unaugmented Kern N of Rull Run creek.
36. tuŋabit, rock shelter with pictographs on it in Bartolas country; general term for small rock shelter.
37. palnagoy nagoyapul, water running like a snake; Taylor meadow.
38. i·wakanun, Long valley.
39. u·u·laup, Kern lake.
40. u·twa·bit, Bald mt. Cf. 41.
41. kala·kawp, Mt. Whitney; Kroeber, Handbook, 607, gives Otoavit (cf. 40) for Mt. Whitney.

SOCIAL ORGANIZATION

Bands.- Tübatulabal, Palagewan loosely organized in 2 bands, each band having its own chief and occupying, during winter months at least, naturally demarcated geographic areas in adjacent valley regions of South Fork of Kern r. and Kern r., respectively. Although the 2 bands were politically discrete entities, there was strong feeling of relationship between them, and frequent visiting back and forth between members for purposes of seed gathering, fishing, hunting, and social pursuits. Intermarriages between Tübatulabal and smaller Palagewan band frequent; SM knew of no serious disputes between 2 bands; on other hand he gave no accounts of leaguing of bands to fight common enemy.

Hamlets and household groups.- Each band was composed of a number of family groups; these latter were mobile units during greater part of yr., but in winter settled down in a number of semipermanent hamlets where wood, water plentiful, mainly on edge of valleys or in lower foothills near springs or mouths of small creeks at elevation (hereafter abbreviated to elev.) between 2500-4000 ft.; a few hamlets were, however, situated on floor of South Fork valley. Locations of Tübatulabal and Palagewan hamlets ca. 1860 (fig. 11) and estimated population (hereafter abbreviated to est. pop.) of each as given below, obtained from SM. It will be noted that first 3 sites, in e. end of South Fork valley, are of non-Tübatulabal hamlets; these represent Koso influx into Tübatulabal area within historic period (see section on Property, Trade, Division of Labor). Asterisk denotes sites visited with informant; section, township,and range are from U.S. Geological Survey topographical sheet of the Kernville quadrangle.

*1. išwahul, Koso site on Canebrake creek, 4000-ft. elev. Now known as Canebrake; up to 1932 property of FP; unoccupied, 1932. NW quarter, sec. 25, T25S, R36E.
2. paca'awat, Koso site S of spring, 3000-ft. elev.; unoccupied, 1932. Center, sec. 21, T25S, R36E.
3. meyumbašt, Koso-Kawaiisu site at spring, 3500-ft. elev.; unoccupied, 1932. NE quarter, sec. 17, T25S, R36E.
*4. u·u·pu·lap, rope place; Tübatulabal hamlet, 2 mi. NW of Pilot Knob, on flat, W side of South Fork of Kern r. (FP); SM gave paca'awat as name for this site, but was probably incorrect. Elev. 3000 ft.; est. pop. 100; unoccupied, 1932. NW quarter, sec. 24, T25S, R35E.
*5. čebu·nun, Tübatulabal site, S bank of South Fork of Kern r. Elev. 3000 ft., est. pop. 30; unoccupied, 1932. SW quarter, sec. 35, T25S, R35E.
6. omomïp, Tübatulabal site at spring in foothills, N bank of South Fork of Kern r. Elev. 2800 ft.; occupied by Tübatulabal family, 1932, and now known as Raphael Chico's place; for est. pop. see no. 7. NW quarter, sec. 3, T26S, R35E.
*7. omomïp, Tübatulabal site in valley, N bank of South Fork of Kern r., 1/8 mi. NE of Onyx. Elev. 2700 ft.; est. pop. of nos. 6 and 7, 30; occupied by several Tübatulabal families, 1932, and now known as Onyx rancheria. SW quarter, sec. 4, T26S, R35E.
*8. yowolup, Red Dirt place; Tübatulabal site at spring on floor of South Fork valley. Elev. 2650 ft.; est. pop. 35; unoccupied, 1932.
*9. yïtiyamup, Tübatulabal site at springs in foothills, n. edge of South Fork valley. Elev. 3000 ft.; est. pop. 50; owned by SM, occupied by 2 related family groups, 1932, and known as the Rancheria. SE quarter, sec. 35, T25S, R34E.
*10. kolokum, Tübatulabal site, near springs on Fay creek. Elev. 4000 ft.; est. pop. 30; unoccupied, 1932. NE quarter, sec. 22, T25S, R34E.
*11. tušpan, Tübatulabal site, near spring, 1/4 mi. N of Weldon, on floor of South Fork valley. Elev. 2650 ft.; est. pop. 50; unoccupied, 1932. SW quarter, sec. 14, T26S, R34E.
*12. pa·da·ẓap, Tübatulabal site, below and above spring, in foothills S of South Fork valley. Elev. 3000 ft.; est. pop. 30; unoccupied, 1932. SW quarter, sec. 31, T26S, R34E.
*13. ha·halam, Tübatulabal site, on South Fork of Kern r. Elev. 2600 ft.; est. pop. 50; occupied, 1932, by 2 related Tübatulabal family groups and known as Jesus ranch. NW quarter, sec. 16, T26S, R34E.
*14. ? , Tübatulabal site, on South Fork of Kern r. Elev. 2600 ft.; est. pop. 20. Unoccupied, 1932. NE quarter, sec. 18, T26S, R34E.
*15. umu·bï·lap, Tree Yucca place; Tübatulabal site below spring, on flat, near w. end of South Fork valley. Elev. 2700 ft.; est. pop. 30; unoccupied, 1932. SE quarter, sec. 12, T26S, R33E.
*16. pašgeštap, Palagewan site, at hot spring,

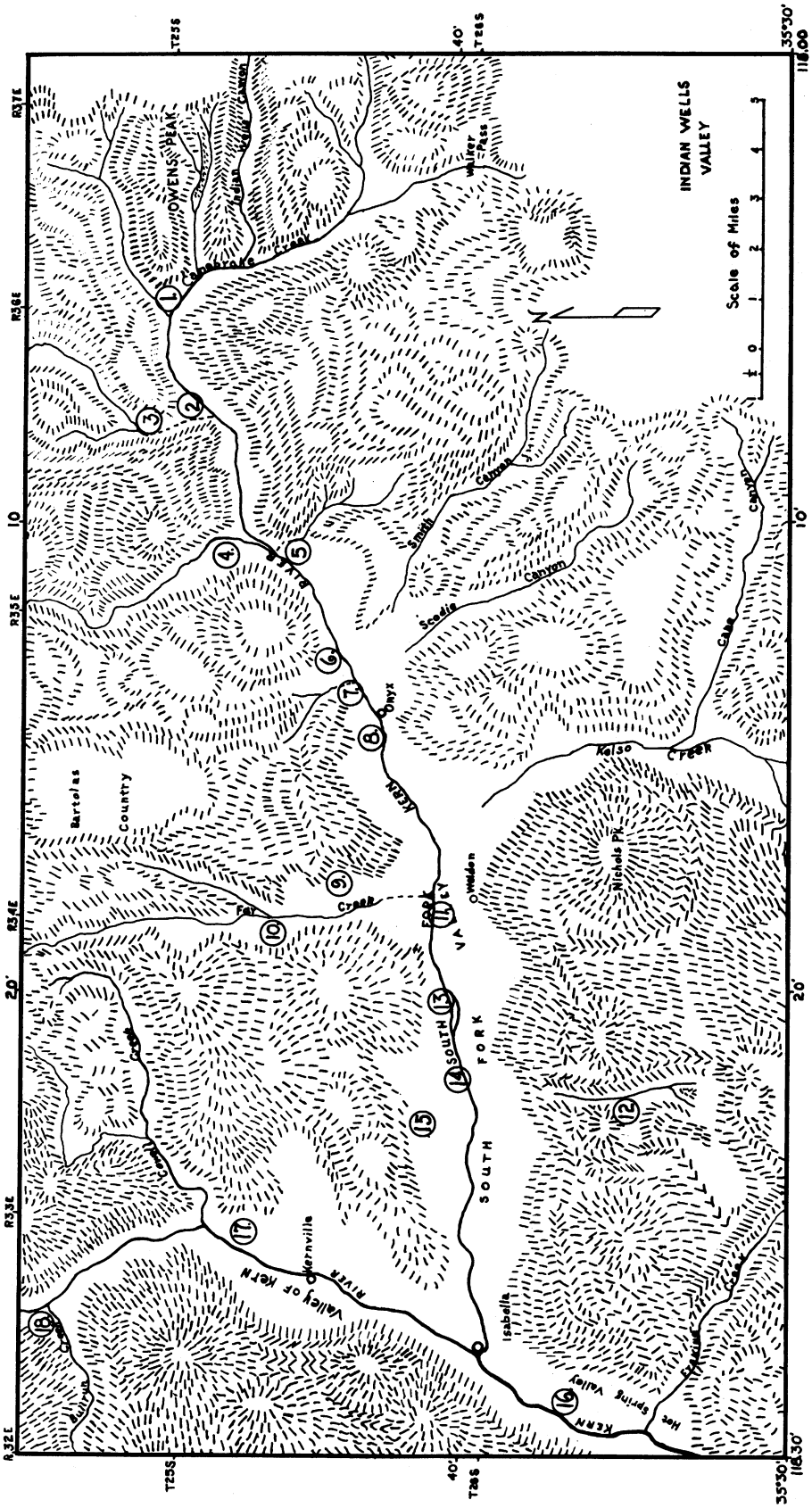

Fig. 11. Map showing three valley regions and Tübatulabal hamlet sites, s. part of Tübatulabal area.

e. edge of Hot Springs valley. Elev. 2500 ft.; est. pop. 40; unoccupied, 1932. SE quarter, sec. 31, T26S, R33E.

*17. cuhka·yl, Palagewan site, at hot springs in foothills, valley of unaugmented Kern. Elev. 2600 ft.; est. pop. 60; unoccupied, 1932. NW quarter, sec. 26, T25S, R33E.

18. ho·lit, Palagewan site near mouth of Bull Run creek. Elev. 2700 ft.; est. pop. 30; unoccupied, 1932. SW quarter, sec. 4, T25S, R33E.

Kroeber (Handbook, 607) locates villages at confluence of unaugmented Kern and South Fork of Kern r., and at Kernville; SM said there were no village sites at either of these points.

Hamlet sites might be inhabited regularly throughout winter months, for several years by same or different families. Families often shifted residence, however, from one hamlet to another for same reasons Northfork Mono moved about (Gifford, 1932 b, 17). Hamlets consisted of 2-6 households; population of single settlement not necessarily all related, but many times were; occupants of each household related. Hamlet no. 5 (fig. 11), where SM lived as boy, consisted of 2 related households with personnel as below:

House I

Tübat.♂ (1) — =Tübat.♀ (2)

Willy Miranda (3) — =Tübat.♀ (4)

Steban Miranda (5)

Pedro Miranda (6)

House II

Tübat.♂ (7), b of (4) — =Tübat.♀ (8)

♀ (9)

♂ (10)

♀ (11)

♂ (12)

plus Tejon (Chumash)♂ (13) =Tübat.♀ (14), ss of (8)

House III

Empty

In house I, (3) houseowner (hani·ganan); in house II, (13) builder and houseowner for 2 yrs., until he and his wife moved to Tejon, when (7) became houseowner. House III unowned; "perhaps a storage house" (SM). No sweat house at this hamlet; occupants used sweat house at hamlet no. 4 (fig. 11). Houses 50-100 ft. apart. Occupants of 2 houses did not necessarily act as unit when hunting, fishing, seed gathering, but when South Fork of Kern r. flooded site, both households removed to vicinity of hamlet no. 9 and lived there until 1863. Two other hamlets each consisted of 3 houses.

Tübatulabal family biological, bilateral unnamed group, neither markedly paternal nor maternal; either husband's or wife's relatives lived with family, as shown in chart for 2 family groups (above). For few years after marriage, residence was either patrilocal or matrilocal, depending on type of marriage entered into (see below); this factor is reflected in composition of family groups, which do not differ essentially from ours and consist mainly of husband, wife, and children. Clans, moieties lacking.

Relationship terms.- Relationship system of Yuman type (Spier, 1925, 75) with both parallel, cross cousins counted as brothers and sisters; Tübatulabal system has been described, discussed thoroughly by Gifford (Gifford, 1917, 219, 232; 1922, 123 ff.). An unusual feature of system, which Tübatulabal share with N, S Calif. tribes (Gifford, 1922, 257) is that linguistic cognizance is taken of death of kin; among Tübatulabal this is done by (1) appending suffix to kinship term used for relative who has died, (2) appending another suffix to term used for connecting relative, (3) using suppletive kinship term for parent after death of speaker's sibling (Voegelin, 1935 a, 154). Relationship with lineal, collateral kin is recognized only for 3 ascending, 3 descending generations from speaker.

Marriage.- Man usually married within own generation or generation below; informants said man had to be about 20, woman 14-18 yrs. old before they married. Marriages essentially economic transactions between families of 2 contracting parties; most customary form was so-called marriage by purchase. Man, woman came to agreement between themselves; man informed his parents, who asked woman's parents for their daughter; these latter ascertained if woman willing. Man's parents paid woman's equivalent of $30-40 in clamshell money for woman and she was then taken home by groom to his father's house, woman's mother giving presents of baskets to groom's parents at this time. Money paid for woman went to her mother (FP), her father (PN). SM's mother had bought Yokuts wife for SM, unknown to latter; "she chose that woman for Steban because she knew she was a good worker" (FP).

Less formal matings often occurred at dances; man had intercourse with woman, although mothers warned their daughters against this; couple decided to live together; man took woman home to his father's house; next day his parents usually took woman's parents some clamshell money in payment for woman (FP).

Sometimes no money paid for woman; man obtained woman's parents' consent to marry their daughter, then he and woman lived with woman's parents for year or so, man helping his wife's parents during this time (see Autobiography of FP). Other examples of relatively recent forms of mating given in MM's autobiography (Voegelin, 1935 b, 229, 233).

Child betrothal sometimes practiced; boy's

father took initiative when son about 10 yrs. old, girl 6; girl's father either paid then or later when marriage consummated. Boy and girl lived with their respective parents until of age to marry, when young man and his father came to girl's house; if she had already been paid for they simply brought acorns, food, baskets, and took her home with them. If no payment had been made, and girl objected to marriage, her opinion might be respected, but if payment made years before her father would tell her, "I got that money for you; now you go!" (MM).

Man marrying second time did not buy second wife although she belonged to another family than his first wife, or came from another tribe.

Collateral, lineal blood kin could not marry within 2 ascending or descending generations; marriage between parallel, cross cousins and between first generation offspring of such incestuous. Gifford reports "hearsay cases" of bilateral cross-cousin marriage (Gifford, 1922, 255); a few such have occurred, but are strongly disapproved of. Of 90 recorded marriages 3 such tabooed unions listed: (1) man married mother's brother's daughter, but this speedily ended in divorce; (2) man (1933) cohabiting with father's sister's daughter's daughter, which caused girl's mother to "cry and cry about this, because she was ashamed" (LT); (3) man (1931-33) cohabiting with mother's sister's daughter's daughter, which was regarded as an open scandal and frequently gossiped about.

Brother-sister exchange also disapproved, although criticism not so severe of such unions as incestuous ones mentioned above; brother-sister exchange "too much like marrying relations" (SM), as man's wife's brother would also be his sister's husband and Tübatulabal have 2 terms for these 2 relationships (Gifford, 1917, 223). Genealogies show 2 occurrences of brother-sister exchange.

Children adopted from another tribe could marry foster-parents' blood relatives if no blood tie existed between latter and adopted person.

Polygyny, polyandry denied by all informants; chiefs had only one wife (SM, FP, PN). No polygynous unions noted in list of 90 marriages; FP left her husband when he brought home second woman (see Autobiography of FP), although she had not yet become Catholicized. Informants remembered a Yokuts who lived among Tübatulabal and had 2 wives. Term wo·'išn, which Gifford gives as identical-reciprocal meaning co-wife, co-husband (Gifford, 1917, 223), informants translated as meaning primarily woman's husband's mistress or man's wife's lover; was never used to denote unmarried woman's lover's second mistress or unmarried man's mistress' second lover; not used vocatively; "somebody else, seeing the mistress of a married man pass, would say to that man's wife, 'There goes your wo·'išn,' and then the fight began" (ES). By extension of term, co-wives of Yokuts man (above) also referred to as wo·'išn.

In total of 90 unions, 132 male children born, 106 females; 23 females or 22 per cent died before they were of age to marry, 29 males or 22 per cent died before they were of marriageable age. This mortality rate for pre-adults probably too low; checking indicated that, in unions occurring 2, 3 generations back, informants were not always sure of exact number of issue of union, and could not be certain how many children of issue had been born dead, or died in infancy. The 90 unions averaged 2.6 children per marriage; this too is minimum figure, as several of marriages on which average is based are continuing at present time.

Levirate, sororate affirmed, but not compulsory; genealogies listing 90 marriages show one occurrence of sororate following death of wife; one of levirate when woman married deceased husband's sister's son; no occurrence of man's marrying deceased wife's brother's daughter. If man wanted to marry widow he did not have to ask leave from any member of her deceased husband's family. If sororate, no price paid for second wife.

Residence patrilocal in man's father's house when bride purchased; matrilocal in woman's father's house when no purchase price paid. After first child born husband built own house, not necessarily in same hamlet with his father or his wife's father.

Divorce.- Divorces infrequent formerly (SM); if wife left husband, purchase money not refunded by her parents. Of 45 marriages occurring in last 30-40 yrs., 19 were continuing in 1933, 17 had been terminated by death of one spouse, 9, or 20 per cent, had ended in divorce, 5 divorces being between full bloods, 4 between fullblood men or women, white women or men. Of divorces between full bloods, jealousy on part of husband or wife cause for 2; "mean temper," nagging on part of wives, both Owens Valley Paiute women, cause of 2; reason for 5th case unascertained, but was not barrenness; although 3 of foregoing 5 unions barren, lack of children not cited as reason for divorce.

Children of divorced couple remained with mother, who usually returned to her parents' home both in event of divorce or temporary separations from her husband.

Kinship taboos.- Man addressed mother-in-law in plural, never in singular; this usage reflected in mythology, where plural is also used to denote frigid politeness, scornfulness (Voegelin, 1935 b, 211, 229, 235). None of other mother-in-law taboos as listed by Gifford (Gifford, 1922, 260) practiced by Tübatulabal; although both men, women treated parents-in-law with respect they were not "bashful" in their presence.

CYCLE OF LIFE

Birth.- Woman knew she was pregnant when menstrual periods stopped; during her pregnancy she "worked hard, climbed mts.; if she stayed in the house she'd get fat and the baby wouldn't move" (FP). During last month of pregnancy woman ate no meat, very little salt; if she ate meat then, her husband would fail to see deer when hunting (SM). Some husbands did not kill any animal or eat meat when wife pregnant; others did so. One man "killed a fox by smashing its head, while his wife was pregnant; the baby was born without any eyes or nose. Another time that same man killed a king snake when his wife was carrying a baby; the baby was born with a king-snake mark across its chest" (FP). Husband could have intercourse with wife during period of pregnancy. Sudden fright during pregnancy caused miscarriages; FP, LT said some babies born at 8th month, but expressed surprise when 7-months babies mentioned.

Older woman, usually a relative, attended woman in labor; husband often assisted, sometimes attended wife if no woman relative available. Husband or attendant dug shallow trench about 3 ft. long, either inside or outside living house, depending on weather; fire built in bottom of trench, slabs of stone laid on top of fire, then layers of earth, tule mats on top of stones. Woman in labor lay on top of this trench (to·ŋišt); during childbirth knelt, grasping vertical stick; attendant pushed baby down onto mat on ground as among Surprise Valley Paiute (Kelly, 158). Woman stuffed her hair in her mouth to prevent vomiting as baby emerged. To prevent breech presentation, if this expected, woman held suspended head downward; baby righted itself inside womb and would be born head first (FP). In protracted labor person possessing amulet containing supernatural power might be called on to rub amulet over parturient's body (see Autobiography of FP).

Mother of baby pulled out afterbirth, cut cord and tied it about 3 in. from navel, with native twine; cord usually dropped off after 3 days; was saved by mother and kept wrapped in buckskin. Newborn baby washed in plain warm water by attendant and wrapped in soft deerskin, wildcatskin blanket. Maternal grandmother of infant buried afterbirth outside house.

After birth mother and infant lay on mat over hot trench for 6 days. First 2 days baby fed thin gruel made of water, acorn or piñon meal, from mother's fingers; mother milked out colostrum for ca. 2 days, baby nursed on third day. If mother had no milk she rubbed her breasts with soaproot brush dipped in warm water to induce flow. For one month she drank only warm water, "else her blood would get thick and she'd die" (MM); ate no meat, salt or grease as these foods would get into her milk and make baby sick (FP); if she ate meat husband would not be able to see deer (SM). While on trench mother used scratching stick (o·wati·š), made from any piece of twig, so hair would not fall out; did not touch face with hands, else she would have pimples. Short time after birth girl babies' ears pierced for earrings, "because they don't feel it much then" (SM).

Father did not eat meat or salt until child's navel healed, else cord would rot; optional whether he hunted or fished (SM); many did not, for 2 weeks (MM, FP). Could, however, drink cold water. Did not sleep with wife for 2-4 months after child born.

Child was generally nursed whenever it cried; "some mothers slapped their babies when they cried all night, others nursed them" (MM). Nursing continued until child at least 2 yrs. old; LT's child of 4 frequently nursed, standing beside LT when latter seated. If mother became pregnant while child still nursing, latter weaned. Menstrual periods for woman usually recommenced about yr. after childbirth (FP).

Up to time when they could walk well, children carried about in cradles (see section on Means of Transport).

Childless women took herb medicine to have children; FP's husband's stepfather, a Tejon Yokuts, prepared such for FP (see Autobiography of FP). Children born dead buried immediately; parents not subject to meat taboo if this occurred; "not many babies died, unless a witch wanted to give their parents hard luck" (SM).

Abortion, infanticide.- Leaves of a "big tree" (sp. ?) boiled and tea drunk by woman when she first knew she was pregnant if she wished to induce abortion; also women took medicine to prevent conception. Newborn infants "sometimes killed; one woman had a baby and killed it; she went off somewhere with her mother, so no one would know. They just buried the baby any place, like a dog; I don't see how they could do that. That woman was a witch" (FP).

Twins.- If person laughed about woman having twins (čono'), that person would also have twins. Twins treated well; if one treated badly, died, other would die too and give family bad luck, hence twins often accorded more consideration than other children. If mother of twins overworked, unable to nurse both babies, relative might adopt one of them; ES, herself childless, had thus adopted her brother's son, one of pair of twins.

Orphans, illegitimate children.- Orphans, or one of several children with one parent dead, other remarried, adopted by blood relatives. Observations (1930-1932) of 3 adopted children showed 2 treated indulgently, one as a menial.

Illegitimate child kept by mother, who lived with her family; father of child expected to bring meat to mother occasionally; if mother

married, "child would then have a stepfather, who would treat him as his own child" (SM).

Names, nicknames.- Name given child week after birth, usually by child's maternal grandmother, but also by paternal grandfather or father; either man, woman named boys and girls. Little formality attached to name giving; person "just told the parents the child's name." Children named for ancestors who had to have been dead at least 2, 3 yrs.; now sometimes named also for living relatives (SM). FP thought people "didn't care whether children were named for relatives or not." Names for males, females not used interchangeably; names not kept secret, often used in direct address; no taboo against pronouncing name of dead. Most names meaningless. Some examples of names follow; Gifford also gives several (Gifford, 1917, 227):

Men	Women
yukaya (MM)	wišimlït
še·weh (SM)	čiwa'agum
tiŋa'bï ("Little Bill" Chico, dead)	šo·anuh
po'onol, a type of basket (Jose Chico, dead)	am ba šum (LT)
wo·go·loh ("Old Bill" Chico, dead)	mapali·p
yu·hu·nuc	ča·gum (Petra Miranda)
ne·yil (Tony Pablo)	ačawi·lot (FP, dead)
tu·gayaya·l, a mythical bird (FM)	či·wa·wugum (PN)

Nicknames bestowed on men, occasionally on women by relatives, friends; had meanings; sometimes used oftener in referring to individual than proper name, but some individuals' nicknames not known generally. A few nicknames were:

Men	Women
mo'olohy, brown bear (SM)	u·nal, bear
elemgil, greedy	
muhumbišt, owl	
išt, coyote	
tomogul, bumblebee	

Childhood.- Young children seldom whipped, but frequently scolded; LT threatened to whip 4-yr.-old daughter with nettles once in my hearing, but was on whole indulgent to child, feeding her whenever she whined for food, holding her on lap frequently, always taking child with her on short trips, etc. MM so markedly indulgent with his adopted son, 8 yrs. old, that SM, MM's father, criticized him for always buying boy candy, giving him what he asked for. Older children of 12-15, both boys and girls, took protective interest in younger siblings, but were seldom left to take care of them for any length of time, child up to age 7-8 yrs. generally accompanying mother wherever she went.

Child of 7, 8 shown navel cord by mother; no reason ascertainable; mother then buried cord outside house (SM) or kept it (FP); LT had lost cord belonging to her eldest son, but no misfortune attributed to this fact.

Two unrelated boys or 2 unrelated girls, when about 8 yrs. old, often assumed chum relationship (na·mun); boys exchanged bows, arrows; girls, bracelets; this relationship lasted into adult life. Chums used each other's belongings freely, lived at each other's homes "as much as they wanted to," went out hunting and to get wood together; in later life would never assume face-washing relationship (p. 68) toward each other; man might marry his chum's sister, but this not obligatory.

Children approaching puberty frequently lectured by old man, woman relative at sundown, outside house; no sand paintings drawn. Speech to boys taken in text (Voegelin, 1935 b, 219); FP gave following speech for girls:

"Listen to me! I am an old woman and know what to do. Treat the people kindly. Don't be stingy; give visitors food; when they go home they will say good things about you. Don't talk about others (gossip maliciously). Don't stare at a person when you see him coming; you will see him when he arrives. Treat the old people well; do not dislike them; the old men too. Don't eat meat or grease when you have your menses; drink only warm water then. Use a stick to scratch your head at this time; if you don't, your hair will fall out. Don't be angry all the time; if you are, you will get old quickly."

Adolescence.- Boys' adolescence ceremony lacking; both boys, girls after puberty enjoined to take jimsonweed by old people, to obtain "life"; many did, but this not obligatory. SM said boys took ants, tobacco for same purpose, but that these were "too strong" for girls; FP had, however, taken all 3 for specific ailments and in hopes of obtaining "life" (see Autobiography of FP).

At first menses girl ate no meat, grease, or salt for one month; drank only warm water for 6 days; during subsequent periods observed these taboos for length of period only. If menstruating woman ate meat, her husband would not see game (SM); violation of food taboos gave woman cough she would "never get over" (MM). Scratching stick used. No isolation of girl in separate hut; informants disagreed whether pit used; SM in 1931 said girl at first menstruation stayed in house, being put over little hole which had hot rocks underneath "like the hole a woman used when she had a baby," but that girl was not covered with anything; mother or old woman took care of girl. In 1932 SM denied pit was ever used, except at childbirth. FP said girl went about her ordinary occupations during first period; no pit used.

Lack of definite ceremony at this time discussed further in section on Rituals. Menstruating woman not subject to speech taboos; prepared food; slept with husband, but had no sexual intercourse with him, as this would affect his hunting; this latter taboo not strictly adhered to now (MM).

Transvestites.- Male transvestite (huiy) wore woman's aprons; mother taught him to gather, prepare acorns, tobacco, make baskets, pottery; transvestite would "stay around with the women," but SM did not know of any marriages entered into by transvestites. They were not doctors, clowns, or corpse-handlers. Transvestites never openly ridiculed, although SM appeared amused, chuckled over remembrance of transvestite he had once seen.

Death.- All deaths, including accidental ones, attributed to witchcraft or poisoning. Death determined "when all the breath goes out" (SM). Immediately after death one of relations addressed corpse: "Go good, don't turn around. Don't think of us again, you are going to another place" (SM). Dead went to a·bo·no·li·mak, a land to E described in Orpheus myth (Voegelin, 1935 b, 203).

Body kept in house overnight; relatives, friends assembled, wailed throughout night; "one person would start crying, then everybody would cry" (FP). Following day corpse wrapped in tule mats, taken from house by 2 old women corpse-handlers (u·hu·yahm) and buried in shallow grave 1/8-mi. or so away from hamlet, on rocky hillside under shelving rocks. "Every hamlet (?) had 2 old women whose regular job it was to take away the bodies and bury them; they packed the corpse on their backs, each one half of the way; when they returned they washed well in plain warm water and were paid a little bit by the dead person's relatives" (SM). FP said men took corpse away for burial; "the corpse-handlers just washed their hands afterward, but some people were afraid to touch the corpse; they thought it would make them sick." Body buried in extended position, face up, head toward W; eyes not covered (SM). Bodies of those who died away from home brought back for burial if possible; flesh not cremated off bones first; those killed in war away from home buried on spot (FP).

Within one or two days following death of husband, parent, or offspring, woman burned her hair shoulder length or shorter; men did not do this. Woman did not wash face; painted it red (SWN); did not paint it (FP). After death of certain relatives man or woman could not eat meat, grease, fish until he or she had had face washed by man, woman outside family (see section on Rituals); this taboo obligatory after death of spouse, child, even though latter only 4, 5 yrs. old, and brother's or sister's adult children and, for man, brother's wife or wife's sister, for woman, husband's brother or sister's husband. Sons, daughters, grandparents exempt from taboo; parents did not observe it for children born dead. Mourners could eat salt, but this was usually used only on dry meat, fish. Period of time elapsing before mourner had face washed varied from 2-3 weeks to one yr.

Mourning ceremony and burning held 1-2 yrs. after death of individual; if no ceremony to be held, deceased's possessions destroyed in whole or in part, buried in hole separate from grave immediately following death. FP after husband's death "threw away, smashed, burnt everything," including dishes, furniture, house she was living in; her male relations helped her build new house later. After FP died in 1932 LT moved out of house day following FP's funeral.

In compiling genealogies, gathering census data, there was frequent mention of death by violence, but no suicides were reported, except for one very dubious case, that of an old Koso man living alone at Canebrake, who was burned to death when his house caught fire.

Burial deposit under shelving rock 500 ft. above floor of South Fork valley on e. side of Chimney canyon and 1 mi. N of mouth of canyon opened by Mr. R. J. Nieto and SWN; latter said it was probably burial of dead child's belongings. Contents found 1 ft. below surface of ground, consisted of 3 bunches grass used as warp for coiled basketry (1-28573), 3 pieces bloodstained gunnysacking, 3 pieces coarsely woven sacking, 2 bunches peeled willow shoots used for baskets (1-28572), side of twined burden basket (1-28577), fragment of tule matting with wrap edge (1-28575), fragment of tule matting with braided edge (1-28574), granite coffee pot, 2 doorknobs, pieces of print cloth in tightly closed tin can, rattle made of dried rat's skull, 2 glass beads attached on string to piece of print cloth. This deposit situated in area inhabited by Koso, 1862 ff.

RECREATION

Games.- Tübatulabal no longer play any aboriginal games, which may be owing in large part to fact they no longer hold any group rituals or social dances; my information concerning games fragmentary, perhaps not entirely reliable.

Hand game (tïpi·mapï·l) played by groups of men mainly, occasionally by women, but never by mixed groups, outside in summertime, or inside house in winter. Players knelt in 2 rows of 4 persons each; "there were never any more, or any fewer players" (SM); players faced each other with pile 8 counters laid between them. Each player put in equivalent of $2 in shell money which was deposited with 2 men who stood near gamblers and "watched the money"; people outside game might also place bets on either side if they wished to. Single stick (tu·bišt), 1 1/2 in. long, 1 in. thick, used formerly for guessing; more recently 2 used (SM).

Play began with right-hand man on one row, who held stick in hands behind back; his 3 partners had no sticks, "just sang" (SM). False call on part of guesser, the left-hand man on opposite side, made by pointing from one to other side of person holding stick, at same time watching individual closely; true call made by clapping and pointing with hand. At true call player with stick opened hands, held them in front of him; if guesser had missed, his side forfeited counter and same side again hid stick, but if guess correct counter (?) and stick given up to guessers and right-hand man on winning side hid stick. When he lost, player next to end man on opposite side hid stick, which passed to each man in turn. Men who were watching stakes joined in singing for one or other side; often wives of players sang for husbands' side also. Each side played for counters until pile exhausted, then 2 sides played until one had won all counters; winners then took stakes and game started afresh.

Fingermark game (ša·hil) played by Yokuts at Tejon, but not by Tübatulabal, described by SM. This game played by men only, with 2 sides of 4 players each. Each side held basketry sifter (wa·t); 2 men, one on each side, held sifters in front of their right hands and with 3 middle fingers of right hand they simultaneously made one of 6 combinations of marks (fig. 12) on ground in front of them, behind the trays; then

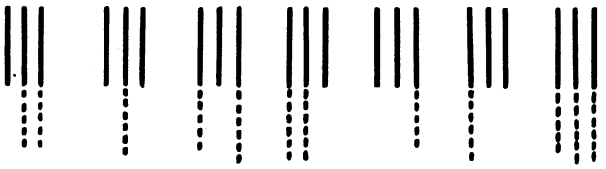

Fig. 12. Combination of marks for fingermark game. Solid lines, marks always made; broken lines, optional marks.

simultaneously they held up trays and showed what marks they had made. If guessing side failed to duplicate opponents' marks latter side took money (counters?). When player tired of making marks he passed tray on to his left-hand neighbor.

No guessing of hidden fingers (Kroeber, Handbook, 540).

Women's basket dice game (wi·ša·išt) played by 8 women with large flat tray and 8 (SM), 6 (FP), dice (wi·ša·išt) consisting of half walnut shell filled with greasewood pitch in which were set varying number of bits of white shell (Kroeber, Handbook, 598, fig. 54; Culin, 168, fig. 208). Betting was on number thrown face up; if all blanks thrown, turn passed to next player. No songs accompanied this game.

Women's stick game (kuča·ništ) played on ground; 8 (SM), 6 (FP), small pieces cane colored red on one side thrown; no songs.

Hoop-and-pole game (howi·l) played with buckskin-wrapped hoop (tu·gu·lišt), 15 in. in diameter with hole in center 4 in. in diameter. Poles (hali·wišt) made from willow, 6 ft. long, pointed on one end. Two lines of willow brush piled up about 20 ft. apart; 2 players, men and onlookers placed bets with third man before game commenced. Women never played; "it was too hard a game for women" (SM). One player started hoop rolling toward opposite brush fence, then both players shot at hoop with poles; if one man slid pole through rolling hoop he won and new game started immediately; if hoop came to rest with pole touching top or side of it, this counted a point for owner of pole; 6 points made game. Very popular game, played "every day" (SM).

Shooting game (po·žil) played with small marks (po'ozišt) made of pieces of tule well wrapped in bit of buckskin described by MM (Voegelin, 1935 b, 225).

Men's shinny game (pa·wa·šil) played with single oak shinny stick (pa·wa·šišt), curved at lower end, and oak ball (homoyišt); goal posts (mu·giništ) for each end of field consisted of 2 posts set 10 ft. apart, with nothing strung between them; distance between 2 sets of posts about 600 ft. Each team composed of 5 men; no umpire; 2 men on each team guarded their team's goal posts; when one team succeeded in getting ball through opposing team's goal, game ended; stakes collected and divided between members of winning team; in reply to my question whether bets wagered on this game, ES replied with fine scorn, "Certainly they bet; they wouldn't run on a hot day for nothing!" Shinny contests often intertribal affairs, held between Kawaiisu-Tejon Yokuts at Tejon; Kawaiisu-Chumash in Kawaiisu territory; Tübatulabal-Chumash at Tejon, etc.

No information obtainable on racket game, noted for Yokuts (Culin, 595). Descriptions of several games played by boys 35 yrs. ago given by MM (Voegelin, 1935 b, 225).

Toys.- Acorn tops (pu·lu·'iništ), made from maul-oak acorns, used by boys; same as top figured by Kroeber (Handbook, 449, fig. 41a), except that Tübatulabal top was spun on pointed stick which protruded from bottom as well as top of acorn; upper end of stick twirled between hands and then pushed forward to spin on ground (SM).

Dolls and animal figurines made from red clay by children (Voegelin, 1935 b, 227); boys played with small bows and arrows, bull-roarer (see section on Musical Instruments).

Telling of myths.- Occasions for telling myths (tï'ïbinuga'adwal) in winter often of social nature; persons gathered after supper at house of old man or woman who had reputation for narrating stories well; when it grew dark old person, who owned certain myths, would tell these until about midnight; after this his auditors slept until morning star appeared in sky, when they were roused by old people and told to go outside and jump in pool of icy water once (SM); 3 times (MM);

2 times (Voegelin, 1935 b, 223). Bath taken to make listeners "strong; keep them healthy," so wood would not prick them (ibid.); if listener did not want to take early morning plunge he or she gave story teller something to eat, such as few piñons, acorns, seeds. Persons in house who did not wish to incur obligations that listening to stories involved lay down, covered head with robe so they could not hear stories, and slept.

Myths could only be told in wintertime, at night; if told in summer snakes bit listeners and narrator. Tales regarded as true stories, such as Orpheus story which narrates adventures of mortal man seeking to recover his dead wife, SM would tell in summer, but it was taboo to tell Coyote myths, etc., then. A very few old persons, of whom SM is one, still narrate myths to small groups on winter nights.

String figures.- String figures (a·wil) made from native twine, in winter, either during day or night, for pleasure only, by men and women; "everybody knew how to make them" (FP, SM). Old people urged young people to make the figures; "if old person had a son or daughter who asked him to make some string figures, the old man would say, 'This is Coyote or Bear,' and the young people would learn how to make it by watching that old person. They seemed to make pictures with those figures. Or if a person knew a lot of figures, people would go to his house at night in winter to watch him make them; the figures might suggest stories to the maker, too" (SM). Figures did not, however, accompany myths as means of illustration. Some names of string figures were: Mouse, Tugayayal (bird), Bluejay jumping (SM), Bear in house, Tugayayal flying, Coyote running, rabbit net (FP). All animals mentioned above occur as characters in myths.

Same taboo extended to making string figures in summer that held for telling myths in summer (above).

WAR

Although Tübatulabal were probably, as Kroeber points out (Handbook, 605-606), not markedly aggressive group, nevertheless they engaged in hostilities with neighboring tribes to greater extent than did, for example, their Shoshonean neighbors, Owens Valley Paiute (Steward, 1933, 306). Various central Yokuts groups made raids into Tübatulabal territory, which were followed by reprisals on part of Tübatulabal (SM, FP, FM); "the Kawaiisu used to go and fight with the Tejon people (s. Yokuts), but the Tübatulabal never did" (SM). Although SM, FP said that to their knowledge relations with Koso and Kawaiisu had always been friendly, Tübatulabal even engaging Koso as allies during war with Yokuts (below), FM said he had been told by "Little Bill" Chico that Tübatulabal "often fought with the Kawaiisu, who had no friends, and with the Koso; the Tübatulabal and the Koso once had a big fight at Walker's pass." FC had picked up arrowheads on a battlefield on Nichols peak, which lies on border of Tübatulabal-Kawaiisu areas. As among most California tribes, wars did not last long, nor were fatalities heavy.

Motives.- Motives for making war of usual variety (Kroeber, Handbook, 843), except witchcraft not mentioned by informants. Not every quarrel led to war; when Tübatulabal on one occasion broke formation at communal antelope drive (see section on Basic Subsistence) and Yokuts killed some of Tübatulabal taking part in drive, revengeful actions by their hosts did not lead to Tübatulabal-Yokuts war; "the Kawaiisu, Tübatulabal, Tejon, and Ventura people who were taking part in the drive just went home right away, and the Tübatulabal didn't keep fighting with the Yokuts because of this" (SM). On other hand, theft of seeds from women by strangers might promulgate series of intertribal raids.

Personnel of war parties.- Thirty soldiers (wa·tam), grown able-bodied men, constituted "a big war party" (SM). Night before going to war, soldier could sleep with wife; in morning he rose early, swam; not subject to any food taboos. Soldiers took only arrows with them, no food, because "they didn't go a long way off to fight, and they'd come back in evening." Women did not accompany war parties. Raids staged in usual manner (Kroeber, Handbook, para. 2, 400); if possible men, women, children killed inside houses, after which raiders hurriedly retreated. Little hand-to-hand fighting in open warfare; half of force not left behind for reserves, as is situation mentioned in myth (Voegelin, 1935 b, 201). All fighting stopped at nightfall, or "when they had no more arrows they quit and came home to make some more" (SM).

Leader (noŋo·i'il) selected by chief, who did not himself accompany war parties; leader would be man who had killed one or more foes in previous fights and thus earned title of noŋo·i'il, previous to his appointment to leadership. After some of Koso had settled in South Fork valley they and Koso across Sierras to E were asked by Tübatulabal to aid latter in war against Yokuts group; these allies not paid for their assistance, but gave help as evidence of their friendliness.

Prisoners, war dance.- Prisoners of either sex not taken; scalping, torture denied by all informants. Soldiers took dead enemies' bows and arrows, or "just one arrow" (MM) and displayed these when they returned home; these bows (mugutiŋ a·lin, dead bow) put to practical use by men who had taken them (SM).

War dances of incitement, or victory dances after return home not held (SM); FP said no victory dance, but described a round dance, which was

made before going to war and which she said was not form of ghost dance, as follows:

"The round dance (to·loši·la muluwil) was made by the chief; he held it at his place. All the people would come; it lasted one night. Men and women joined hands, a woman between 2 men, and they danced around a fire in a big circle for a long time. A few singers who knew the war songs stood between the fire and the circle of dancers; they sang for the dance. The men didn't wear feather skirts for this dance, as they did for dances at a burning. During the night of a war dance, the chief made speeches; he talked loudly, principally to the men. The next morning the men would go off to war."

When Tübatulabal made retaliatory attack upon Yokuts raiders (below), no round dance was held; "the people were too angry to have a round dance" (FP).

Settlement.- Chiefs of 2 hostile tribes, when bent upon making peace, met together and "talked things over; usually they promised each other not to fight any more." No money or gifts exchanged by way of settlement for dead (SM).

Two accounts of wars with Yokuts groups illustrate motives for warfare, manner of fighting, settlement, etc. Both wars occurred in latter half of last century.

"A Tübatulabal woman was pounding chia seeds; some Porterville (Yokuts) men who were visiting the Tübatulabal took her seeds away from her. The woman became angry and ran home and told her husband; he sought out the Porterville men and killed one. After this fight the Porterville visitors went home, but the male relatives of the Porterville man who had been killed returned to the South Fork valley on a raid and killed 6 Tübatulabal women who were gathering cane at Cane creek in Kelso valley. They also killed some Tübatulabal men. Then the Tübatulabal went down and fought the Porterville people. The Porterville chief sent 3 men over to the Tübatulabal chief to tell him the Porterville men would not fight any more, and to ask the Tübatulabal chief to come over to Porterville to 'settle up.' But the Tübatulabal chief didn't trust the Porterville people; he told the messengers he would be over at Porterville in 3 days, but after they left, the Tübatulabal chief sent up to the Koso chief in South Fork valley to tell those Indians over there to bring their arrows and go with him to Porterville. The Koso chief, Mouse, sent over E to get some more Koso; when they came there were about 50 of them; they camped one night at yitiamup (no. 9 on fig. 11), then they and the Tübatulabal chief and soldiers went over to Porterville the next day; they were prepared either to fight or settle up. The Porterville people were friendly to them; the 3 chiefs talked and agreed not to fight any more and the Porterville chief promised that thereafter his men would be good. The next year the Porterville people visited the Tübatulabal to pick piñons, and they and the Tübatulabal were friendly with each other again" (SM).

When Bill Chico was chief the Monilabal (Yokuts) from around Bakersfield made a raid into Tübatulabal territory; according to FP's account, "The Monilabal would kill lots of Tübatulabal women and take their beads from them. The Tübatulabal men would chase them back down Kern canyon. Once some Tübatulabal women were grinding acorns at a pit mortar when they saw the Monilabal coming; the women ran home and told the men about it. The Monilabal had feathers on their heads; they had come up the canyon to make a raid, and they killed 2 brothers. The Tübatulabal men chased them and caught up with those Monilabal, and they all jumped into the river (unaugmented Kern); they were way up in the hills whistling at each other, and it was dark when the Tübatulabal men came back from Kernville. The Monilabal had finally escaped by swimming across the river. The fight started in the afternoon and lasted until evening.

"After this fight the Tübatulabal men assembled. They were too angry to make a round dance; they just got together and went down E of Bakersfield; there they shot one man in the head. The war stopped then. After that Bill Chico and the Koso chief, Mouse, both went down to the Monilabal and told the Monilabal not to fight any more."

PROPERTY, TRADE, DIVISION OF LABOR

Personal property, wealth.- Man owned all products of his labor, sons asking father's permission to use such; game man killed belonged to him, but he shared it "if people who wanted some came over to his house; he usually took a piece to his wife's parents too" (SM). Woman owned products of her labor, implements she used; her permission required for sale of such; children "didn't own anything" (SM, FP); LT said her father sold first basket she made, kept the proceeds. There was no enslavement of debtors, war captives.

Some songs, such as bear, rattlesnake songs owned by men, but not sold; rainmaker's songs, outfit either buried with him or passed on by inheritance; man, woman owned right to narrate those myths regarded as his because he told them each winter, but after his death "anyone who remembered that man's stories could tell them" and eventually they came to be regarded as property of new narrator (SM).

Wealth amassed by men, women in form clamshell money, shell cylinders; these obtained either by inheritance or by selling meat, piñons, etc. Rich man or chief of advanced age sometimes had "3 antelope or deerskin sacks full of money"; each sack held about 500 long strings rated in American money at $2 apiece, 3 sackfuls totaling $3000. Such wealth hoarded during owner's lifetime; often hidden underneath boulders on rocky hillslopes;

"man or woman hid it good and didn't tell anyone; sometimes he died and nobody knew where he'd put it" (SM). Baskets, bows not wealth "because they made those things" (SM).

Land ownership.- Any form land ownership lacking; all information bore out fact that neither band, hamlet, household groups nor private individuals owned land. Hunting, gathering places free not only to members of both bands, but also to neighboring tribespeople; visitors did not have to ask chief's permission to hunt, etc., in Tübatulabal or Palagewan area (SM, FP). Attitude on this point illustrated by SM in discussing influx of Koso Indians in e. end of South Fork valley; "lots of ši·gawiyam (Koso) who had been fighting the whites with the Bishop Indians came down and stayed in Canebrake and at the mouth of Chimney canyon. There had been no Koso there before that time. The Tübatulabal didn't care; they never lived up there anyway. Some of the Koso brought their wives, some married down here, but they married Kawaiisu women mostly. Some of the names of those Koso men were ki·i·bul, tui·lum, pi·lo·n šiko·lolont (butterfly), mawi·l (twine), mudazdzu (Spanish, muchacho), and Juan Paiyote, a dancer. Those Koso lived and died here; they never went back. Only 3 men went back, pi·lo·n, mudazdzu, and Juan; they stayed at Olanche 2 yrs., and then they came back over here again and died here. The Tübatulabal never had any fights with them."

Hamlet sites not owned; if third family had wanted to build house at hamlet no. 5 (fig. 11), could have done so without asking permission of either of 2 houseowners already occupying site. Dwelling house owned by builder until vacated; then it became "anybody's house" (SM).

Patches of wild tobacco were free to be used by anyone, but once woman had started tending plants in particular patch, plants became hers and sometimes women marked boundaries of their patches with sticks laid on ground. Same woman did not, however, tend one patch year after year (FP). No ownership of eagle eyries, seed areas, piñon or acorn trees (SM, FP).

Inheritance.- During his lifetime, husband house owner or "boss" of house; after his death, house usually either burned or deserted, and widow became house owner of new domicile; if any of her children or daughters-in-law were living with her "they did what she said." After both parents' death, house might be deserted, or eldest married son and wife might, occasionally, continue living in it, unmarried siblings of man also staying there, but younger married brothers and wives at this time usually moved out. At a house owner's death, if no survivors, house burned. Besides account of destruction of houses after death, FP cited burning of house, personal property, upon shaman's advice, following illness of member of family (see Autobiography of FP). Personal property was, however, mainly burnt, destroyed, or given away at owner's death or at burning later. Quantity of property destroyed at burnings varied; in event all not destroyed, some of man's property might find its way into his brother's or sons' hands, some of woman's into her sister's or daughter's keeping; husband did not inherit any property from wife or vice versa. FP complained that after her husband's death, SM, her husband's brother, tried to get some of his brother's property; "that was the way they used to do; they'd take everything away from the widow."

If man left 3 sackfuls shell money at his death, son "might save out 2 of them from his father's burning and keep them" to help establish himself as a rich man; this was all right, "because that relation (deceased) would know the son was going to burn that money again later on" (i.e., when son himself died). Man's bow, arrows usually not burnt because "they were hard to make"; deceased woman's mortars, metate, mullers, sometimes necklace, some of her baskets might also be saved by her relatives.

Movements and trade.- From Feb. through middle of Aug., food-gathering activities kept Tübatulabal shifting about in family groups in lower altitudes (2000-4000 ft.), chiefly in lower and upper Sonoran life zones, in valleys, foothills, river canyons. From Aug. to middle of Nov., groups moved into higher altitudes (5000-6000 ft.), first E to piñon grounds on w. slopes of Sierra Nevadas in Transition zone, then W to acorn grounds in Greenhorn mts. in upper Sonoran zone; family groups or individuals might also go on trading trips after piñon harvest. During short winter season from middle of Nov. to Feb., family groups returned to valley-foothill region in lower and upper Sonoran zones and men did some hunting, fishing, and procured salt from desert, but at this season people "mainly stayed home, not doing anything" (SM) and lived in small hamlets (fig. 11).

Adults, in couples or small groups, also traveled quite a bit outside home area (SM); Powers, 1875, met a Palagewan at Tule R. reservation who had visited Hopi (Powers, 394). Desire to trade, to hunt, fish, or gather food in certain areas, to play games, obtain services of shaman among reasons mentioned for taking trips. To E, Tübatulabal went as far as Randsburg on Mohave desert; to S, SW to Tejon in Tehachapi mts. and to Chumash villages near Ventura on Pacific coast; to W as far as Tulare lake, in central San Joaquin valley. As girl FP had camped on desert (see Autobiography of FP); SM as boy of 9 had been to Tejon ranch and Ventura with his father; in going to Chumash villages near Ventura, route lay through Walker's basin to Caliente, thence to Yokuts village, Lapau, then to Tejon, thence via Comanche creek to 2 Chumash villages, makakak and alko·laupal, near Ventura. Trip took 2 days on foot to Tejon, 2 more days from Tejon to Ventura (SM). MM's narrative of trip from Tejon to Caliente confirms former part of this

statement (Voegelin, 1935 b, 221). Within Tübatulabal area trails lay chiefly along ridges.

Marriage statistics for last 80-90 yrs. also give indications of groups with whom there has been intimate contact; 98 marriages recorded of which there were 17 Tübat.-Tübat.; 7 Tübat.-Palagewan; 2 Tübat.-Bankalachi; 7 Tübat.-Owens Valley Paiute (several relatively recent); 6 Tübat.-Koso; 14 Tübat.-Kawaiisu; 12 Tübat.-Yokuts, mainly Tejon Yokuts; 4 Tübat.-Chumash; 1 Tübat.-Yaqui; 18 Tübat.-white (Mexicans, Frenchmen, Americans).

From Chumash, Tübatulabal obtained shell money, shell cylinders, steatite, probably, and in later times horses; these exchanged for piñons. They also took advantage of trading trips to Chumash to collect lumps of asphalt from beach and to fish in ocean. Occasionally Chumash made reciprocal visits. In trading, "a sack of piñons was left on the ground; the Ventureños came up, and took as many as they wanted, and laid shell money down in payment" (SM). No bargaining; goods had fixed price (see below). Shell money, certain varieties of acorns obtained from Yokuts (Monilabal), in exchange for piñons.

In fall of 1932 SM and MM visited Northfork Mono on trading trip (Voegelin, 1935 b, 239).

Dried meat mentioned most frequently as commodity traded intratribally, in winter especially; in myth Coyote buys meat with shell money (Voegelin, 1935 b, 199). Yellowhammer bands another trade article within tribe.

Currency.- Clamshell disks (tugumba·l) standard currency; disks kept strung on native twine, strings coiled and stored in money jars (see section on Basketry) or, if person had large quantity currency she hid part of it away in skin sacks. Perforated shell cylinders (hobo·apun), which like disks were obtained already made up from Chumash, came in 2 sizes; used chiefly for necklaces, nose plugs, but sometimes kept in money jars, served as currency. Olivella shells, haliotis shell known, but not used for currency; dentalium unknown to informants.

Smallest unit of measure in clamshell currency was ya·nẓil, double length of index finger or about 8 in. Standard unit (ki·la·hil) measured twice around circumference of palm and fingers, about 45 in.; this also known as hïštïh; cf. Yokuts, hista, Chumash stü, for string this length (Kroeber, Handbook, 565). Largest unit (pu·wil) was 16-hïštïh string, about 45 ft. In terms American money, ya·nẓil = 1 cent, hïštïh = 10 cents, pu·wil = $2. Informants realized 16-hïštïh string or pu·wil should have been equated to $1.60. Shell cylinders 3 in. long worth one hïštïh; those 5 in. long double.

Woman's sifter worth 8 hïštïh ($1); whole deer, yellowhammer quill band pu·wil ($2); horse, 70 yrs. ago, 5 pu·wil ($10). In 1932 10-lb. bag of chia seeds offered to SM for $2, which was "too high" (SM); plugs, balls of tobacco were selling for $3.

Borrowing of clamshell money frequent in wintertime, "to pay for dry meat"; in summer "they didn't do that, because they had lots then, lots of seeds." No interest charged; borrower "just brought back whatever amount he had borrowed" (SM).

Division of labor.- Men and women both actively contributed to solving problem of basic subsistence, but along some lines of endeavor connected with subsistence there was well-established division of labor on sex basis. Men hunted, skinned their kill and packed home meat; speared fish, made corrals, and obtained salt. Women might help them in minor way during coralling of fish or at rabbit drives, but these essentially masculine enterprises. Women gathered vegetable foods, tobacco, prepared such for consumption; procured wood and water necessary for roasting, boiling various foods. They manufactured salt from salt grass and sweets from cane. Pounding of foodstuffs markedly woman's task and was frequently mentioned as hardest of her domestic occupations. On whole, men's duties usually called for expenditure of appreciable amount of vigorous, but sporadically applied exertion; women's tasks lighter, but lasted longer, more continuously pursued. Practically qualitative differences in physical capacities of men and women recognized by Tübatulabal, but this recognition remained largely unconscious, as myth given below shows. Also other factors, such as environmental considerations and age of men particularly, regulated matter of sexual division of labor; manner in which these several factors operated illustrated in customary activities of men, women when gathering piñons and acorns. At piñon harvest adult men and boys climbed trees to knock off cones, while women gathered cones from ground, prepared brush bed for roasting them and worked with men in taking nuts out of cones. Men did some hunting at piñon grounds, as MM's autobiography shows (Voegelin, 1935 b, 227), but SM said few deer ranged to E where piñons abundant, so men did not occupy themselves with hunting much at this time, although old men might do some trapping. At acorn grounds, however, where deer came to feed on acorns and were plentiful, men hunted almost exclusively while women gathered acorns, which fell from trees and only needed to be picked up and dried (SM).

Another example of interplay of various factors which guided sex regulation of labor illustrated in tending and pruning of tobacco plants. Ordinarily all this was done by women, but it was not unusual for old couples to work together pruning and harvesting plants (see Autobiography of FP); this part of tobacco process required greatest amount of physical activity. Rarely, if ever, though, did old man run counter to basic pattern and help his wife pound or "cook" tobacco.

Why hunting man's work, preparation of food

woman's, rationalized in Coyote myth, recorded in English from MM; shorter variant was given in Tübatulabal by SM (C. F. and E. W. Voegelin). This myth, told in answer to query whether women ever hunted, may have wide distribution, but so far no parallels to it have been recorded among Californian or Great Basin tribes, although Dr. A. H. Gayton tells me that she has found mention that sexes were originally separated, in mythology of Navaho, Yana, Miwok, and Assiniboine. The myth is as follows:

Myth of Contest to Determine Division of Labor

Before Indians lived on this earth, there were many different kinds of animals and birds living here; Chicken Hawk, Sparrow Hawk, Mt. Lion, Bear, Coyote, Eagle. Eagle was the chief. And all of these were men; there were no women, it is said.

These men hunted rabbits every day; but Coyote stayed home every time they went hunting, and hauled wood for his companions. He brought wood to each man's camp; that's all Coyote did all the time.

And when the men were tired of hunting rabbits, they hunted deer for a change. The next day, when all of them went to hunt deer, they went farther off than when they hunted rabbits; they went away up in the mts.

Up on the mts. the hunters saw smoke rising from a peak, opposite where they were standing. They said, "Perhaps somebody is living over there; perhaps there are people there." One hunter said, "I think we should tell Coyote about this, when we get home tonight." That's what he said.

In the evening the men returned home; every one of them had a deer. And Coyote had the firewood piled up at each man's camp. Each man cut a little piece of meat and gave the meat to Coyote; every man did this. Coyote ate that meat for his supper. After supper the men told Coyote, "We saw smoke from the top of that mt.; we saw it across on another mt., a long way off." And Coyote said, "Perhaps there is somebody living over there; let's send somebody over there tomorrow, to find out."

So the men chose one man to go, Road Runner (the chaparral cock). They said, "This fellow, Road Runner, can travel fast." Next morning Road Runner started, after breakfast; the rest of the men went off to hunt again. But Coyote stayed home to haul wood for the camps.

Road Runner went way up on the mt.; and as he went he saw a lizard running close beside him. Road Runner got close to Lizard; he grabbed Lizard and swallowed him. Perhaps Lizard was Road Runner's "life" and that was why Road Runner swallowed him.

Over on the mt. where Road Runner was going there were many women-creatures; lots of women, Eagle-Woman, Coyote-Woman, Mt. Lion-Woman, and many others. And all those women were sitting around a big pit mortar bed that had lots of mortar holes in it; lots of women were sitting down there pounding piñons. There were no men, only women there. Suddenly one woman said, "Oh! The edge of my vagina is pulsating." All the women laughed; soon another woman said, "Oh! mine is too." Then one of the women said, "Maybe somebody is coming; perhaps a man is coming." And all the women said, "Perhaps." Then one of those women looked and saw a man coming. She said, "You see; I told you. Somebody is coming, coming from over there now."

Road Runner saw those women sitting down there at the pit mortar, all of them. So he went down there; he said, "Hello."

"Hello," said all the women; and they asked him what he was doing up there in the mountains.

Road Runner said, "My companions saw your smoke yesterday, from across on that mt. And they told me to come here and find out whether people were living here. All of them are men over there," Road Runner said.

"And here there are no men," the women told Road Runner; "here all are women."

Soon all the women got up; they called to Road Runner, "Come on; come on down to our house," they said, and Road Runner went with them. When they arrived at their house they told Road Runner, "Come in."

They selected a cooking basket and they mixed ground chia seeds with water in the basket, until the basket was almost full, and then they gave the chia gruel to Road Runner to eat. Also they gave him a piece of deermeat.

Road Runner drank the chia; he drank it all, and when he was through eating he sat down for awhile. After awhile the chia made him sick; he felt like vomiting, and he vomited; he vomited lizard and the chia. Lizard chased all those women; they got up and ran when he chased them. "What kind of food does this man eat?" they said. Lizard was alive.

Then Road Runner recovered and those women returned after he recovered. Mountain Lion-Woman went into the house and brought out chia seeds, tied up in a little bag. She said to Road Runner,

"When you get home give this to Mt. Lion."

Road Runner replied, "All right."

And another woman, Chicken Hawk-Woman, came out of the house with the same thing, a little bag, with acorns in it. She gave the bag to Road Runner. "When you get home you give this to Chicken Hawk," she said. Road Runner said, "All right."

Each of the women gave a little bag of food to Road Runner for each man over there at the camp. Road Runner told each one, "All right." The last woman to come was a big fat woman; she too had a little bag of seeds, and she said to Road Runner, "You give this to Coyote."

Then the women said, "In 3 days we will come over to your camp; 3 days from now we will all

come over." Road Runner replied, "All right." Then he returned home; he had a large load to pack home.

Over at the hunters' camp Coyote kept watching all the time for Road Runner; Coyote was in a hurry, he wanted to spy Road Runner first. Every little while Coyote went up on a hill and looked to see whether Road Runner was coming. Then in the evening he saw Road Runner returning. Coyote went to meet him; he wanted to learn what Road Runner had discovered over there.

Coyote said to Road Runner, "Did you find out about things over there?" And Road Runner replied, "Oh, you'd better wait; you don't want to be told now; you wait." But Coyote came alongside of Road Runner and whispered,

"Hurry up! You'd better tell me!"

Road Runner said, "Wait until all our companions come home. Then you will find out," he said.

Soon the hunters returned to camp, in the evening. After supper they all gathered together; they were going to learn what Road Runner had discovered, now.

Road Runner said, "There are all women over there where I went; lots of women. Each woman gave me a little bag," he said, "and they told me to give each one of you a bag," Road Runner explained. Then he gave each hunter what a woman had sent by him. He told the hunters, "These women said they were going to come over here in 3 days."

"Good, good, good!" said Coyote.

In 3 days' time the women came. Each woman had a pack; one woman had acorns, one chia, one piñons -- all the different sorts of seeds to eat. And each woman had a bow and arrows; all of them had arrows, all those women. Road Runner went to meet the women; he went to tell each woman where each man's camp was situated. He said, "There's Mt. Lion's house over there; Mt. Lion lives over there." So Mt. Lion-Woman went over to Mt. Lion's house.

"There's Chicken Hawk's house over there; that's Chicken Hawk's house," said Road Runner. Chicken Hawk-Woman went over to Chicken Hawk's house.

Each of the women went to the house of the man who was of her own kind, as Road Runner directed. At last only one woman was left; oh!, a big woman; she came to Road Runner and he said, "There's Coyote's house, way over there." So the big, fat woman went to Coyote's house.

The next day all the men went hunting and all the women went to grind acorns and chia. The hunters returned in the evening; the women had everything cooked and ready for them when the hunters came home for supper.

The following day the women told the men, "We are going to go hunting now; you men go and grind some acorns."

When the women returned in the evening, each one of them had a deer; every one of the women had a deer. Some of the men had finished their work and had come home before the women returned, but some of the men were still over by the pit mortar, cooking acorns; they didn't know very much about cooking acorns, those men.

At sundown, Coyote had not returned home; he was still up at the pit mortar, leaching acorn meal. Coyote felt aggrieved; he was angry, too. When sundown came and Coyote had not yet come home, Coyote-Woman went over to the pit mortar to help him. Finally Coyote and his wife finished leaching the acorns, and returned home too.

Next day all the men went up on the hills to hunt, and all the women went to the pit mortars to grind acorns and seeds. All the men went to hunt deer and this time Coyote went, too. He didn't haul any more wood; he went hunting. When the men had gotten far up on the mt., Coyote said, "You men wait. We're going to talk about those women." So the men stopped.

"Those women have bows and arrows and they hunt; they send us over to the pit mortars to grind acorns," Coyote said. "That's not right. I think women better handle the mortar and pestle," Coyote said. "That's just right for them; that's a woman's job, not a man's," Coyote said. "Tomorrow we're going to talk it over; we will have a big talk. We are going to shoot at a target. If those women win, then they can handle the arrow. If we win, then we can keep on hunting and handle the arrow, and the women will handle the pestle, all the time."

Everyone said, "All right. We'll do that."

When they returned home in the evening, after supper Coyote called to everyone to gather together; he told all the men and women to assemble, and then he said, "We are going to have a big talk here. Tomorrow we are going to shoot at a target; if you women win then you can handle the arrows, and we men will handle the pestle and grind acorns. But the way it is now, you women going hunting and we men grinding acorns - that's not right. That's women's work," Coyote said. "Tomorrow morning I am going to set up a target; we will shoot at it."

The women said, "All right."

That night Coyote couldn't sleep. At midnight he got up; he went way up on top of the mt. and built a fire. Then he returned home, and when he came back he said, "You people get up now; the morning star is up; get up now, hurry!"

Road Runner got up; he looked and said, "Oh, that's not the morning star over there; that's a fire you built up there on top of the mt., you devil," Road Runner told Coyote.

Coyote called out again, "Hurry up!" But everyone went back to sleep again. When daylight really came everyone got up; after breakfast Coyote set up a target, and then he called out, "Everybody line up to shoot. Get ready!"

One of the women, Mt. Lion-Woman, was a good shot; she was pretty hard to beat shooting.

Each couple lined up in a double column; each

woman was standing beside her mate, and each pair were going to shoot together, both at the same time. But Coyote and his wife stood apart, over to one side. Coyote said, "I'm going to shoot first! I'm going to shoot first! I'm going to shoot first!" He wanted to win, of course. So Coyote said to his wife, "Are you ready?" and his wife said, "Yes" and both of them shot.

They both missed. Neither of them even hit the target.

Coyote said, "Next! Ready!" and the next couple shot, and they also missed. All those men and women shot and missed, all except Mt. Lion and his wife, who had not tried yet. Coyote called out to Mt. Lion and his wife, "You 2 next!" Then Coyote came up to Mt. Lion and admonished him. "You shoot straight! Your wife is a good shot, but you shoot straight," Coyote told Mt. Lion.

Mt. Lion and his wife prepared to shoot. Mt. Lion shot; Mt. Lion's wife is shooting . . . then Coyote is saying, "Break, bowstring; break, bowstring; break, bowstring!" And Mt. Lion-Woman's bowstring broke; then her arrow dropped to one side of the target. But Mt. Lion hit the target right in the center.

So the women lost and the men won. Coyote said, "Now, all right! You women handle the mortars; we men will handle the arrows. We are men," said Coyote, it is said.

CHIEFTAINSHIP, LAW, CONDUCT

Chief and messenger.- Each band had chief (timiwal) who was a "lawyer," or "a kind of boss, capitano" and "straightened things out for the people." No hamlet chiefs. Chief lived in ordinary house at one of hamlets, hunted, fished, "the same as anybody else"; food not provided chief.

"When the old chief died, in about one month all the old men from the different hamlets met and asked themselves who would be the new chief. They chose someone, and then everybody knew - 'that's the new one'. The new chief had to have lots of clamshell money; he had to be over 40 yrs. old too. If he turned out badly, the old men met again and chose another man" (SM). FP, PN added that "a chief's son or brother was usually chosen" and office was for life dependent on satisfactory behavior. Sometimes a chief appointed his own successor before he died.

Newly chosen chief "told someone to make a big time" for his induction; "everybody came; they had a lot to eat and the new chief talked to all the people; he told them to put their money down to give to people who were sick or poor, and any other things he wanted people to do" (FP). New chief bore part of expenses for this feast; people present also contributed money and food; no dance held (FP). Feast given about one month after old chief had died; "all the people contributed to it" (MM).

Chief received messengers sent from other tribes, arranged for allies in event of war, assembled war parties, selected captain to head such, "made the war dance (of incitement) at his place" (FP), represented his people at peace parleys with chiefs of other tribes. Chief himself did not go to war. It was chief's duty to admonish evil shamans when they were causing sickness and to order such killed if his admonitions went unheeded; this extended to malefactors within chief's immediate family; no collusion between chiefs and evil shamans, such as occurred among Western Mono and Yokuts (Gayton, 1930, 398) remembered by any of my informants.

Chief settled fights arising from jealousy over women, or over possession of game; he "would ask people why they fought and tell them not to do it any more. If 2 persons were always fighting, he would tell one to move out of the settlement" (FP).

A chief headed Tübatulabal when they joined the Yokuts for antelope drives, but chiefs did not direct people where or when to go for piñons, fish, acorns.

Chiefs attended burnings, dances; delivered orations at such; lectured youths, telling them not to fight and, later, not to drink too much whiskey; often upbraided stingy people for not bearing just share in expenses of fiestas.

Chief did not play hand game (SM); was likely to tell myths in wintertime, but this not his exclusive privilege. Chiefly etiquette did not permit chief to visit socially among his people; "he would send somebody over to a person's house if he wanted to see that person" (SM). One Tübatulabal chief sometimes visited "around Bishop (Owens Valley Paiute); this was all right because he had relations there" (SM). SM, Tübatulabal chief in 1932, visited sick to administer herb medicines; also visited Catholic priest and some of his relations and went on trading trip with his son, MM, to Northfork Mono in 1932, but never made social visits among his people, and those persons other than relatives who came to see him usually came on business.

Women chiefs as functioning officials, reported for Tübatulabal (Kroeber, Handbook, 608), denied by SM, PN; SM, 1931, said, "the wife of a deceased chief was called timiwal until she ate meat; then the new chief was chosen. A daughter might be named, but usually refused the office." In 1932 he denied latter part of his statement. FP said Mrs. Petra Miranda should have automatically become chief for Palagewan group after former chief, Mrs. Miranda's mother's brother, died, "only she has no people to be chief for now." SM denied this but said chieftaincy might have passed to deceased chief's sister's son; FM and PN, Mrs. Miranda's son and parallel cousin, respectively, said women never chiefs. Mythological records contain no occurrences of women functioning as chiefs.

If people dissatisfied with chief, clown instrumental in having new leader appointed (see below).

"Little Bill" Chico, whose father was 1/2 Owens Valley Paiute 1/2 Tübatulabal, mother Tubatulabal (SM), former chief for Tübatulabal; SM did not know who preceded Chico, but was sure it was not Chico's father. Chico left no lineal descendants and named SM as his successor. For group of Koso in e. end of South Fork valley cumil, Mouse, former chief. For Palagewan on unaugmented Kern, košumye·he·huk, nicknamed elemgil, Greedy, former chief; elemgil died before Chico and Mouse, and no successor to him was appointed; he was leader for Palagewan group only (FP, SM).

Of chiefs mentioned above, only the Palagewan chief, elemgil, had a messenger (tu·kuṇi·n); elemgil's messenger was Tejon Yokuts named Dick; when elemgil "wanted to make a fiesta, he told Dick to go tell everybody to come to it, and Dick would go to Tejon, Porterville; elemgil paid him to do this." At messenger's death, son inherited office (SM).

Clown and dance manager.- Among Tübatulabal, office of clown (hili'idac) hereditary, passing from father to son; women, transvestites never clowns. Clown present at face washings, mourning ceremonies; at latter he was "the·big boss" (LT), but also "went around talking crazy (not backward) at fiestas; he danced backward, too. He didn't care what he said, either to women or the chief; if the chief was no good the clown walked around saying so; then all the old men would get together and choose a new chief" (FP).

Among Palagewan hili'idac apparently served more as dance manager; "when elemgil had a burning, there was a hili'idac named ka·wičina there; he was the last hili'idac. Kawičina told the boys to make the brush enclosure for the fiesta; when the people arrived he showed them where to camp in the enclosure. He wasn't a clown; when the people wanted money from elemgil they got 2 Palagewan men to act as šu·dbaẓapul; these men were like clowns; one of them got ashes and put them on the other man's face; all over it; then elemgil gave them money" (SM). Further details of clown's duties given in text by MM (Voegelin 1935 b, 205, 219, 227; see too p. 69 this study).

Law, morality, manners, conduct.- Since all deaths except those incurred during war believed to have been caused either by witchcraft or poisoning, each death, violent or natural, constituted a murder, which was attributed to evil shaman or person possessing poison. Often shaman, poisoner killed by relatives of deceased, after they had obtained chief's permission; or chief might take initiative, order such persons killed. Violent deaths in brawls seldom if ever occurred in pre-white times because "serious fights didn't start very much at fiestas, over games, etc., as the people didn't get drunk" (SM). A shaman might boast on such occasions of his power to kill persons, but I have no account showing that this ever led to fights in which murder committed.

Murders not condoned, either within or outside tribe; murder committed by member of neighboring tribe constituted cause for war against tribe to which murderer belonged.

Theft usually went unpunished; theft of money did not often occur, because it was kept well hidden. When currency displayed, as at face washings, it was kept in money jars; at games there were persons present whose duty it was to keep watch over bets made. Other valuables besides money also "hidden good"; if stolen, as occasionally happened, shaman sometimes denounced thief, ordered him to return goods (see Autobiography of FP). If caches of piñons, acorns robbed, "the owner usually didn't know about it, because the caches were so big" (SM); MM said thief caught in act lectured severely, but otherwise went unpunished.

Finder of hidden property entitled to keep full amount of property found, even though owner might still be alive.

In hunting, if 2 or more men shot at deer, he whose arrow first touched deer could claim it, although another man's arrow might have killed animal; disputes which sometimes started when this happened were taken to chief who settled them according to foregoing rule.

Marrying one's relative (see section on Cycle of Life) constituted grave moral offense which roused disapproval of entire community, but no formal punishment accorded either member of couple. Adultery disapproved, but was not punished and was "not nearly so bad as a man's marrying his cousin." Parents forbid girls to enter promiscuously into sex relationships, but admonitions often went unheeded, "just as they do now" (FP); young people often mated at dances.

A good man, man with a big heart, did not become angry quickly, was quiet, took care of his family well, was not lazy and, when told to do something, did not immediately jump up and do it, but was leisurely and dignified in his actions. "Young men had to learn to be this way" (SM, MM). Men who became angry quickly were referred to as men with small hearts. Industriousness won praise, but neither attainment of wealth nor bravery in war stressed as ideals. Parents, older persons taught young people (p. 46; Voegelin, 1935 b, 223).

Stingy persons who did not contribute their full share to fiestas subject to public criticism by chief or dance manager, also to supernatural punishment by shaman. Braggarts who boasted about what they would do in critical situations, but who failed when faced with such, subjected to ridicule and memory of their failure served as subject matter for anecdotal material. Lazy women and women who fought, "pulling each other's hair, until their husbands had to separate them," incurred general criticism of community.

Greeting used after short absence is ma', hello; Voegelin gives several more exclamatory particles (Voegelin, 1935 a, 180). Expressions for good morning, good noon, good evening also

used now. Farewell salutation is "I'm going now; goodbye." Greeting between strangers, persons who had not seen each other for some time is "Hello, where do you come from?" No handshaking. Tübatulabal "liked to see strangers" (SM); visitors given gifts of piñons, chia, "just the same as now, we give piñons to everyone who comes up to the piñon camps" (ES); young girls enjoined to be hospitable (ante). In times of scarcity, however, food was bought; person who had stores of it "wasn't expected to give it away" (SM).

Mothers kissed children occasionally; adults did not kiss (SM).

Jealousy on part of man, woman, sometimes led to separations (ante; Voegelin, 1935 b, 235); jealousy over man might start 2 women fighting, but men "didn't fight that way over a woman, generally" (SM).

SM had never heard of any member of community who deliberately set fire to others' property; insane persons (tohoyi·wut) "just had to be watched; nothing was done about them. One woman went crazy a few yrs. ago, because a witch put something in her ear and made her that way; she wouldn't go to a doctor and so she died in the Stockton asylum after she was there a year" (SM).

At fiestas during dances at night, if woman slipped away to keep rendezvous, when she returned dance leader would grasp her by arm, dust her off with bunch of feathers, much to everyone's amusement, woman's confusion (SM). Young mature girls, if they surprised boy of about 12 in swimming would surround him, chaff him; boy would beg to be allowed to leave and often run away crying (MM). An example of what is considered humorous occurs in anecdote of man in deer-head decoy who was mistaken for deer by mt. lion and attacked by animal; man's brother, standing off at safe distance, saw this occur, but instead of going to hunter's aid he remained where he was and "just laughed and laughed" as lion leaped on hunter.

Garcés in 1775 was hospitably received by (Palagewan?) group on unaugmented Kern and characterized the people as "affable and affectionate" (Garcés, 281). When first approached, Tübatulabal show marked reserve which can easily be mistaken for indifference, or even unfriendliness; in time, however, this reserve disappears, as Steward notes of Owens Valley Paiute (Steward, 1935, 238), and informants prove friendly, interested, generous, and honest. Men and women are generally energetic in their daily life, and attentive to detail in work. Women often voice expressions of sympathy for the young, weak, or suffering; when SM's pet dog was shot SM "cried and cried" for several days. I heard of only one theft among Tübatulabal during my work with them. The older members of the group, especially, have a high reputation for dependability and trustworthiness among their white neighbors.

Postures.- Men sat (a) right knee bent, weight resting on right heel; left foot flat on ground, knee up; this commonest sitting position, referred to as mi·išit. (b) When sitting leaning against tree or other back rest, legs extended straight forward, feet crossed. (c) Sometimes sat Turk fashion, but "not much" (SM).

Women sat (a) right knee bent, right leg and inner side of foot extended backward on ground, with weight of body resting on right heel; left foot flat on ground, knee up. (b) Both legs bent under body, weight of body resting on ground, feet slightly protruding from under left thigh. (c) When sitting against tree, legs extended straight forward, feet crossed. (d) Turk fashion often used when working with materials in lap. (e) When using large portable mortars, women sat with legs extended straight out in front on either side of mortar.

Men, women used cane (nahat), 4-5 ft. long, made of willow or hard wood, "when packing something heavy"; older people used it as aid in walking over rough country; cane kept in house as regular article of use.

Direction indicated by turning head, tossing it slightly and pouting lips noticeably; FP did this habitually, SM less markedly. Amused semi-embarrassment or surprise indicated as among Mohave (Kroeber, Handbook, 729); MM, a man, used this gesture frequently, ES, a woman, sometimes; myth refers to its use by Coyote (Voegelin, 1935 b, 199). Informants gestured frequently while narrating myths, etc.; also to some degree in ordinary conversation.

AESTHETICS AND KNOWLEDGE

Aesthetics.- Although art forms relatively undeveloped save in province of basketry, Tübatulabal were not lacking in sense of aesthetic appreciation. In describing water bottles, FP, LT commented on how "pretty" container looked with red earth smeared over outside. ES thought raccoons had "pretty fur" and wondered immediately afterward why "the old timers never used coonskins." FP consented to be tattooed because it would look pretty and her autobiography contains several references to prettiness of certain objects. In commenting on landscape, however, the economic possibilities seemed of paramount importance; MM's reaction to towering wall of Sierras between Independence and Bishop, in Owens Valley Paiute region, was that the mts. were "too bare"; FP's comment about desert to E was that "one couldn't get anything to eat there."

Sketches of design elements for baskets brought forth only one comment from ES, that certain design was "hard to make." However, in another department of basketry aesthetic appreciation was manifested. Although FP stated that piñon jars (see section on Basketry) "were not given away much; they were just made to put piñons inside," and ES agreed with FP about utilitarian purposes these jars were put to, it was my impression that

these jars represent an interesting example, among a people with a comparatively simple culture, of artists playing with their technique, to degree of transferring it to another medium. Women informants' interest in these jars was fully as spontaneous as their interest in describing the money jars, admittedly their finest basketry products; ES, who no longer makes baskets, expressed her intention of making a piñon jar the next fall during the piñon harvest, for no utilitarian purpose whatsoever.

Speeches made to young persons at fiestas delivered by chief, dance manager, who talked "just like a peanut vendor does now" (FP). Formulas were also spoken in loud oratorical style.

Esoteric songs, such as those sung by shamans while curing, by rainmaker and assistants, by old man for deer hunters, etc.,had words; SM remembered Yokuts (Monilabal) Coyote song:

"I'm Coyote,
Coyote singing;
I'm going to quit my song
When I go up in the sky."

Exoteric songs, such as those sung while sweating, at dances, for handgames, composed in main of meaningless syllables; SM gave dance song:

hawaya·nammi· nana
hawaya·nammi· hi· nanan
to·lo·hom i dyī

Myths sometimes had short songs in them, sung by characters in myth (Voegelin, 1935 b, 193).

Pictographs fairly numerous in s. part of area; these "have always been there; they were painted on the rocks by brownies (ya'hÿ'ĭwal) who are about the size of a 5-yr.-old child" (SM). Pictographs are situated as follows (asterisk indicates sites visited, where figures were sketched):

On Bull Run creek; picture of man, woman, latter in green dress (SM).

*At pa·la·ku·č (see no. 25 under "Place Names," p. 40), a fishing site; (site no. 103 Pc in Steward, 1929, 110, pl. 52c, d).

In Chimney meadows, at spring, s. end of meadow (SM).

*Near head of Chimney canyon, e. end of South Fork valley, 1/2 mi. SE of hamlet no. 3 (fig. 11). Pit mortar holes directly underneath painting.

Four mi. SE of Weldon, on ridge, 1/2 mi. E of Kelso creek, 1 mi. S of ranch owned by Mr. Weaver Hand.

*Northern edge of South Fork valley, base of ridge 3/4 mi. SW of hamlet no. 2, near NE corner of ranch owned by Mr. J. Lowe.

*In South Fork valley, near hamlet no. 14 at base of mts.; (site no. 104 Pc in Steward, 1929, 110, fig. 40).

Packsaddle creek; (site no. 105 Pc, Steward, 1929, 111).

Representations of human figure numerous at Lowe site (fig. 13); several animal, a few human figures at pa·la·ku·č (fig. 14), at 3 South Fork sites all figures painted in red; at pa·la·ku·č majority of figures in red, but a few in red and black and one, of snake (?), in black, outlined in yellow.

Little or no plastic representation, except for crude dolls children made; no realistic carving. Tule image of deceased person carried at mourning ceremony (see Rituals).

Symbolism apparently entirely lacking; informants could give no explanations for feather wand, woodpecker bands, other paraphernalia carried at mourning ceremonies (see Rituals); one item common among Great Basin, California tribes, that of decorating baby cradles according to sex of child (Kelly, 134; Steward, 1933, 273; Kroeber, Handbook, 536) consistently denied among Tübatulabal. A few basket patterns had descriptive names (ante).

Knowledge.- Decimal system used; count has been recorded (Voegelin, 1935 a, 178). Large numbers of rabbits, fish which were to be divided between several persons had to be portioned out. Sticks, marks in sand not used in division.

Year (šuwa·l, world) divided into u·dalami·k, fall, "when the sun is shorter" (SM); tomo·waš, winter; taha·waš, summer, "when the sun goes higher" (SM). Doubtful if solstices observed. Year divided into lunations, months starting on each crescent moon; some lunations named descriptively: ču·u·ga·nan čuwi·la·t, icicles hanging down (January?), which was followed by hu·litap, everything green; ku·la·^{wit}, when grass is ready to bloom; ibi·n wi·^{yal}, time when flowers bloom. Rest of lunations unnamed or informants had forgotten their names; no month names taken from names for fingers.

Stars (šu·l) not used at night for guidance; not counted above 3 (Voegelin, 1935 a, 179) because "a long time ago the Indians counted all the stars and they died; that's why they're afraid to count them now" (SM). Milky Way (owi·diŋpo'in, dove's fire) caused by doves who "made a fire and the smoke went white" (SM); this part of myth which SM would not tell in summertime. "The Mexicans say the Milky Way is piñole" (SM). Pleiades (a·na·wišt) are 7 women who left husbands and went up in sky. Morning star (yeu'wišn) seemed to have no myth connected with it. SM had heard of star shower, but had no comments to make.

Crescent moon lying on back presages dry weather; upright it is full of water (SM). Rainbow (taŋibo·'in) has myth attached to it,

At eclipse of sun (u·muktal) people put powdered tobacco on palm of hand and blew it toward sun, shouting 3 times, "Sun, don't die; come alive," or similar entreaties. If sun should ever die, large snake (wai·i·ni·š) living up in sky would fall to earth (SM).

Earth dome-shaped, surrounded by water. Earthquakes (šuwa·l šidu·gat, world shaking) caused by woman (p. 60).

Directional terms obsolescent; wi·naŋ, N, pa·lami·k, W, talami·k, E; possibly others.

THERAPEUTICAL PRACTICES

General good health induced by sweat bathing, observing pregnancy, menstrual taboos, bathing in hot springs, taking some simple herb medicines, as salt-grass crystals in warm water every morning for laxative purposes, to clean out stomach. In sicknesses, before taking patient to shaman for treatment which partook of nature of religious ceremony herb medicines (ti·bo·hišt) might be administered by old man, woman. Such persons often doctored ailing members of family, without any singing ceremony; "anyone who knew the right medicine for an ailment would do this; sometimes a herbalist would be sent for to treat a sick person; in that event he'd be paid. People learned about the medicines from their parents or grandparents, or a man would know about a medicine and other people would pay him to tell them. They learned a lot about medicines from the Mexicans, too. Now the witches have spoiled all the plant medicines except jimsonweed; they can't spoil that because it's too strong" (SM). In situations where shamans failed to effect cure, herb medicines might be administered after shamanistic treatment.

Ants also used as medicine; charms sometimes applied to body to relieve pain.

Plant, insect remedies.- Following plant, insect remedies, unless initialed otherwise, given by SM.

Piece jimsonweed root (mo·mo·ht), Datura meteloides HBK., wéed, about 12 in. long, dug, washed, macerated, set to soak for day in 2 qts. cold water; in evening water strained, given to patient, who had abstained from food, drink for 3 days and had cleaned out stomach every morning during fast with bitter drink made from roots of reise blanco. After taking dose patient fell into stupor which lasted 12-24 hrs.; during this time he was turned from one side to other; if he lay on his back or stomach he would fail to revive. FP's father blew whistle when giving her jimsonweed (see Autobiography of FP). While under influence drug patient might walk around, but was watched carefully; sometimes had visions (Voegelin, 1935 b, 215); SM imagined row of fence posts were dancers in feather costumes when he took drug; MM one time saw man who told him to take jimsonweed again in week; next time MM took it he saw white lizard drop from his shoulder, black one from his knee; when he awoke his rheumatism had disappeared. Sometimes patients, upon advice of person seen in stupor, drank jimsonweed 3 times before they were cured.

Before digging root plant addressed briefly; drink could not be administered in summer as "the roots are all right then, but when it's hot you want water; if you drink water and then drink jimsonweed, you get bloated right away" (SM). If drug taken without fasting at least 3 days, dose immediately vomited.

SM had given jimsonweed to MM for rheumatism, after shaman failed to cure him; to RP when she was badly bloated, constipated; had taken it himself when wounded in leg, as anodyne; FP had taken it for rheumatism (see Autobiography of FP).

Dry pounded jimsonweed root used as poultice on sores to relieve inflammation.

Powdered tobacco and lime snuffed to clear nose during colds. Tobacco, lime mixed with water, drunk in evening in sweat house, among groups people or by individuals in order to induce vomiting, thus insuring dreamless slumber.

Large root of yerba mansa, Anemopsis californica (Nutt.) Hook (čahpanï·l), boiled in qt. water for hour, decoction strained, cupful drunk every 2 hours for day or so, for heavy colds. Piece of root 1 in. long of Langloisia matthewsii (Gray) Greene (paništ), desert floral area, boiled in pint of water few minutes, dose taken 3 times during day for colds.

As laxative, 4-5 tsp. salt-grass crystals (p. 15) mixed with 1 tsp. ordinary salt in cup warm water used.

Leaves, flowers Stenotopsis linearifolius (DC) Rydb. (ča·dača·dapïl), foothill floral area; stalks, flowers Ericameria monactis (Gray) McCl. (same name); roots of Encelia actoni Elmer, desert floral area, boiled, affected parts washed with decoction for rheumatism.

Leaves, flowers Diplacus longiflorus Nutt., or D. aurantiacus Jepson, both foothill floral area, boiled, decoction strained, drunk for stomach-ache. Dry heads Eriogonum fasciculatum Benth. var. polifolium T. & G., foothill floral area, boiled, tea drunk for stomach-ache, diarrhea.

Entire plant of turpentine weed, Trichostema lanceolatum Benth. (ši·gišt), foothill floral area, boiled, infusion snuffed up nose to stop headaches, nosebleed.

For bloody flux, entire plant Heliotropum curassavicum L., general in alkaline soils, boiled, decoction drunk; handful of dried flower heads of Eriogonum fasciculatum Benth. var. polifolium T. & G., foothill floral area, boiled 1/2 hr. in water, decoction strained, cupful given 3 times daily; mild enough to give children.

Stalks, leaves of Indian tea, Ephredra viridis Coville (u'tu·udul), desert floral area, boiled; decoction "good for blood" (SM), used for syphilis (?).

Entire plants Eriogonum virgatum Benth. (šiko··nišpul), foothill floral area; E. baileyi Wats., E. gracillimum Wats., Chorizanthe staticoides Benth., desert floral area, boiled, infusions used as lotions for pimples.

Ripe seeds Argemone platyceras Link & Otto (šo··'lolo·pul), Great Basin floral area, pounded, used as poultice on open sores, piles. Ripe seeds of Echinocystis brandegei Cogn. (čawakišt) and E. horrida Cogn., foothill floral area, burned until black, rubbed with fingers in palm of hand until reduced to greasy paste which was smeared over pimples, rubbed over baby's umbilicus after navel

cord had dropped off (SM). Entire plant of Hugelia densiflora Benth., foothill floral area, broken up, applied as poultice for ulcers; plant also boiled, decoction drunk for heart disease.

Entire plant Euphorbia polycarpa Benth. (šïmïndïŋ ti·bo·hišn, rattlesnake medicine), desert, dry areas, pounded, applied as poultice to opened rattlesnake bite; plant boiled and bite washed with decoction.

Entire plant Castilleia miniata Douglas, foothill floral area, boiled, spots affected with poison oak washed with decoction daily for 4, 5 days.

Milky juice from stalks Asclepias erosa Torr. (pololi·wa·bul), desert floral area, rubbed on warts to make them disappear.

Leaves of Polygonum sp. (tamandiŋ ti·bo·hišn, tooth medicine) chewed into quid, which was held in mouth against aching tooth.

Furze from stems of Eriophyllum confertiflorum (DC) Gray (po·a·ništ), foothill floral area, scraped off with fingernail, rolled into balls 1/4-1/2 in. thick; 3 balls put in succession on spot affected with rheumatism and set on fire; balls "burned like powder." Blisters raised not pricked open immediately.

Pitch from balsam (ana·nu·l), Digger pine, Pinus sabiniana mixed with grease, used as salve on sores in recent times, not aboriginally.

For heavy colds, paralysis, 4-5 yellow ants (SM), large red ants (FP), wrapped together in little ball of eagle down; 15-20 of these balls swallowed with sips of water, one ball at time, by man, woman who had abstained from meat for month, fasted for 2-3 days and vomited each morning during fast, previous to taking ants. After swallowing the balls patient frightened, "so the ants would break out of the balls and sting patient"; latter remained in stupor 24 hrs., at end of this time given warm water to induce vomiting. According to MM, if all ants came up alive, patient would recover completely, if half of them were dead he "wouldn't live long," and if all dead he would die shortly. For FP's experience taking ants, see her Autobiography. Yellow ants "could sting hardest and had medicine"; other varieties no good (SM). After taking ants patient ate only little acorn mush for 2-3 days, no meat, grease for month (FP). Live ants also put on sick person's abdomen, "if patient didn't want to drink them" (FP).

If woman having protracted labor, person owning amulet rubbed this over parturient to hasten delivery. Herbal decoctions were drunk to induce fecundity, to prevent conception and produce abortions but the plant species from which these were made could not be obtained.

RELIGIOUS BELIEFS

Deity, culture hero.- Concept of supreme deity lacking; "people didn't know about the man who lived above the sun until the white men told them about God" (SM). Concept of dying benefactor was, however, part of religious belief and was, moreover, related to jimsonweed complex; "a long time ago Jimsonweed was a man; his name was mo·mo·ht. He said he was going to turn into a plant and if any man was sick or broke he should dig his roots and drink him; then Jimsonweed would give him something" (SM). Mention has already been made of belief that witches are not powerful enough to destroy efficacy of this plant. But aside from addressing formula to jimsonweed when digging roots, there seems never to have been any form of worship addressed to benefactor. Neither SM, FP had heard of Chungichnich.

A few other details of religious belief, however, also seem to relate clearly to so-called jimsonweed cult and 6-god system known among tribes to W and S (Kroeber, Handbook, 623). SM said that woman, named mane·sa, lived at aykeček, "across the ocean" with 5 brothers who took care of her; "whenever this woman turned over in her sleep, the earth quaked." When FP's father administered jimsonweed to FP "he blew on a whistle, so that 2 old men and an old woman who lived on the other side of the world could hear him" (see Autobiography of FP). Informants could not remember names of any of above-mentioned siblings, save woman's. Among Tübatulabal jimsonweed ritual and pantheon referred to above seem to have existed in attentuated form, with emphasis, so far as use of jimsonweed goes, on its medicinal properties and its use in obtaining supernatural power.

When questioned, SM said somewhat dubiously that tobacco had also once been a man, and had also spoken to the people, but that no formula was ever addressed to him. In Yokuts mythology, according to Dr. Stanley Newman, tobacco personified, and has personal name.

Coyote culture hero and trickster; as culture hero he causes earth to be remade after flood (Voegelin, 1935 b, 209), obtains water and fire for people, regulates division of labor (ante), causes death to come into world (Voegelin, ibid). He opposes Eagle, who is also chief (ibid., 207) during mythical age. As trickster, Coyote plays usual rôle of liar, cheat, dupe (ibid., 199, 209, 211). Informants, volunteering comments on Coyote's character, mentioned how puzzling they found his dual rôle; "Coyote--he's bad, mean; but he's good, smart, too; I don't know how that is" (MM).

Spirits.- Animals could "hear everything that was said"; this belief extended to all flora as well, but differences of opinion expressed on whether it applied to inanimate objects such as rocks; SM said it did not, MM (ibid.) asserted rocks "tell (Bear) everything." However, rocks, streams seem not so much supernatural in themselves, but to serve as dwelling places for supernatural beings; entire region in which Tübatulabal lived peopled with many varieties of such beings,

human or animal in form, who dwelt in certain localities; all these humanly shaped beings, together with shaman's animal helpers and many other animals, as bear, deer, coyote, rattlesnake, owl, hawks, etc., referred to generically as yu·mu·gi·wal, term which SM equated with Yokuts tipni (Kroeber, Handbook, 512) when it was used in reference to animals. Belief in these yu·mu·gi·wal entered into many phases of daily life; yu·mu·gi·wal not necessarily malevolently inclined, but all such had to be respected, more or less feared. Included among them were small dwarfs or "brownies" (ya'hï'ïwal) about 3 ft. high, who "looked like Indians." When hunters out camping at night, these dwarfs sometimes threw pebbles at them as they sat around fire; men picked up pebbles, spat tobacco juice on them, threw them back to dwarfs who could be heard sniffing greedily at rocks in dark, licking off tobacco juice. Brownies also occasionally actually appeared to people (Voegelin, 1935 b, 207); "when he was ill, Tony Pablo saw one of these yumugiwal looking in through the window at him; the dwarf had come to see what was the matter with him, but he didn't make Tony sick" (MM). While in jimsonweed trance MM had seen dwarf, who advised him to take second dose of jimsonweed. Pictographs in area (figs. 13, 14) also attributed to these brownies.

Many yu·mu·gi·wal are water spirits; in every spring, pool, river there dwells spirit who owns that particular body of water. One evening SM had

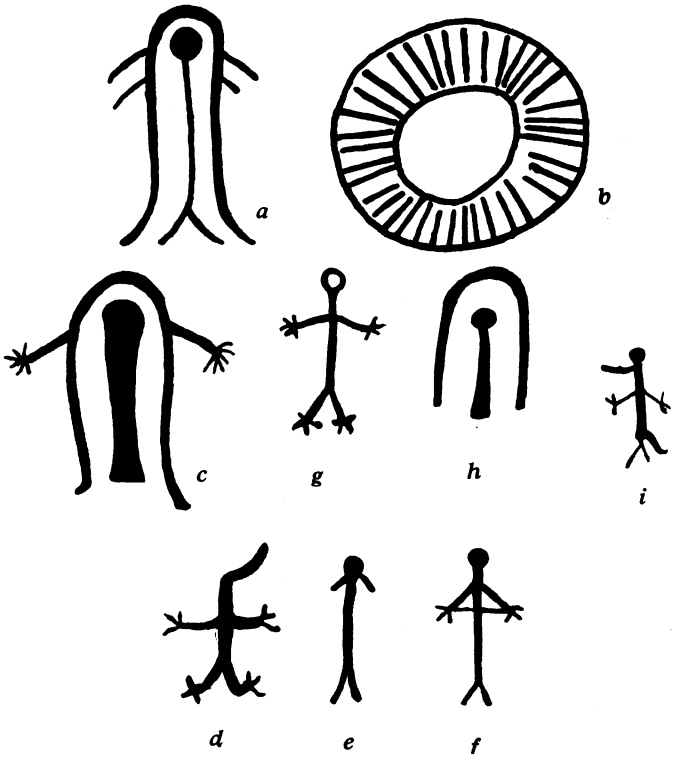

Fig. 13. Pictographs at hamlet site no. 6.

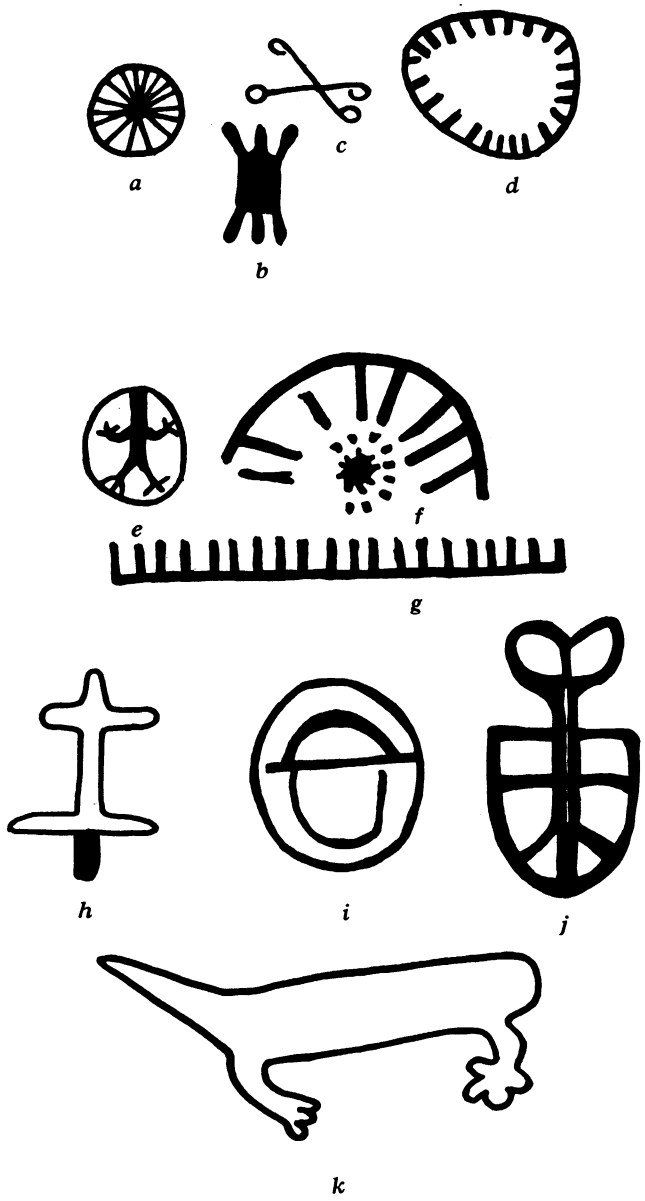

Fig. 14. Pictographs at hamlet site no. 2.

seen an old woman going from one spring to another on his rancheria; this old woman lived in and owned one of the springs; at another spring an otter (?), le·uše·p, could often be heard, crying "č, č, č." Man fishing at Kernville had seen small person, pa·nugiš, with human hands, fingernails 2 in. long, pulling at his line in water, whereupon fisherman had fled. Very tall man, black-skinned, was seen one morning standing on rock beside Fay creek; man who saw him went toward him, thinking creature was human being, but when man approached him, creature jumped in water, "where he lived in a large rock, which was his home" (SM). A tall man, poko, who wears a long dress of feathers or fur, lives in large rock by Chimney canyon; imut, another manlike creature, lives in mts.; anaŋgayat lives in deep fissure

in rocks on Goat ranch, SW of Weldon near village site no. 19 (fig. 11); "if people go in that cave, he might kill them" (FP). A piñon tree which always has ripe cones on it grows beside a lake on top of Caliente mts.; a basket floats on top of the lake all the time; "the Indians are afraid of this; maybe mïgïtih (Blood-Clot Boy; Voegelin, 1935 b, 211) is in that basket" (SM).

Soul, ghost.- Soul (šu·nun; also name for heart) resides in head; leaves body temporarily through ears when person sleeps at night; "when you dream it is your soul that goes out and does the things you dream" (SM). Capture of soul by evil shaman causes insanity. When person dies, his breath (i·kin), which stays in heart during life, goes out, together with soul, and latter becomes breath, but looks like human being, and is referred to as a "devil" or ghost (abawinal). Ghosts travel about by day in dust spouts (popu·-lu·it); these latter, unless they strike person, considered harmless, arouse no fear. People also see or hear ghosts at night; such experiences usually frighten person, but sickness does not result, unless ghost has been expressly sent by witch to cause illness; same applies to seeing dead in dreams. Sometimes ghost appears to person in jimsonweed trance, gives person "life" and tells him how to obtain protective amulet; such supernatural guardians "are best of all to have" (SM).

Although FM recalled that one evil shaman had said that when he died he was going to turn into deer, another that he would turn into bear after death, thus showing that transmigration beliefs existed among Tübatulabal, more general belief is that dead stay in land to E, where they live much as they do on earth; on way there they must pass over mt., where large crow picks out their eyes as they pass by (Voegelin, 1935 b, 203).

Mythology.- Although summer taboo prevented SM from telling several interesting myths with definitely localized settings, to which he made only passing reference, a fairly representative body of mythology was obtained which, as Dr. Gayton has recently shown (Gayton, 1935, 588, 595), is predominantly of a Great Basin character. Animal tales are all-important; cosmographical and cosmological material relatively simple and contains accounts of flood, earth diving, impounded game, death controversy, transformation of first people into animals at end of mythical age, and 2 motives as yet unreported among neighboring tribes, one of Eagle hoarding water and another of division of labor (p. 53). Fairly large number of myths relate to adventures of first people; there is also a long Coyote-trickster cycle, a few hero myths, and a short collection of "true" tales, together with some anecdotal and historical material in collection made by Dr. C. F. Voegelin and myself, which supplements Dr. Voegelin's published textual material (Voegelin, 1935 b).

Reference has already been made in section on Recreation to social setting in which narration of myths occurred.

SHAMANISM

Shaman (a·ẓowa·l, curing shaman, witch) either man, woman; male shamans both cured and witched; women shamans always malevolent, never cured (all informants). Transvestites not shamans. Two brothers, Jose and Bill Viejo Chico, both dead, last male shamans among Tübatulabal; Jose Chico both cured, sickened persons; Bill Viejo, who had more power than Jose, mainly killed people (SM). In 1932 there were 2 women witches, whom everyone feared, living at Onyx rancheria.

Basis of shamanistic power.- Shamanistic power (po·nun) generally came unsought; "a person was born a doctor; when he was born he knew he was going to be one. He dreamt about getting the feather-tipped wand (see below); then he went far away and got it. If a man was not born a doctor, nothing could make him one. Some people were born bad doctors; they couldn't help it" (MM). "A doctor, when he was little, dreamt bad, then he became an a·ẓowa·l"(FP). Consensus of opinion was that drinking jimsonweed had nothing to do with acquiring shamanistic power; however, SM in 1932 stated that shamans drank jimsonweed after adolescence, "then they knew they were going to be doctors. The Kawaiisu doctors just dream; they don't take jimsonweed." As questing for supernatural power other than doctoring, by taking jimsonweed, well developed (see section on Rituals), perhaps drinking of jimsonweed had also become incorporated to some degree in pattern of acquiring shamanistic power, although statements of majority of informants point to conclusion that shaman's career foreordained, whereas acquirement of other types supernatural power depended on individual's initiative.

During shaman's training, animal appeared to prospective doctor in dreams and became doctor's pet (puŋgul). This animal fell into general class of supernatural beings referred to as yu·mu·gi·wal. Pet told prospective doctor what to do; gave latter songs in his dreams at night. Doctors dreamt for 3 nights; began dreaming when young men, women. While training they would go out in night and talk to pet; sometimes latter came to doctor "from over the ocean" (MM) after night of singing, when doctor in his teens.

Doctors with power to cure had birds as pet; eagle, tugayayal (species of hawk), chicken hawk, etc.; no small birds. If prospective doctor saw deer in dream, obtained song from deer. Witches advised in dreams by coyote, spike buck, ghost of dead relative, rattlesnake; one of these talked to prospective witch in dreams, told him, her how to make people sick, kill them. Songs animals gave had words, were doctor's property (see section on

Aesthetics). Other animals as wolf, lizard, hummingbird, frog also helped witch in actual practice of craft (FP).

Although inheritance of shamanistic power in family lines denied by SM, FP pointed out that among Tübatulabal all shamans for past 4 generations had belonged to one family; Jose Chico, Bill Viejo Chico, 2 brothers, both shamans; Jose's daughter, makiawint, was witch; 2 of Bill Viejo's daughters are witches.

Witchcraft.- All illness, insanity, caused by evilly disposed shamans; "if there had been no a·ẓowa·l, people would have lived forever" (SM). Instances of witchcraft legion; witches killed young children with their power, "if they wanted to give the parents hard luck"; often killed close relatives, parents, siblings' children, for what reason unascertained. Bill Viejo Chico announced at fiesta he was "going to kill all the children"; other instances witches boasting of power openly, threatening victims referred to. In 1933 witch held to have caused death of Tübatulabal woman's son so that mother of dead man would have to pay witch for having her face washed before she could eat meat.

Shaman practicing malevolent powers went out to mts. and talked to his animals; animals went to prospective victim, spoke to latter in dream; next morning victim would be sick, and illness would increase daily, because witch talking to animal every night, thus causing victim to "dream bad." Examples of bad dreams were: MM dreamt he was cow, pursued by bull. He climbed tree; while in tree he changed into human form, saw bull, also as human, at foot of tree. Then both changed again into animals; bull gored cow's leg. Immediately after having had this dream MM became very ill. If he had dreamt bull killed cow, he would have died. SM dreamt rattlesnake bit him; this dream also sent by witch. Several other examples of bad dreams recorded (see Autobiography of FP; Voegelin, 1935 b, 215). In general, to dream of Coyote portended misfortune; Coyote witch's helper par excellence, often sent to make persons ill. If one dreamt Coyote bit one, sickness followed. To dream of witch injecting pain in certain part of body caused that region to become affected. To dream of witch, even though witch did not send dream, enough to cause illness.

Witches might also send ghost of dead relative, traveling in dust spout as among Miwok (Merriam, 1909, 433), to sicken person; "the whirlwind strikes one, enters one's head, and one dies" (SM); FP had this happen to her. Lights, which could be seen traveling fast at night, sometimes sent by witches to look for victim; MM, from home in foothills, some 25 yrs. ago, saw 2 lights racing over floor of valley; lights approached gate of rancheria, retreated. Capture of person's soul by witch one cause of insanity (SM). Air shot, such as used in shamans' contests, not used by witches to sicken victims.

Besides foregoing practices, witches might also use poison (mušmal); one of witches at Onyx rancheria said to possess poison which she obtained at Tule from Yokuts, among whom poisoners active (Gayton, 1930, 390); FP mentions 2 cases poisoning in her autobiography and blames Tule River Yokuts for both. Poison used is obtained from plant and is not exclusive possession of shamans; it is administered in food, which makes people loath to accept food from strangers (SM).

Ghosts sometimes put hair, tiny pebbles in food when people ate after dark; this also caused sickness.

Various preventive measures taken against witchcraft; SM swallowed tobacco and lime every night to induce vomiting so that he would not have bad dreams. Person who dreamt of coyote, rattlesnake, went out into canyon early next morning, made speech to creature, upbraiding him, and blew bad dream away (Voegelin, 1935 b, 217). Some persons took jimsonweed, etc., to obtain supernatural power against witchcraft.

Various attempts made to overcome effects of witchcraft; relatives of sick person often made direct threats to witch; when RP sick, her brother went to witch at Onyx, told latter, "If you don't cure my sister I'm going to do something to you." Witch took RP out in bushes, threw ashes over her, talked to her pet and told it not to make RP ill any more; RP recovered. FP's husband made similar threat to witch. MM said relatives of sick person paid $10-20 to witch sometimes so that latter would stop sickening patient; FP corroborated this, SM said only threats used. Medicinal herbs also administered to restore health (ante); if these failed, or in violent illness, services of curing shaman engaged; actual practices of such detailed below; shaman might or might not tell patient who was bewitching him; if witch a relative of shaman latter loath to tell, might advise patient to move away from house. If curing shaman told patient who was witching him, and latter's relatives threatened witch but to no avail, shaman might make witch come to see patient and effect cure; witch cured by blowing sickness out of patient's body, using feather which he waved back and forth. Evil shamans who could only bewitch never sucked out pain in curing a victim, as other shamans did, because if pain sucked out it would enter witch's body, cause his own death, he not being powerful enough to remove it.

If witch refused to cure sick person or stop malevolent practices, patient's relatives, after obtaining chief's sanction, often killed witch. Evil shamans both sexes treated thus; if sister of chief a witch, chief would talk to her, warn her to stop her evil practices, but if she did not he would order her killed (SM). Murder of witch might be accomplished by one or several individuals; witch might be lowered over cliff (see Autobiography of FP), shot; Bill Viejo Chico bound with hair rope, tied to tree, burned alive. In

1930 plan hatched to kill woman witch; woman chosen to accomplish killing, but sheriff interfered.

Curing.- Curing shaman began using his power to diagnose, suck out disease when approaching middle age. Curing performance constituted all-night ceremony which began after dark; held either in doctor's house, if patient came from distance, or in patient's house if doctor had been sent for. Ceremony open to all who wished to see it; doctor began by singing; some doctors blew puffs of tobacco smoke over patient at intervals, or waved feather-tipped wand over patient while singing; others used plain stick, pointing it at affected spot in patient's body as they sang. In song, shaman called on deer, who came to see patient; "no one except the doctor could see that deer (tohi·l, ordinary term for deer). When the doctor saw deer starting to come he'd sing, 'He is coming, way over the mts.; he is coming close now.' Then he would go outside of the house and Deer would come up to him. Deer gave him something; then the doctor returned to the house. That deer came from Mt. Whitney. After Deer had come, the doctor sucked out the pain from the patient, in the early morning. Only good doctors knew the deer song, and it was the only one they used in curing. When a doctor had sucked the pain out of a patient, he would fall down in a heavy stupor, sweating all over; then his power would help him get the pain out of his own body, and he would show the pain to the people" (SM).

Doctors did not cut before they sucked (all informants). Sometimes doctor would put piece of jimsonweed over eyes in order to see who was causing patient's illness. When they learned who witch was, they exhorted evil animal sent by witch not to molest patient and thus "sent the animal away" (SM). Most of anecdotal material collected concerning cures had to do with activities of non-Tübatulabal shamans; one curing performance by Jose Chico described briefly in FP's autobiography; several performances by Kawaiisu shamans referred to by FP.

Disease objects either animate, inanimate; MM had had "something black, that looked like a spider, 3/4 in. long, with lot of legs that wriggled as though the thing were alive" sucked out of knee, together with blood; sometimes dry blood, small stone sucked out, or lizard-like objects.

Besides being able to cure, good shamans "knew everything" (SM, FP); could divine guilt; locate lost objects; they always knew beforehand when patient was being brought to them (see Autobiography of FP). Sometimes shamans instituted new customs, as when MM's wife, an Owens Valley Paiute, told LT that Owens Valley Paiute shaman had said not to burn clothes that were dirty or worn out, in owner's lifetime, but to have them buried with owner at time of death; LT acted upon this advice and kept pitch-covered clothes she had worn while gathering piñons.

Fees paid to shamans for doctoring range in American currency from $10-50; formerly equivalent amounts paid in clamshell currency. "If a doctor is paid too little, instead of curing a patient, he makes him sick" (FP). Relative of patient pays shaman before curing commences; fee not returned if treatment unsuccessful. Considerable borrowing often occurs between relatives if someone is taken suddenly ill and requires immediate shamanistic treatment.

Weather shamans.- Although SM asserted Tübatulabal formerly had own weather shamans (paha·m), all my material relating to this type shamanistic activity concerns performances of Chumash, Kawaiisu weather shamans. SM's stepfather, Chumash from Tejon, had practiced weather shamanism until part of his outfit (taŋganišt) was stolen from him; this outfit consisted in part of white quartz crystals used for making thunder showers in summer and black rocks for winter rain; these kept in striped fawnskin sack, in dry place. Besides, rain doctor used steatite pipes with bird-bone mouthpieces, small steatite bowls (pl. 1a), dew-claw rattle. To make rain, 4 old men and weather shaman sang for 3 nights; during day singers abstained from meat, eating only acorn mush and seeds. At end of 3 days rain doctor took outfit outside and delivered esoteric speech, alone. Then he brought rocks in and it rained. FM said his mother had seen snow made in summer by weather shaman. One rain doctor said to have "hollered 3 times; a cloud came up and it rained right away" (SM). Loraine (Kawaiisu) rain doctor MM knew had "little round thing" (stone?), which he sprinkled with water, sang over. If he had ever put rock in water, "he would have flooded everything" (MM). Bob Rabbit, Kawaiisu rain doctor, has notable reputation among Tübatulabal; "one time when Bob Rabbit was away from home, some hungry boys broke in and stole his meat. He returned, found what had happened, and was so mad he made loud noises in the mts., and then rain, in 20 minutes, although there were no clouds in the sky when he began" (FP).

Rain doctor not paid for services; "he just made rain lots"; however, when women went to gather cane and rain doctor made shade for them, women gave him some of sugar they made from cane; same applied to women out seed gathering. Bob Rabbit, Kawaiisu mentioned above, "won't make rain now, because the white people won't pay him to do it" (FP).

An interesting extension of rain doctor's activities as SM knew them from his Chumash stepfather, briefly described. At new moon, in month "when icicles dropped from house" (January), rain doctor filled little black stone bowl with water and planted whole acorn, chia seeds, every other kind of seeds in this bowl and left it inside his house for month; "he did this to make all the seeds grow well that spring. He talked over these seeds, the same way that he talked when he went outside to make rain."

Among Tübatulabal, rain machines sometimes buried at owner's death (SM); SM, however, had expected to inherit his stepfather's outfit, before key part of it was stolen, and be taught songs which accompanied its use; what remained of outfit SM had, in 1932, in his possession (pl. 1a).

Bear shamans.- Bears feared, respected (Voegelin, 1935 b, 215, 219); Bill Viejo Chico, shaman, boastingly said when he died he would turn into bear (PN). Bear shamanism, however, only weakly developed; if man took jimsonweed he might obtain bear as guardian animal, receive song, amulet, such as bearclaw, from bear; one man, who died at Ventura (Tübatulabal?), took jimsonweed, obtained bear song, which he sang at night in sweat house while among Tübatulabal (SM). FP said man with power from bear cured people by singing, smoking; never sucked out disease, but kept patient with him all night. All informants agreed persons who obtained power from bear never dressed like bears nor changed into bears.

Bear shamanism, strongly developed according to my informants among Chumash, was, however, of great interest to Tübatulabal. SM had heard from grandfather of prowess of Ventura bear shamans, who used dried bearskins which were stored in cave N of Tejon. "When they got mad at each other they used to kill persons with that bearskin. Somebody would go over and tell the man who had the bearskin to tell the bear to kill a certain person. Then the owner of the bearskin would talk to it; the bear had sharp black obsidian knives at his elbows and would grab a man, slash him and kill him. When they first made that bearskin, no one would tell when he saw it, because if you told, the bear would kill you. The Tübatulabal didn't do this; just the Ventura Indians" (SM).

Chumash also had peculiar development of bear shamanism which Tübatulabal were aware of but did not imitate; this consisted of "bear machine" which SM's grandfather had told him about, but which SM had never seen. To make machine run, Chumash used white powder (ayi·p, alum?) which they obtained in Tübatulabal territory. Since so little is known of Chumash ethnography, SM's description of Chumash apparatus and its use is given here in full. "The Ventura Indians used a bearhide and made it run like a car. When the old men made this machine they tried that bear. They came over here (to Tübatulabal area) and got white stuff that looks like flour, from a place 10 mi. above Bull Run creek. An old man put the white powder in his mouth and sprayed it out over the bear, talking to the bear all the time. That bearhide was standing up, like a real bear. It had 2 reins on it, like a horse; when the driver wanted to turn around he pulled a rein. He was sitting inside the bear, on a flat rock; he looked out through the eyeholes. They traveled at night only, and made bear sounds as they traveled. The driver talked to the bear as the bear walked; he went fast; the bear could run as far as that rock (200 yds.), turn around, and be back, very quickly. The driver stood up, then sat down when he pulled the reins; he growled. He started from here at sundown and got to Tejon in 2 hrs. (50 mi. away in airline); whenever they wanted to go some place they'd go over and get this bearskin; it was kept hung up. One old man took his grandson, who was about 17 yrs. old, over to the cave where the bearskin was; he wanted to teach him how to drive it. The old man got inside the bear, and was telling the boy how to handle the reins, and the boy was watching him. The old man told him, 'When you want to start it, you step on this; when you want to turn, you pull the reins.' The boy went inside the bear and sat down; I guess he stepped on it too hard, and that bear jumped quickly and ran away. He ran into a steep canyon and jumped into a big oak tree; he got stuck in it, hanging there. The boy got off quickly; he was frightened. They always came up here for that ayi·p, that white stuff like baking powder, to blow on the bear. They made lots of these machines; 10 of them."

Rattlesnake shamans.- Rattlesnake sometimes obtained as pet by vision seekers; persons who had this pet could play with rattlesnake; "at a fiesta they danced and held snakes in their hands; they got a song from rattlesnake, and he wouldn't bite them after that" (SM). "One man had rattlesnake as pet; when anyone was bitten he was called and sucked out the poison. When that man was dying the people found his pet outside the door; they threw the snake away, but he returned" (MM).

SM thought rattlesnake good pet to obtain, but denied persons with this pet could cure snake bites; FP said rattlesnake "a friend to witches"; one of animals witch could send out to accomplish evil. All informants agreed no rattlesnake stepping ceremony held, as among Yokuts (Kroeber, Handbook, 504); SM's brother had seen Yokuts shamans go to rattlesnake holes, bring back snakes, handle them publicly; Tübatulabal did not do this. Anecdotes of persons who had rattlesnake for pet mainly relate to Yokuts who were living among Tübatulabal (see Autobiography of FP); PN, who had rattlesnake as pet, married to Yokuts man; FP, whose intertribal affiliations were with Koso toward E, held rattlesnake in low esteem (above).

Exhibitions, competitions.- At mourning ceremony, or little fiesta for face washing (below), shamans, or persons with power from vision (takiniganan) held shooting contests (umu·lomot); "they played that way" (SM). Contest between 3 Yokuts, one Palagewan shaman, held on SM's rancheria, described as follows: "At about 9 o'clock in the morning, 3 Tule River reservation Indians and Bill Viejo Chico from Bull Run, with 4 men (o·wi·ganan) to help them paint, went out in the bushes. The contestants put on their feather skirts and headdresses and had their faces painted

in red and white stripes (see section on Dress and Adornment). Then they came back to a level place by the houses and Bill Viejo stood behind a little fire, facing the sun, with a basketry sifter (wa·t) in his hands. He was going to do the shooting. The Tule men kept walking and dancing back and forth, facing Bill Viejo, but about 100 ft. away from him. Bill Viejo held up his tray 3 times, pointing it toward the sun, then N, then S; then he held it over the fire twice and rubbed it with the palm of his hand. The third time, after he held it over the fire, he put it against his chest and talked, and as he talked he blew toward the other men, and in this way got the 3 men down. One of the Tule men was barefoot; he dug at the sole of his foot and got a lizard out of it that Bill Viejo had shot in it" (FM).

MM, SM, describing same contest, said Bill Viejo held sifter up after warming it and at the same time shot substance, paring from coyote's nails, or piece of coyote, rattlesnake skin, into each opponent in turn; as Tule men were shot, they fell down, became stiff; each man's assistant and woman took fallen man away, laid him under shade; if his power strong enough he could extract shot himself, but if he had insufficient power, shooter had to extract it. Sometimes man remained unconscious for all of 30 minutes, but no one ever died. After being shot men sweated freely, even though day cool. If shooter shot, missed opponent, spectators standing near by not in any danger being hit (Voegelin, 1935 b, 229).

Although most of informants said this was doctors' contest, SM affirmed that not only shamans, but persons having power from visions entered such contests. He related following anecdote as illustrative of power of air shot used in these contests:

One white man saw that sort of play at Tejon; in a fiesta the takiniganan were playing that game; the white man saw when they shot each other.

"Oh," he said, "you just do that; we don't believe it."

They told him, "If you don't believe it, you go and stand over there; we're going to try you out."

The white man said, "You wait; I'm going down to my ranch; I'm coming back Sunday. You wait for me here." And that white man returned on Sunday; another white man came with him; he was going to take care of him, I guess.

The Indians said, "What are you going to do?" to that white man. And that white man put a steel vest on under his shirt.

They asked him, "Are you ready?" and he said, "Yes," and got off his horse. They told that white man to stand about 300 ft. away, under a lone oak tree. He walked over there and stood there, thinking; suddenly he told them he wasn't going to stand there. He was frightened; he returned to them.

The Indian who was to have done the shooting said, "You watch me; I'm going to shoot that tree." He held a sifter in his hands and shot the tree. When he hit the tree, there was a loud noise, as though a bullet had hit it. He broke the limbs off the tree. And then that white man believed them.

MAGIC, PORTENTS

Magic.- When cloudburst threatened, MM talked to clouds quietly, telling them, "I'll blow you away; go away," at same time blowing gently. Any loud noises made at such time may cause rain. Bad dreams also blown away (Voegelin, 1935 b, 227).

To throw trap-door spider (hi·lo·giš) in water likewise caused rain; as boy MM had put such spider in pond; old men fished it out, buried it in dry place; that afternoon it rained, but not heavily; if spider had been left in pond there would have been cloudburst.

Boy, young man never ate first kill of deer, rabbits, birds, etc.; boy's father put piece of meat from son's first kills on ant hill 3 times for ants to eat; this made boy good hunter.

Although belief that like causes like is implicit in foregoing examples of magic, principle does not seem to have been extended into realm of black magic. That it did, might be inferred from myth taken in text (Voegelin, 1935 b, 193) in which it is detailed how keeper of hoarded game, angry at Wolf's scattering his deer, sang all night and put Wolf's fur on the end of his staff, then took the fur and threw it into fire. This might well be interpreted as an instance of use of black magic against Wolf. However, in an English version of the same tale, told by same informant, MM, the episode was explained thus. "When he (keeper of game) sang, he swung that stick on top of the fire; when he stopped singing he looked at the end of his staff, but there were no hairs on the end save Wolf's hairs. And he picked up Wolf's hair and threw it into the fire; he was angry; he was looking to see if there were any deer hair on that staff, because if there had been deer hair on it, it would have meant that the deer had all returned to him. He didn't like to see Wolf's hair on it" (C. F. and E. W. Voegelin).

Portents.- If person sneezed suddenly, he knew someone was talking about him (SM). To hear quail calling after dark sign something bad happening, as person, animal being bitten by rattlesnake (SM). If person starting out on trip saw a coyote, he turned back, postponed trip until next day, to avoid misfortune (MM).

When trap-door spiders came out of holes, it was sign of rain (SM). To dream of killing deer meant dreamer would kill human being (MM; Voegelin, 1935 b, 217). Man who had killed, skinned deer left spot without looking back; if he did turn around, he would see deer where he had made kill, which meant he would not live long (MM). If person

in jimsonweed trance saw another person lacking eyes, nose, leg, etc., it meant latter was going to die. This was why onlookers were afraid of person under influence of jimsonweed (FP). When person swallowed ants, number of ants he vomited foretold how long he would live.

RITUALS

Three rituals important among Tübatulabal: taking of jimsonweed to gain supernatural assistance, face washing to remove meat taboo, and mourning ceremony.

Jimsonweed.- All boys, girls past puberty urged to drink jimsonweed decoction in order to obtain long life (ho·nun), but rite not obligatory; "if they wanted to, they took jimsonweed; some were afraid to take it. Maybe if they didn't take it they'd die, when sickness came" (SM). Adults also drank jimsonweed to obtain visions; some persons took it several times.

Group of 5-6 boys, or boys and girls, who were to take drink were put in charge of old man, who took them into sweat house on winter evening, kept them there for 3 nights, days. No speeches made to young people during this time (SM); each morning they were given infusion of plant medicine to induce vomiting, and underwent same dietary restrictions to which person taking jimsonweed for medicinal purposes was subjected.

During morning of third day old man in charge dug jimsonweed roots; before digging them he addressed plant, saying, "Here I am digging you now; I want you to give these people something when they drink you, so they will have long life." Women never dug roots or administered drink. After roots dug, old man macerated them with round flat stone on metate, put them in large watertight basket filled with water and allowed them to soak for 10-12 hrs. In evening he strained off liquor into cooking basket; around sunset gave it to vision seekers to drink. If 6 persons drinking, about 2 gallons decoction prepared, each person taking one long drink. Decoction caused drinkers to fall into stupor which lasted until about midnight or longer; SM said they were not turned during sleep; FP said they were. When they awakened their eyes "were all red and watery."

Visionaries fasted entire day after drinking jimsonweed; in 6 days considered to have recovered from effect of taking drug, and could by then drink thin acorn mush; refrained from eating meat or grease for 2 months.

Individuals, either adults or young boys, girls, fasted, drank decoction, either in their own house or in open, in foothills. Often father gave jimsonweed to son or daughter thus; women did not administer the drink.

While visionary in stupor induced by drug, various animals appeared to him; one such might speak to him; this animal then became visionary's pet (puŋgul) or life (ho·nun; also used for charm). Not every person who took jimsonweed obtained pet. Pets might be eagle, chicken hawk, prairie falcon, duck with twisted bill, any variety fish, rattlesnake, bear, mt. lion, deer, antelope, rabbit. Person shared attributes of his pet; if fish obtained, could "swim all day and never be tired"; if deer, rabbit, "one could run fast." Mt. lion good pet to obtain; one "had to go to the mts. to get mt. lion; then one would be strong, like a lion" (MM). Coyote not good to have as pet, "because he belonged to bad doctors." Deer, bear, rattlesnake, best pets (SM); deer also curing shaman's pet. Ghost best sort of life to obtain; person having ghost of dead relative as his life "would never die; one man took jimsonweed and saw a ghost who talked to him; he had that ghost as his honun" (SM). Ghost not referred to as one's pet. Bulls, cows, horses never obtained as pets.

Person might have 2 or more pets simultaneously; MM said person could not kill or eat any species of animal he had for pet, but SM, FP denied this, except with respect to bear. Pets not inheritable; each person had to obtain his own. Identity of pet kept secret; "if person talked about his pet he wouldn't help him" (SM). Deer, bear gave songs; other pets did not; deer song not same as deer song shaman used in curing; persons with deer, bear songs sung these at night, softly, while sweating. In sickness person might be visited by his pet, cured by him. All pets, when they talked to visionary, instructed him how to make, obtain amulet (takinin), such as bear's paw (p. 65) or haliotis pendant (Voegelin, 1935 b, 193), which visionary kept secreted about his person, guarding it carefully from theft, loss; this amulet endowed with magical properties, made its possessor invulnerable against misfortune, hunger, many forms witchcraft. "A person with takinin didn't need to go to a doctor to be cured; often he could cure himself" (SM). Person sometimes helped others with his takinin (see Autobiography of FP); loss of one's amulet meant loss of supernatural power; its efficacy could also be exhausted by use. Power inherent in amulet related directly to original owner; out of his or her hands amulet not powerful object.

Youths of about 18 or more also took ants to gain power; SM said younger women did not take ants, not being strong enough, but FP had been given them. Taking of ants individual matter; done in wintertime; youth fasted as for jimsonweed; on third day was taken into sweat house by either of his grandfathers and about 7 balls of eagle down, each containing 5 yellow ants, given him with water, "like pills." When boy's eyeballs turned red person administering ants knew he had had enough, and shook him so that ants would bite him inside. Youth then fell into stupor which lasted all day; usually regained consciousness in evening; next morning was given hot water to induce vomiting; "the ants came out alive, in those

little balls." In evening grandfather took youth outside, questioned him about what he had seen in trance; boy told old man what life he had obtained, if any. All youths could take ants thus; "many of them did" (SM).

Youths of 16 or more also fasted single day, in evening swallowed small ball of tobacco and lime, either in sweat house or outside in hills; sometimes animal appeared to seeker, became latter's pet (SM). FP said younger women also took tobacco for same purpose.

Face washing.- "Little fiesta" or face-washing ceremony (hu·yu·di·l), lasting one day, held by certain survivors of deceased person before they could eat meat (see section on Cycle of Life); survivor asked 1-3 persons, preferably unrelated to him, often "somebody one liked" (FP), who lived in another hamlet, to enter into reciprocal face-washing (ta·gin) relationship with him or her. Mourner then announced to relatives, friends that on certain day he would eat meat; on morning of this day all people from various hamlets assembled at his house. Baskets full of shell money were put on display near mourner's house; during morning "all the people gathered around, and an old man spoke to them, telling them so and so was going to eat meat; then that person's face was washed by his ta·gin, in plain cold water. After that the jars of money were handed over to the ta·gin, who might be a man or woman, or a married couple; they took them, then all the people and the person giving the fiesta had a big dinner, and ate meat" (SM). In morning, or after feast, games played; shamans might hold contest; toward evening people went home, or danced at night "if they wanted to"(FP).

Ta·gin relationship reciprocal; a person who had paid to have face washed "went over and got his money back" from his ta·gin when death in latter's family obliged him to have his face washed. Subject of this second face washing paid amount equivalent, at least in theory (below), to sum he had previously received; sometimes he added "a little bit more" (SM).

Some mourners had faces washed within 2-4 weeks after death of relative, others "did not eat meat for one year" which FP thought was "awfully long; I don't see how they did it." Sums paid for face washing varied; after her husband died FP ate only beans, potatoes, piñons, acorn mush for 7 months, then paid cousin $50 to have face washed; received $30 later for washing this cousin's face after latter's husband died; "I guess she was short of cash that time" (FP). When 2 of Louisa Salazar's children died at Onyx, Mrs. Salazar paid Petra Miranda $50 to have face washed; in 1932 when Mrs. Miranda's son died, she paid Mrs. Salazar $50 in return for same service. PN had paid $80 to have face washed after husband died; SM's son Feles, same amount after his wife died; SM said that formerly chief or dancer might pay equivalent to $100 in clamshell currency for facewashing, whereas FP, FM mentioned lower sums, $5, $6 or "whatever one had."

Money received in ta·gin relationship spent "to buy meat, things like that " in interim before death in recipient's family necessitated repayment of equal sum. After death in family man "would go hunting, sell the meat, and get some money; his relations would help him out with gifts of money too, so he could get his face washed and eat meat" (SM). If person had 2 deaths in family, with only short interval elapsing between them, he had to observe 2 separate meat taboos, have face washed twice. Person could be ta·gin to as many other persons as he cared to be; "often this happened; the chief was often ta·gin for a lot of people, but not for anybody in his hamlet, and people didn't have to go to him" (SM). Child of 4-5 yrs. would have to have face washed if one of his brother's or sister's adult children died; would pay as much as adult for face washing. If 2 or 3 persons came under meat taboo following death of relative, they all had faces washed at same time, contributing equally to amount paid facewasher, with whom all entered into ta·gin relationship. If one's ta·gin died before one had been able to collect reciprocal payment from him, offspring, or other relatives of deceased not obliged to carry on any ta·gin relationships deceased had entered into.

After having face washed widow let her hair grow, could remarry.

Failure to observe meat taboo implied disrespect to dead, as it meant one was eating corpse. Breach of taboo might be avenged by witchcraft on part of relative of deceased; woman cited (p. 80) who after husband died ate meat without having face washed; as consequence she was bewitched, killed by her mother-in-law. Witchcraft, it might be noted, also entered into other phases of this taboo; if person's ta·gin was witch, latter might kill person's children, "to get her money back." Normally, however, persons in ta·gin relationship "treated each other like brothers," did not borrow money from each other; one basis of selection of ta·gin was that person chosen have "lots of children," because the person paying for face washing would be interested in question regarding "when he was going to get his money back" (SM).

Owens Valley Paiute and Yokuts of Tule River reservation said by informants to have this same ceremony; Kawaiisu, Koso lack it (FP). Owens Valley Paiute head washing, similar to Tübatulabal face washing, described (Steward, 1933, 298); several features of Yokuts meat taboo correspond to Tübatulabal practice (Kroeber, Handbook, 499).

Mourning ceremony.- At face washing mourner announced when he or she would hold "big fiesta" or mourning ceremony (mu·yil) to burn image, possessions of deceased person. Property of dead burned so deceased would have it in land of dead; "if the relatives failed to burn enough of a dead

person's things, the ghost would return every night, looking for his things, and frighten the relatives when they went outside after dark. But if all a dead person's things were burned, the ghost would never bother people" (SM).

Mourning ceremonies lasted 7 days, were usually given in summer, during July, August, 1-2 yrs. after death of man, woman, child for whom they were held. They were made for particular individuals; "other people didn't mourn their dead then, they had to wait, and give their own fiestas" (SM). Spouse, parents of deceased gave ceremony; chiefs, prominent men, wealthy women were mentioned most frequently as undertaking it, although ceremony was not formally restricted to such; "not everyone who died had a fiesta made for him; if his relations didn't make one, they buried all the dead person's things right after they buried the body, instead of saving them to burn" (SM). Kroeber (Handbook, 609) gives Anangat as name for mourning ceremony; SM said anaŋgat was "never the name for anything; it means crying"; crying or wailing was of course part of ceremony.

Mourning ceremony given ca. 1870 by Elemgil, Palagewan chief at cuhka·yl. after death of wife, described by SM. "When Elemgil made a fiesta, he told his messenger to go tell everybody; Dick went to the Monilabal at Tejon, Porterville, and to the Kawaiisu, and told the people to come to cuhka·yl. Before the fiesta began, Kawičina, the dance manager, told the boys to make a brush enclosure for the people to camp in. Some of the Monilabal and people around here went over to cuhka·yl in groups; before they got to Elemgil's the men who had feather headdresses put these on, and then they lined up in single file and the line advanced like a snake, the men singing and hollering. When they got to the enclosure, men, women, and children lined up straight; the men and boys did a piston-rod step, lifting one foot in front of the other; the women walked sideways. Kawičina stood in the middle of the line, calling "take·e·e·" to Elemgil; he was calling for money. Then all the people went in the enclosure and 2 men clowned, to get money; one man put ashes all over the other man's face. Elemgil brought his money out; the people held out their hands and he gave each person a 10- to 12-in string of beads.

"After that Kawičina showed the people where to camp (fig. 15). The fiesta lasted 6 days and nights; Elemgil supplied all the food for the people and hired girls to cook; his relations and friends helped him; they brought food, piñons, rabbits, seeds, anything. None of the visitors brought food; they were there to eat.

"At night 2 male dancers (muluwin) dressed in feather skirts and feather headdresses, danced; they just lifted one foot in front of the other, and went around the fire inside the enclosure, slowly. Four old men (iyanibupïl) sang for them and rattled split-stick rattles. Some women would dance too, apart, not holding hands. The dancers held the dead person's clothes in their hands, and they cried as they danced. Elemgil or his relations, or anybody, would pay the singers and all the money was put in a pile near the singers; it was divided between the singers and the muluwin the next morning. When some other people wanted to dance, the first dancers quit, and the others would dance, all night, until daylight. If some of the women didn't want to dance, the muluwin would go over to them and pay them to dance. The muluwin had black stripes painted down their faces; the women had red dirt daubed on theirs.

"Grown people and children watched the dancing; the messenger tended the fire. Elemgil looked on every night for a little while, then he'd lie down and go to sleep. Some people would be playing handgame, too; men and women would play; the Monilabal women played handgame a lot.

"In the daytime they'd play dice-and handgames and the hoop-and-pole game; maybe doctors or persons with power would shoot each other (see section on Shamanism).

"They kept up the dancing for 5 nights; on Sunday Elemgil made a tule image and they burned it, before noon."

Describing another ceremony, held by a woman for husband who was a dancer, SM said: "The people danced for 6 nights; on the 7th night some men dug a round hole, put in lots of wood and made a big fire. They took the dead man's clothes, and feathers, and made an image (a·na·wišt) of rags (formerly tules), with feathers on the head, and a feather skirt on it; they put this doll on a long stick, and when they were ready they called to the people to come see it, and lots of people went over. Then the people lined up; 2 men at the head of the line carried the doll, and 3 men coming behind them carried baskets on top of short sticks; other men carried a feather wand (tu·pïl) and bands of yellowhammer quills, fastened to the ends of sticks, and the dead man's belongings. The women lined up behind the men; the widow was in the rear, and threw lots of beads up into the air; boys and girls picked up the beads and kept them. The procession marched around the fire clockwise 3 times; everybody was wailing; then they threw the doll, the baskets, everything, on the fire. When everything was burnt they filled up the hole with dirt, as though they were burying a dead person. After the burning everyone went home."

No particular person carried the image, feather

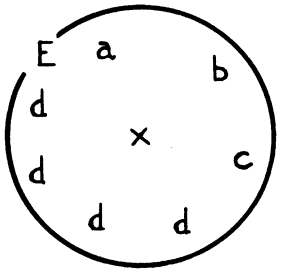

Fig. 15. Position of camps in ceremonial brush enclosure. E, entrance at NE; a, Porterville Yokuts; b, Tejon Indians; c, Kawaiisu; d, Tübatulabal and Palagewan; x, fire around which dances were held (SM).

wand, yellowhammer banners; "just anyone could" (SM). No songs sung during wailing. Chiefs attended burnings, but exercised no particular functions.

FP's account of burning held by her mother's sister, a Koso woman, at omomïp, did not differ in essentials from SM's accounts, save FP said all the men who danced were muluwin, wore feather skirts. Manager acted like clown; he was paid by giver of fiesta, as was Palagewan manager, and was "the big boss" at a fiesta. FP's uncle, Mouse, chief for Koso in e. end South Fork valley, attended this burning; "he told the people to dance; he also made speeches to the people, early in the morning; he went all around the camp, talking loudly, telling everybody to feed the people well, be kind to them." FP's aunt had bought 2 steers as part of provender, employed 4 cooks, whom she paid for their services. At the burning, held on Sunday morning, aunt threw beads, cotton goods, bags of chia seeds, piñons to people around fire; "the people fought for all that, they took it out of her hands. She was crying, loudly, when she threw the things away; people knocked each other down; Mouse kept order." Horse belonging to deceased loaded with beads, killed at this time; FP also said dog might be killed; PN agreed man's horse killed, but SM denied this was usual practice.

Kroeber says invited chief had charge of burning at climax of fiesta, that his people gathered wood, tended fire, burned image, washed faces of mourners afterward, etc. (Handbook, 609). SM denied these statements; said that it was true that at Elemgil's burning Yokuts man employed as messenger, but that latter lived among Palagewan, and that Elemgil invited Yokuts to burning because "he went down to Tejon a lot, and knew the people there." Kawičina, the dance manager who had charge of burning, was member Palagewan band. Little Bill Chico, SM's predecessor, did not put burning in charge of chief from another tribe when he gave one; if woman giving fiesta, her son generally managed it for her. Tübatulabal stopped holding these fiestas around 30 yrs. ago; at present time, night before burial of corpse relations of deceased and all others who care to assemble at SM's house or at home of deceased, spend night in wailing; SM makes, decorates a cross, reads from Bible in Spanish.

Feather wand (fig. 16) carried at burning made from stick, 2 ft. long, wrapped with mud-hen feathers, with mt.-quail crests tied to tips of mud-hen feathers; surmounted with 2 eagle feathers. Wand tied on end of long stick, borne aloft in procession by "any man," then thrown in fire. "These were always carried at burnings" (SM, FP); why, no informant knew.

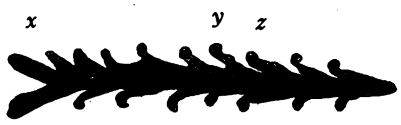

Fig. 16. Feather wand carried at burnings (x, eagle feathers; y, quail crests, z, mud-hen feathers).

Yellowhammer bands resembled Miwok band with jagged edge (Kroeber, Handbook, 590, pl. 58); better made than Koso specimen (ibid.). Such bands (wi·lat) worn by dancer around waist (FP); never worn as headbands (SM, FP); also carried on poles at burnings (SM), or hung on door of living house to keep ghosts away (FP); were made by men, bought by maker of fiesta for $2 apiece.

Dancer (muluwin) wore feather dance outfit, carried bunch of eagle feathers (ma·ša·wišt) tied around wrist, which he used to dust off women (see section on Chieftainship, Law, Conduct); some dancers wore hair woman giving fiesta had cut off in mourning; they tied it around both legs like garters.

Dance (muluwil) performed at fiestas similar to Owens Valley Paiute totshoid[u] dance (Steward, 1933, 321); line of women moved sideways right and left; men danced in same spot; muluwin danced around fire. MM, who had spent 16 yrs. among Owens Valley Paiute, called this dance "war dance" as it is called by Owens Valley Paiute, when referring to it. Among Tübatulabal this form of dance does not seem to have been of recent introduction; informants asserted it was old form, and not restricted to burnings; at dances made occasionally "just for fun," Tübatulabal danced "in 2 long lines of men and women, just like they danced at a burning" (FP). MM said this was "the only dance the Tübatulabal had," which is, of course, only partly correct. Several Koso, as well as Tübatulabal, dancers were referred to by my informants; among Koso dancers Juan Paiyote (p. 51), whom Steward's informants mentioned, was often alluded to, but never as person who had introduced this dance among Tübatulabal.

Puberty rites, bird cult.- Boys' puberty rites lacking, unless quest for supernatural power could be considered as such.

Definite adolescence ceremony for girls, which has been noted for Tübatulabal (Handbook, 607), may possibly have been practiced formerly among Palagewan, but SM, ES, FP, LT repeatedly denied any knowledge of such rites for either band. SM was only informant who once said girls were put on warm pit at first menstruation, as among Owens Valley Paiute (Steward, 1933, 293); MM was interpreting at time, may have been giving me Owens Valley Paiute information; subsequently with ES interpreting, SM flatly contradicted his statement of year before, said pit only used by women having babies. Absence of girls' puberty rites among Tübatulabal of interest in view of Kroeber's assertions that throughout California elaborate development of these rites "stands out conspicuously"

among ruder hill tribes and is absent, or dwarfed, among more specialized lowland tribes (Handbook, 609; also 7, 135, 861); although these statements may apply to other parts of California, they do not seem to be upheld by Tübatulabal data.

No traces of bird cult found, although eagles were kept in captivity in order to obtain their feathers.

Ghost dance, social dances.- None of my informants remembered anything about Ghost dance, or Jack Wilson. Two forms of round dances mentioned; one was war dance of incitement, the other similar dance with men, women dancing in concentric circles, women on inside; this was danced at fiestas sometimes (PN), but no dance was ever given in order to bring dead back to life (all informants). Massacre of 1863 (see Autobiography of FP) deprived Tübatulabal and Palagewan of nearly all their adult men and thoroughly cowed survivors; by 1890 majority of Tübatulabal had become Catholicised and plans were under way for granting each individual land; these plans were realized in 1893. Considering all these factors, as well as small size of group, there seems little reason to doubt informants' statements that neither Ghost dance of 1870 nor 1890 spread to Tübatulabal, although from their geographical position they might be expected to have had this dance.

Social dances sometimes given "just for fun" according to FP, although SM denied this; in summer such dances held outdoors; in winter, inside sweat house (PN), or dwelling house if latter large enough. Not customary to hold dance at end of piñon, acorn harvests (FP, SM), although people "could, if they wanted to" (FP).

Minor rituals, elements of ritual.- Several minor rituals have been referred to; they include weather shaman's treatment of seeds (see section on Shamanism), deer hunting ritual (see section on Basic Subsistence), offering of tobacco at eclipse, etc. At strange body of water, before drinking, person put small amount of eagle down on water and said to spirit living in stream (SM), "I am going to drink this water; don't make me sick." Offerings for minor rituals included tobacco, eagle down, shell money; seeds, meal not used. From context of informants' remarks eagle down not attached to ends of stick, although I did not inquire specifically about this. Offerings were left on bare ground which had been brushed clean with hands; no altars; formulas accompanied most ritual offerings.

Ceremonial structure for larger rituals and ritual dress have been mentioned; ritual apparatus simple (above). Ritual number 3; dancing proceeded clockwise.

AUTOBIOGRAPHY OF FP

The following autobiography was taken in English from FP, her daughter LT interpreting, in 1933. FP gave the autobiography within a space of 2 weeks; a day or so after our last session together she went to Bakersfield for shamanistic treatment; on the return trip she was run over by a car and killed.

When first asked to tell the story of her life, FP demurred, saying she "had never been anywhere, just stayed in the South Fork valley all her life." The autobiography she gave is little more than an outline, which she was beginning to fill in with increasing amounts of detail, however, during the last few days I worked with her.

For the sake of clarity I have arranged the material in chronological order; parts of it were not so dictated. A photograph of FP is given in pl. 1b.

An autobiography of MM, FP's husband's brother's son, the Mike Miranda of the following pages, was obtained in text by Dr. C. F. Voegelin (Voegelin, 1935 b, 223).

I was born about 2 yrs. after the soldiers killed all those Indians over at Kernville (1863); my older brother was still being kept in a cradle then and I was born about 2 yrs. later.

My mother used to tell me about the massacre; Jose Chico pulled my father out from those men and the soldiers didn't kill him; he ran away. There was one man who was shot in the eye, but he had power and recovered. Lots of men were killed. The fight started over the Indians' killing other people's cattle; Jose Chico interpreted for the white men and the Indians; he was the man who took my father out. There were 3 men saved when the soldiers shot at the Indians.

One man had an amulet, a bearclaw with beads on it. He was running and he got out of breath and dropped that claw; then he was killed. The people found it afterward. If he hadn't lost his power he would have escaped all right. Another man had rattlesnake for his pet. He was badly hurt; his insides were all cut up; when the people saw him after the massacre there was a rattlesnake lying on top of him, and that snake made that man get all right. Rattlesnake was his pet and took care of him. That man's name was hi·ay·ši·l; he was a Monilabal (Yokuts). He got all right again; my father saw him when he was helping bury those dead Indians; he saw that rattlesnake come and help him. PN has a rattlesnake for her pet, too; perhaps she got it from dreaming. She never took jimsonweed, I know.

I was born at omomïp (no. 6, fig. 11). My mother had 8 children; most of them died before they grew up. Three of my brothers died; all of them are dead now except myself; I am just left, one.

When I was a little girl I used to go with my mother to pack wood. She tied a rope over her chest and packed wood on her back; not too heavy loads. I liked to go with her to haul wood all the time. And I went with my mother over to the pit mortars and helped her grind acorns; that's what I knew how to do. All my other sisters stayed home; I only went. The boys would be playing at hunting rats, and the 2 girls cooked for them. Some girls didn't want to grind seeds or haul wood; they used to call me "old woman" because I did that. We would get up early in the morning, about daylight, and build a fire, and then my mother and I would go out. My father would be around the house working; he would go out and get a lot of quail.

There was one time when we were living over at cuhka·yl (no. 17, fig. 11) in a mud and brush house. That's the way the Indians used to do, they just moved all around; they'd camp under some willows, anywhere; they'd keep moving around all the time. A big earthquake came and frightened everybody. I was a little girl then, about 7 yrs. old; afterward my father used to tell me about that earthquake. I remember only a little bit; the springs got white, like milk, when that earthquake came. Everybody cried and went around shouting; there were lots of people living at cuhka·yl PN was living there then. We had to get water to drink from the river at Kernville; the water in the springs was hot and white, just like milk, for about 3 days. Nobody would drink it. I just remember a little bit about it; I know all the children were frightened and cried when the earth quaked.

After we left cuhka·yl we moved up where SM lives now, at yïtiyamup (no. 9, fig. 11). There were lots of people living there; 5 families. We just camped there in a brush house, and we had a ramada (shade) made from willows. Nobody owned that land then; we just moved around. We children used to play on the big boulders up there; my sister and I pushed a little boy down on one of the boulders; he fell down and hurt himself, and his mother was angry and quarreled with my mother. Then my father and mother got mad and moved up to the pit mortar bed near there; they stayed there 2 days; then we moved up to omomïp again. They all moved up to omomïp, all those people living that time at yïtiyamup; that woman who got angry came along, too. That's the way the Indians did; they moved all around, camping; they should have gotten land. And that woman camped at omomïp, too. We made a mud and brush house there, different from the ramada.

One brother of mine had died while we were staying down at yïtiyamup. We stayed at omomïp for 2 yrs. I was rather sickly; weak; I didn't feel good, all the time; my father told me to take jimsonweed. Everybody had supper over at our house; I didn't eat anything that whole day. After they had had supper everybody left, and about sundown, when it was getting dark my father said, "I'm going to give you this medicine. You'll be all right."

He gave me a big basket half full of the drink. I drank it all; it was bitter, o-o-o-oh! My father blew on a (quill) whistle, after he gave me that medicine. One old woman and 2 old men could hear him blowing, away off on the other side of the world.

After I had taken that medicine a white man came to see us. He said, "What's the matter with her?" I was outside there, walking around; I didn't eat anything. People walk around like that, heavy-footed, when they drink jimsonweed. I didn't know anything; I was "drunk." They told that white man they had given me medicine, Indian medicine.

"What are you giving her that for? You're going to kill her," the white man told my father.

"No," they said, "that's good medicine."

For about 3 days I didn't know anything; I just walked around drunk; they watched me, but I didn't know anything. I didn't see anything, except for everything running past me. Some people get power when they take jimsonweed, but I didn't. After 3 days I woke up; I was much better after that.

Just for fun, after we had stayed at omomïp for 2 yrs., we moved from there up to u·u·pu·lap (no. 4, fig. 11); all the people at omomïp did. We had gardens at u·u·pu·lap; we planted onions and potatoes. We put a long rope down and then planted the onions in a long straight line.

I became sick at u·u·pu·lap; my arm was bent and I couldn't straighten it. So I didn't eat meat for a month, then my aunt gave me red ants. She gave me half a baking-powder can full of little balls of cotton with live red ants wrapped up inside them. I hadn't eaten anything the day before my aunt gave me those ants. One time a man ate pinole, and then took ants and he died that night, because he had eaten that pinole. I took the ants in the morning and slept all day; then I woke up and everything was clear and bright. The red ants that are all around here now are the ones I took. I didn't eat any meat for a month; if I had, then when I took the ants, they would have killed me.

Those ants are good to take for a bad cold too, wrapped up in eagle down. When you take them you burn inside in your stomach, just like fire; you get hot inside; they bite you there, I guess. I slept all day the time I took ants; I was unconscious and I slept outside on the ground and rolled over and over in the dirt. My hair got all full of dirt; I didn't know anything. They gave me warm water to drink when I woke up that evening; then I vomited, but nothing came up except water. The cotton and ants had disappeared. I could straighten out my arm again. After that I just ate acorn gravy and a little bread; no meat or grease for a month.

One time when I was visiting my aunt up at Canebrake (no. 1, fig. 11) Piñon Joe's mother (a Koso) tattooed me. I was about Esther's age (FP's granddaughter, aged 12); we were playing out some place and the old woman took a spine from a bush that grows all over up there and made the marks on me. My mother didn't know about it until afterward, because she wasn't there. At first I ran away from the old woman; I didn't want her to do it, but she said those marks would look pretty on me. Then I said, "All right," and she made them. It hurt a lot. And then she rubbed in charcoal made from the wood of some sort of a bush. I tried to rub the marks off; I grabbed dirt and rubbed it all over my face and arm, but the marks wouldn't come off. They used to show on my face for a long time, when I was younger. Indians used to do that to make themselves look pretty. PN and Petra Miranda have those marks on their faces, too.

Two of my brothers died while we were at u·u·-pu·lap. The bad doctor, Old Bill Chico, killed them. He said when he got drunk one time that he was going to kill all the children, so later they burned him over at Kernville; they tied him with a hair rope and threw him into the fire.

When my brothers died my parents made a fiesta to have their faces washed; my mother cut off her hair down to her shoulders, too, when they died.

We lived at omomïp for awhile after that. Then some men went over on the desert and saw lots of ku·l (p. 15) over there, so lots of people from here went to get it. That was when I was a young girl, about 16. I went over on the desert with my grandma (mother's mother), to a place this side of Randsburg, on a hill. A lot of people went. There were 4 camps of people over there. We all went afoot, men and women. One little girl went with her grandma; the little girl was maybe 9 or 10 yrs. old. There weren't any babies taken; the women couldn't carry them. It was in the early summer, maybe in June. We took flour from omomïp; Bill Scodie had a store near omomïp where he sold flour and coffee and sugar and whiskey. But we ate all that flour up when we got over on the desert, so then we just had ku·l seeds and Mariposa lily bulbs and chia seeds to eat; we ate all those. There were lots of box-thorn berries over there, too; we gathered those. And lots of Mariposa lily bulbs, big ones that we peeled a little and then boiled. We'd get half a sackful. The Mariposa lily bulbs over here are little and sweet, but those over on the desert are big.

That little girl who went over there used to grind ku·l seeds on a grinding slab. She was little, and everybody stood around watching her, all the people; she cried then, because she was ashamed, I guess. Her grandma told her it was all right, and not to cry.

We ate rabbits and ku·l and chia seeds. There was nice water there, cold. We made a shade from greasewood brush; not a ramada, but a shade with a single pole sticking up out of the ground and another pole leaning against the first one in the fork at the top; then we piled greasewood on both sides against that slanting pole (as in

Gifford, 1932 b, pl. 3b). There were 4 camps over there that time, each a little distant from the other. We used to work early, before sunup, grinding that ku·l. One man killed doves, lots of them, at a spring. He made a little brush house and sat inside that house; when the doves came to get a drink at the spring they couldn't see him inside the house and he shot them with bow and arrow. In the evening he would bring half a sackful to camp; those doves were good and fat. He'd give 5, maybe 6, to all the people camping there.

I got tired of camping over there; we had no white flour to eat. Another girl, younger than I was, and I started home afoot. We just came alone; there was no one else with us. We traveled all night on that desert; it was moonlight. There are lots of doglike animals on the desert, lots of yu·mu·gi·wal but we didn't see any; maybe they would eat you up.

We packed water in a pitched water jar, and we took along a little lunch of ku·l meal. When we got to Coyote Hole where there is a spring, we wanted to drink that water there. So we stopped at the spring. Then we saw a camp on a hill above the spring a little way off; we ran the other way, up into the hills, when we saw that camp. We were afraid that the people at the spring were Frenchmen and that they would kill us. The people in the camp were all asleep; they didn't see us. There were Frenchmen up here then, lots of them; they chase women, right away when they see them. We were afraid of Frenchmen.

When we arrived at the other side of the summit (Walker pass) we got water at a spring a little way down; then we ate our lunch and rested a little, because we were tired. It was sunup when we got to the summit. Then we came down to Canebrake from the summit. By Canebrake we saw 2 men coming up the canyon, but we were afraid and ran over on a little hill where we watched them. They were trappers, I think; white men.

We got to u·u·pu·lap; there were some people living there. We were going home to omomïp from there, but they told us my mother had left omomïp to gather chia seeds and that nobody was home. The people at u·u·pu·lap said everybody from omomïp was over at Scodie's mt., so that same day we went over there. We were very tired, but we couldn't stay over at omomïp all alone, with nobody in the house. We found my mother all right.

My grandmother came back from over on the desert a week after we got back. That girl who came home with me that time is still living; she lives over at Paiute all by herself; her husband is dead; she lives in a house near a white lady. She looks young yet; the Indians never used to get old-looking for a long time in the old days; these young people do now though because they eat everything hot, with too much salt. Indians used to eat salt too, but only a little bit.

I was growing up then. When wišimlït (SM's mother) came back from Tejon ranch she made a fiesta over at cuhka·yl. She was living over there then. Her son's (Steban's) daughter had died, his eldest daughter. So wišimlït was making a fiesta; then Steban could eat meat again. They killed a big steer. The men cooked the meat; they boiled and fried it. I met wišimlït's youngest son, Pete, over there then; I had never seen him before, because after wišimlït's man was killed in the massacre she had taken Steban and Pete to Tejon ranch. There she married a Tejon man and lived at Tejon about 20 yrs.; then she came back here with her husband and Steban and Pete.

Pete was about the same age that I was. He saw me over there at the fiesta.

"Oh," he said, "I want to live with you."

But my mother didn't want me to go with him; he was mean when he was drunk. I wanted to stay with Pete that time, but my mother said, "No."

Over at cuhka·yl where they had that fiesta there was a man who used to get eagles from Nichols peak. He used to raise them; he had one eagle for a long time. When that eagle grew big the man set him free; the eagle lived over in the mts. near the man's place for a long time. The man would go to Kernville to buy meat; when that man came back Eagle would be sitting up on top of a hill, watching for him. He could see a long way off, that eagle. When Eagle saw that man coming he would fly close to him, knock him down with his wings; then he would cut that man's load all to pieces and eat the meat. He would scratch that man, too, sometimes. One day that eagle flew away; he never came back any more. That old man raised him; anyone who wanted to could raise eagles.

There was another man, a bad doctor, whom my father told me about. It happened a long time ago. The people told that bad doctor, "Go get eagles on Nichols peak." "All right," he said, "I'll go."

Four men went with him, away up on the S side of Nichols peak, behind the cliffs. When they got up on top of the cliffs, they tied a rope around the doctor's waist. Then they lowered him down over the cliff. When he was halfway down they let go of that rope. That's how they killed that bad doctor.

A long time after the fiesta at cuhka·yl we were picking piñons up at Long valley. And Pete came to our camp and he asked for me again. That time my mother said to him, "You're all right." Then Pete stayed over there, picking piñons and helping us. His mother, wišimlït, didn't pay anything for me; she had paid for a wife for Pete's brother, Steban (SM), though. She liked a Monilabal woman she knew; that Monilabal woman was a good worker, not lazy at all, so wišimlït paid for her and brought her to yïtiyamup to be Steban's wife. Steban wasn't home at the time; he was working down around Bakersfield I think; he didn't know anything about it. When he came home there was a wife for him, sitting there in the house.

After we left that piñon camp in the hills we came down to u·u·pu·lap again. We moved around too

much. An Indian agent had come, Anderson; he used to live at Tule River reservation. All the Indians had gotten land; Steban and everybody (in 1893). The Indian agent gave my father and mother land at Canebrake. My parents went to Canebrake to live and Pete and I moved up there with them.

There was a witch at Canebrake and she made me sick all the time, like I am now. My husband and my mother took me to a doctor at Paiute; he was a good Indian doctor. He said, "Don't you live up there at Canebrake any more; you stay some other place." So we all moved down to yïtiyamup; Steban and his wife owned yïtiyamup by that time.

Steban's mother was living with Steban and his wife up there. I used to quarrel with my mother-in-law; she was mean, that woman. My sister-in-law was a nice woman and for her sake sometimes I wouldn't say anything to our mother-in-law. Sometimes my mother-in-law would scold me and then cry afterward; she would feel bad about it, I suppose.

Sometimes they made fiestas there at Steban's. They played handgames all night; everybody stayed up all night. Two doctors were over there at a fiesta once; one, Old Bill Chico, got drunk and got mad at an old woman. "I'm going to kill all the people," he said, and one woman came and hit him over the ear. They had built a fire in the middle between 3 houses that were there, on some level ground. When Bill Viejo was hit he went over to his wife by the fire; his wife told him to keep still and not to talk like that.

My husband used to get drunk sometimes. He began going with a woman up at Onyx when he was drunk; he brought that woman home with him to our house at yïtiyamup. I left there then and went back to my parents' home. They were living at u·u·pu·lap then. Pete took that woman to yïtiyamup with him, but his mother didn't like her because she drank too much and went around with many men. That woman stayed a long time at the rancheria and Pete went to work cattle at Kelso valley. Pete was mean when he was drunk; I guess he was jealous; that's why that woman left him and went to Tule River reservation. She married over there and died there.

I didn't go back to Pete for a yr.; I didn't want him any more. Then a priest came traveling around here; first he went down to the Jesus ranch (no. 13, fig. 11), then up to Onyx. He talked to us; he prayed and we did, too; we prayed in Spanish. All the Indians went there where he was; I went; my parents didn't go. We all prayed and sang loudly; every day for a week he talked to us. I was baptized that time.

That priest said Pete and I had to be married. "You'd better get your man back; if you don't you aren't going to live any longer," he told me. The priest had a ramada made, up at Onyx, and told everybody to come there for a week; he told everybody to pray there, morning and afternoon. And all the people were married there; šumukat married wïsok, and my younger sister was married, too.

Pete and I went home to u·u·pu·lap after we were married; my people were living up there, making gardens. It was nice up there by the river. My grandmother (mother's mother) didn't like Pete; she kept scolding me for taking him again. She didn't like him because when he got drunk he was mean and chased around with other women. My parents and sisters and my grandmother and my husband and I were living in one big house. My sister's husband was a good man; he bought everything for her. We all got on well together; my family had lots of gardens there, with lots of onions. We sold some onions and beans, long black and white beans. The men and women both worked in the gardens; they helped each other; they worked early in the morning. Pete and I didn't have any garden of our own; we were just staying there with my parents. That was the way Indians used to do; the man lived with his wife's family a long time.

My sister died at u·u·pu·lap, so we left the house where we had all been living; we moved away from there. Only my half brother stayed up there; he had alfalfa growing there; he stayed there until a white man came and told him to get out of there. All the rest of us moved.

Pete and I moved down to yïtiyamup. We stayed there all winter; we built a wattle house with a tule roof down there. My husband had wanted me to have a baby for a long time, and my mother-in-law gave me some medicine; I didn't know what it was for, and I drank it; after that I didn't menstruate any more, and then I had Legora. When she was born I got sick and pretty nearly died; I was in labor all night and all day; my mother took care of me. My husband's stepfather had power; I was lying around, unconscious, weak; the baby didn't want to come out. Pete's stepfather touched me all over with his amulet. My father had power, too, but he couldn't do anything for me; I don't know why. I was old, about 25 yrs. old; my bones were getting hard, I think. When my son Pete was born it was easier, but Legora very nearly killed me. Each time I had a baby I didn't eat meat or grease for one month afterward; just flour and beans. After my first baby was born my mother made a fire in the ground with hot rocks on top, for me to lie on. The rocks stayed hot all night; it was a good bed. I only had the 2 children.

When we were up there at yïtiyamup my sister-in-law and I used to get chia seeds on that little hill near Steban's house. My 2 children would stay home and go visiting over at another woman's house; they played marbles and made rag dolls to play with. We used to cut barley down here in the valley, too; we didn't make any tobacco; my mother made that, though. Little Bill Chico's second wife made it, too, and we used to buy it from her. One other woman, mapali·p, used to make it, too; only those 2 made it.

My husband used to haul water and wood for me;

he was a good man when he wasn't drunk. My children were good, too; I never whipped them. Legora learned to make baskets; she made a pretty one. My husband took it to a lady at Weldon; she paid him $5 for it.

One time an old woman from omomïp was visiting my grandmother at yïtiyamup. They went out to get ku·l seeds this side (E) of the Goat ranch (no. 12, fig. 11) on the flats there. They were carrying their baskets on their backs; they had little blankets with them. When it got late they slept down by the river, under some willows. And they heard something flying above the tops of the willows, going "wo, wowo, wo, wo" all night; first the noise would seem to be above their heads, then it would grow fainter, then louder again. They left that place; they took their blankets and they went over toward the flat. They slept on the flat; it was dark. Anaŋgayat came out of his cave up there on the Goat ranch; they heard him say, "Aha, aha, ha, ha!" so grandmother's friend said, "You better get up; hurry up!" They were frightened. They left that place and they went up the valley to omomïp, where grandmother's friend lived.

When Legora was little, one time my nose started bleeding, one day in summer. It wouldn't stop. My father took me over to Paiute Ramon (Kawaiisu shaman) in a little buggy; I left Legora home with my sister-in-law. We traveled all night; my nose bled all the time, unceasingly. The blood filled a big bucket we carried along in the buggy. We got to Ramon's place about 3 o'clock the next afternoon. That doctor was standing on the other side of a little hill watching us; he knew we were coming. Doctors know lots. When we got to the house we heard somebody crying, making a noise, behind us. The witch (a Tübatulabal woman) who had made me sick was doing that crying. That doctor knew all that; he said she had followed me there. And he worked over me all night; we paid him $20. The next day my nosebleed stopped. Then the next day we returned home; the doctor said that witch, mapali·p, had put a cat inside my nose and that it was scratching all the time inside there; that's what made my nose bleed like that.

I was well for one year after that. Then a big whirlwind came, oh!, a big one, carrying sticks and straw in it; it came close to me; it touched me. Then right away my knee swelled up; I could hardly sleep at night. My knee looked as though it were going to burst. I dreamt bad dreams, about that woman, mapali·p (a witch). I told my husband about my dream. He got mad and went over to Kernville where mapali·p was staying. He said to her,

"I know you're witching my wife; that doctor over at Paiute told me. I want you to cure her."

Mapali·p didn't say anything for a long time. Then she said, "Well, what's the matter with her?"

"She's sick all the time. You made her nose bleed, her knee swell up; she's pretty sick. You'd better see about that; if she dies, I'm going to kill you." He was half-drunk; that's why he talked like that.

I guess mapali·p went out in the daylight after that and talked to her pet; I guess she was scared after that time when my husband talked to her, because I got better again.

All that time my mother and father were living at Canebrake most of the time; my mother was making tobacco and baskets all the time. She was making a living for herself. My mother used to visit me down at yïtiyamup for a week or so sometimes; then she'd go back to Canebrake. My husband and I used to go up there to see my parents, too, on horseback. It took all day to ride up there. All the Indians here had horses; they used to make saddles out of tule and bridles from milkweed twine.

When my 2 children were about 9 and 5 yrs. old, Old Bill Chico witched me; I don't know why. My father gave him a horse and 3 sacks of flour to make him stop, but he didn't want to stop; he wanted to kill me, I guess. Then my mother took me to Jose Chico; my father was working at Weldon that time. Jose was living on Bull Run creek. He worked 2 nights on me; he danced and sang; he sucked me in lots of places, on my throat and chest. I didn't see what he sucked out. Jose didn't want to tell us who was making me sick, because it was his own brother doing that; he just told us to move from the house we were living in. "There is a devil (ghost) living there," he said. It was a tule house and we burnt it; Jose said, "If you live there again, you'll be sick again." So we burnt the house and our baskets; everything. And my father built another house, of adobe, up at yïtiyamup, a little this side (S) of Steban's house; we lived in it after that.

That man from Tejon (Francesco Sasterray, a Chumash) whom wišimlït married could make rain; he used to make rain all the time when he lived over at Tejon ranch; the people paid him to. He made rain over here, too, but we never paid him for doing it. He used to make lots of rain; there was deep grass up at yïtiyamup all the time and lots of flowers and seeds. It was pretty up at the rancheria then.

He had 3 different rain machines; one for snow, one for rain, and one to make waterspouts. He could stop the rain, too. A man living up at yïtiyamup stole the rain machine though. One day everybody was away; my sister-in-law was up at the spring washing clothes, and that man stole the rain machines. He was mean, that man; he couldn't use the rain machine, because he didn't know how to; I don't know why he stole it. Then one time after that the Tejon man got sick. He was in bed; he told wišimlït, "Give me that thing; I want to see it." She went and got the basket where he kept it; there was nothing there; it was all gone. The Tejon man felt bad; he cried and cried.

After that he died. The mother of those 2

witches up at Onyx had put poison in his coffee. He coughed, coughed, coughed all night; he got thin and died after awhile. A long time after that wišimlït's daughter-in-law, Tumasa, got sick; someone went and got Paiute Ramon. Ramon's friend came over here with him that time; he was a doctor, too. They were both Kawaiisu. Ramon worked on Tumasa and she got better. They told him about the rain machine. Doctors can tell where everything is; they see everything. Ramon told SM who had stolen his stepfather's machine. The thief had been watching Ramon doctor; Ramon pointed to him and said, "There he is; he's the one who stole your rain machine." The other doctor said, "He's right; he knows." Those doctors know everything; who is making you sick, or if you are a doctor, too, or if you have poison; everything.

Ramon started to lead that man over to the place where the thief had hidden the rain outfit. "Come on, show us where it is," the doctor told him. The man didn't want to go very much; he just stopped every little while. My husband was there. He got mad seeing that man take one or 2 steps and then stop, and he hit him over the head with a shovel. The man didn't say anything; he just walked away; he wouldn't go with that doctor at all then.

A long time afterward another man found that outfit; he said he would give it to Steban if he would pay him $10 for it. But Steban wouldn't. He should have though, then he could make rain now. The man who found it buried it somewhere else, in a dry place; it's there now. Bob Rabbit (a Kawaiisu) can make rain, too, but he says he doesn't want to make it any more. The people won't pay him anything for doing it. He says, "Let the country go dry."

But when they had those rain machines there were lots of plants here then. And my husband killed deer all the time; we always had deermeat. He was a good shot; he had a good rifle. The Indians used to use everything in a deer; they'd put the heart, liver, blood, all the guts inside the stomach lining and tie it up good and boil that up; it was fine. We never did that; just the oldtime Indians, but my mother's brother (a Koso) used to.

When my husband or my mother's brother hunted deer they always gave the mts. beads and tobacco and eagle down; they did that first, then they could kill all the deer they wanted. They gave the mts. little pieces of tobacco broken off the ball.

When Legora was about 11 yrs. old, one time my father went over to Jose Chico's. He and Jose got drunk; Jose talked badly to my father. "You're going on a good road (going to die)," Jose told my father. He was drunk when he said it.

My father came home. About a month later he started working in the tobacco patch with my mother; they came down from Canebrake to work in a patch near Weldon. They were camping at Tom Cook's place that time they were working the tobacco. One night my father returned to camp, sick; he could hardly walk. And then he was sick in bed for one week; he didn't get up any more. Somebody came and told me, "Your father's sick over there," so I went and stayed with him for a week. Then he died. Two white men came and made a coffin and they buried him in back of the Onyx rancheria, in the cemetery there. Lots of Indians are buried there. They put away his feather headdress in the coffin with him; he had been a dancer and always danced at fiestas.

I took my mother over to my house at yïtiyamup in the evening after we had buried my father. My mother lived with me for a long time after that; my husband used to work all the time, on ranches, or going to the mts. with cattle; my son, too, when he got big. After awhile my mother went over to her cousin's at Canebrake to get her face washed by her ta·gin (see section on Rituals); she didn't make any fiesta then, she just had her face washed. She gave that ta·gin $30 and some calico for washing her face. Finally my mother went back to Canebrake to live there. She lived with her brother and his daughter and a grandson of hers. She made lots of baskets up there to sell to a peddler who came around.

Then one day in July that grandson came down to SM's rancheria and told me my mother was dead. There had been a cloudburst up at Canebrake; my mother had been fixing a basket under a ramada when it began to rain. She had some tobacco drying down below in the canyon, and she got up and went down to take it in. Her brother and his daughter were standing watching. "Don't you go there," they said, but my mother didn't heed them. The water came down the canyon awfully quickly: it was all muddy and running strong. It caught my mother where she was, in the canyon.

I went up to Canebrake right away, on horseback, with my son and daughter and Mike Miranda; we looked all over in that canyon, but we never found my mother's body. Maybe it was buried in the sand. The others were looking for the body, too, but they couldn't find it. We stayed there one night and I burned her clothes. She had lots of clothes; Petra Miranda used to give her lots of them every time she went down to the Jesus ranch. I burned my mother's trunk with all her clothes in it, but I brought all her baskets home with me. I couldn't find her money. I asked my cousin where it was, but she didn't know where she kept it either. My mother must have had money, because she sold baskets all the time when the peddler went over to Canebrake. Maybe she had it buried good, some place.

After we had searched for my mother's body, the next day we returned to SM's rancheria, all of us, Mike and my children and I. We stayed there all the time then. Legora used to work for white people on the ranches over here, over there. I moved close to Steban's house. We didn't

go to Poso Flat any more for acorns then; it was too far; no one goes over there now for acorns from here. We'd just gather about half a sackful right near home. Those acorns that grow up at Steban's aren't much good; they are too bitter. You have to work with them a long time to get them sweet. The acorns down by Isabella are all right; they're pretty sweet. But the best ones come from Poso Flat; you don't have to work with them hardly at all to get them sweet.

Sometimes I'd go down to see Petra Miranda at the Jesus ranch; we'd go in the morning and return in the afternoon, about 3 o'clock. We'd just talk together, Petra and I; we'd tell each other what we had been doing all the time. I'd gather seeds, too; we bought flour instead of using acorn meal, but the children all liked chia and ku·l and pacist gruel. That peddler used to come around all the time to trade baskets for clothes; I bought Legora a cape once, from him. It was pretty, with fur around it; it cost me $4 in trade.

One time my husband rode a bronco, all alone in a field over here, and Hawk came down when he was riding that horse and hit him on the side of his head with his wing. Six months after that my husband died; he was killed. He went over to Kernville one day; he got drunk over there with a white man. Nobody else was with them; no one saw what happened. My husband had $20 in gold in his pocket. He was shot in 3 places; somebody killed him and then took that money off him, because the pocket he had it in was cut off with a knife. Steban was cutting wood, camping with his wife down here, working for the Brown company; a white man came and told him about Pete's being killed. Then they all left that camp and came up and told me. Legora was working at Mrs. Nichols'; Estefana and another girl went up and got her, then we waited here all day. They were going to bring my husband's body over here and bury it down here, but they kept it over in Kernville all day. My son had no money to pay a man for bringing it over here in a wagon. One white man said, "Have you money?" My son said, "No." Then that white man gave my son $7. The white men at Kernville wanted to bury my husband over there at Kernville, but my son paid a man at Kernville and that man brought the body over here.

When they brought Pete's body back from Kernville everybody came and stayed at our place that night; they prayed for Pete. Steban prayed (in Spanish). We all cried; one person would start crying, then everybody would cry, all night long. The next morning we buried the body. I burned all Pete's clothes, then, right away; the mattresses, pillows, quilts, blankets; I didn't save anything of his. The plates I broke and threw away. He had a good rifle; I buried that well. If I hadn't done all that his ghost would have walked around inside the house, bothering us. Pete had 3 horses that time; I got one and my son and daughter each got one. SM wanted to get one, but the judge at Kernville told him he couldn't because Pete had children and the horses belonged to them. That's the way the old-timers always wanted to do; if a man died his brothers or parents took away the man's possessions instead of letting the widow have any of them. Not the dead man's clothes, because they were burned, but his horses, wagon, or anything like that. Now they can't do that way.

My husband was killed in November and I didn't eat meat after that until the next March. I cut my hair right after he was killed; I cut it off so that it came down a little way over my shoulders. And Legora and I wore black dresses for one yr. It gives you bad luck if you wear black too long; one yr. is enough. The old-timers never used to wash their faces after a relative had died, until they ate meat again; they bathed, but they never washed their faces. I washed mine though, before I ate meat. Legora and my son helped me get that money to eat meat again; I paid my ta·gin $50 for washing my face. I had a cousin for a ta·gin; she moved over to Visalia and died there.

Nobody saw that white man kill my husband; a long time afterward Legora heard that man tell somebody, "I killed my good friend, but he talked bad to me; I couldn't stand it." One time after that Legora saw that white man when he was drunk; she went up to him and she said, "You killed my father; now I'm going to kill you." He was frightened; it made us all laugh, how frightened he was. "Oh, no, Legora; don't do that! Don't kill me," he said. He looked funny when he said that, so frightened. Legora and all of us laughed and laughed at him.

Two yrs. after my husband died Willie Andreas started living with Legora. She was 17 yrs. old then. We lived up at yïtiyamup; Legora and Willie and I lived in the same house. I used to sit down all the time and make baskets. Not very many women made baskets then; Petra Nichols made them, too. Legora had a boy born to her.

One time my son had a fight with a Tule River reservation man living up here. They got into a quarrel; my son hit the Tule man on the head with a spur. After that fight the Tule man wouldn't ever talk to my son again. That man had poison; something, I don't know what; all those Tule reservation people have poison and they all know about it, men, women, young boys. It's Indian poison. The Tübatulabal don't have that poison up here (i.e., make it), but one of those witches living up at the Onyx rancheria has some; they say she got it when she lived at Tule, and that she has it up here now. They put it in your food, in your cigarettes, in your drinks; in anything like that.

After that fight, one time my son got drunk and slept outside on the ground all night. It was cold; it was in November and there was frost on the ground. November was the same month my husband was killed in, 4 yrs. before.

My son used to do that; it was bad. He'd get drunk and then lie down, outside, but he had never gotten sick before from doing that. But when we went outside that morning we found him lying there with his mouth all blue, and he was dead. There were tracks around there; they said the Tule man had been there, but we hadn't heard anything that night. But they tracked the Tule man on horseback, down to the canyon. He had told somebody before that, "I'm going to kill that boy." That's how we knew he had done it.

When the Tule man saw Legora one time after that he told her not to tell her son Lloyd about it when Lloyd grew up; he said, "Don't tell that boy when he gets big, anything about that." He was afraid, you see.

Legora had another boy 3 yrs. after her first child. Then she had a daughter 3 yrs. after that. When her second son was a baby, just crawling around, I got a telegram. We were at yïtiyamup; Steban brought the telegram up there with him when he went to Weldon one day. It had stayed in the postoffice at Weldon for 2 days. My brother, ku·pal, had died over at Paiute and his relations had sent for me and for his 2 sons. They were both working on ranches around here at that time.

I started for Paiute that afternoon; Tony Pablo's father went with me and took his oldest son along. We went in a buggy; my nephews went ahead, on horseback. We stayed all night at Havilah; we camped out alongside the road. It was cold; we had to keep a fire going all night long. At sunup we started off again; it was too cold to start before the sun was up. We had to go over 2 big mts.; the road was steep; it takes a long time to get there in a buggy. But we arrived that afternoon about 3 o'clock.

"Oh, we buried him yesterday," they told us. They took me over there where they had buried him. They were just staying around the house waiting for us to get there; there were 2 houses; my brother's wife was living in one with 3 children and her married daughter lived in the other one with her children.

We stayed over there 2 nights. The day after we got there they burned my brother's clothes. I had bought $2 worth of calico at a store, to burn with his clothes. We cried for him when we burned his clothes. I could eat meat after that without having my face washed, but my sister-in-law couldn't; if my parents had been alive they wouldn't have either.

The next day after the burning we returned home. It only took us one day to get home; we left there early in the morning and arrived at the rancheria about sundown.

Then my mother's brother told me to come and live up at Canebrake. "Pretty soon I'm going to die, then you can have this land," he said. He was living at Canebrake; when we moved up there he stayed with us. We all went up there; Irene (LT's daughter) was little then and Legora was married to John Tungate (a white man). We had a tent up there; Mike Miranda made us a tent to live in all winter. There was no road to Canebrake then, when we first moved up there. The children grew old enough to go to school, so every winter we would move down to Sweet's ranch; Legora's children used to go to school from there in a buggy. In summer we'd move back to Canebrake again. Finally they built a road and the bus came up there for the children; then we stayed there all the time and didn't move back and forth.

When we were down at Sweet's one winter an old man rode down from Canebrake and told us my uncle had been burnt up in his house up there. My uncle had a little tule house and he used to build a big fire all the time in the middle of the house, on the ground. There were big dry logs all around outside the house. We went up there; everybody went up to see the corpse. There was just a little bit of it left; the house was all burnt up.

I got my uncle's land after he died; I already owned some my mother and father had.

Two yrs. after Irene was born, Legora had Annie; then 2 yrs. after that, Esther; then Johnnie 2 yrs. after Esther. Legora's husband, John Tungate, kept living with us at Canebrake. One time when Irene was about 11 or 12 yrs. old, we were sitting outside the house one evening in summer, around sundown. Mike was up there that time, too. Fred (a grandson) was playing his guitar. We saw a hummingbird coming straight toward Irene; he was hitting that little girl. None of us could catch him. The next day Irene felt sick; that night she had convulsions and foam was coming out of her mouth. She didn't talk, she didn't eat anything. That night, about midnight, we asked Mike, "Have you money?" "Yes, I have $10," he said. "All right," we said. He gave us that money and we harnessed a horse up to the buggy. We were going to take Irene to a (Kawaiisu) doctor at Kelso valley.

Passing by Onyx we heard a chicken crow; it was about 3 a.m. We got to Kelso valley at 2 o'clock that afternoon. Irene's face was swollen; she wouldn't eat or drink anything.

We arrived at the doctor's house about 8 o'clock. He worked with Irene all night; he sang; he danced, hopping all around inside his house; near daylight he went outside and looked toward the E. He sang, "All my animals are coming here now." Then elk came to that doctor. We couldn't see that elk, but the doctor could. Elk told the doctor, "I'm looking all over; I see 2 witches, those 2 women at the Onyx rancheria. Those are the only 2 witches there are in this country; there are no others," Elk told that doctor.

After awhile, after the doctor had sucked Irene, that devil inside her went out. The doctor asked Legora if she had heard the devil leaving Irene's body. "No," Legora said. But the doctor had heard it, when it went out; he sucked it out. That morning Irene was glad, happy; she was all right again. Two months ago she came up here

to see us from Riverside. She didn't want us to tell anyone at the Onyx rancheria that she was up here visiting. "Those witches might make me sick again," she said. She's still frightened because those witches made her sick that time. They're mean, those women. They killed Barney's wife because she ate meat right after her husband died, without having her face washed. They got mad at Legora because she and John Tungate went down to Bakersfield and testified about a horse one of the witches wanted to get after a son died. I guess maybe that's why they made Irene sick that time.

When Johnnie was a little baby, just crawling around, John Tungate got work in Inyo county. We all went up there; we stayed at Bishop and then at Lone Pine. I like to camp around; so does Legora. But after awhile I like to return home again. We stayed at Lone Pine for a yr.; I didn't like it up there. The Indians there (Owens Valley Paiute) said, "Why don't you take up land here, and stay here?" But I wanted to get home; we all did, the children, too. They liked Canebrake; they always liked to live up there. So we returned to Canebrake. Then John Tungate left; he and Legora separated. After he left we used to go over to Visalia in the summertime to pick fruit; Legora and I both worked and Esther and Annie took care of the house and of Johnnie. We used to camp at Tule River reservation on the way home; there was a man there who loaned us a house. He told us, "Don't go visiting around here, because all these people are bad; they all have poison they use." They are queer people over there at Tule; they don't visit each other any over there, because they are afraid they will be poisoned.

We made 3 trips to Visalia to work in the fruit. The second time we went with Steban and his daughter. Then we heard, "There's no money over there at all; they're not picking the fruit, they're letting it go." That's why we stopped going over; everybody here stopped going. The last time we went to Visalia we left Annie and Irene up at Onyx and then they went to Riverside, to school down there.

I was feeling good all that time. We always used to go live at Canebrake in the summer, and then we'd come down to the Mack ranch in winter, so that Esther and Johnnie could go to school at Weldon. At the Mack ranch though I began to dream bad again; I'd see one woman whom I don't know, holding my head. That's why my ear hurts now; I have been sick like that for 4 yrs.

Then we had to leave our house at the Mack ranch. A white man wanted to live in that house. We moved up to Rafael Chico's place; they kept asking us at the Onyx rancheria, "Why don't you move up here, to Rafael's?" But there were too many drunken men around up there; they would come and fight inside the houses. We didn't like that. And those witches live too close to Rafael's. I was sick all the time up there. We lived there 2 months; I coughed, coughed all the time. So 2 yrs. ago last April we moved down here (near Weldon) from there. When we moved down here I got well. But last summer I got this cough again, only not so bad as I have it now. I can't do much now; I can't make tobacco this year, because I'm too sick. We got lots last year; enough to last this year too, I think. I got some chia seeds last year too, over by the little hill in Charley Andress' meadow. But it's too hot to go cut the tobacco this year, and kneeling hurts me. I'd like to go to that Indian doctor they have over at Bishop; there's a good one over there. Maybe Legora and I will go over this fall. If I could see that doctor I think I'd be all right again.

Yale University,
New Haven, Connecticut.
February 20, 1936.

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Abbreviations:

A	Anthropos.
AA	American Anthropologist.
BAE-R	Bureau of American Ethnology, Annual Report.
-B	Bulletins.
CNAE	Contributions to North American Ethnology.
FMNH-AL	Field Museum of Natural History, Anthropology Leaflet.
-AP	Anthropological Papers.
JAFL	Journal of American Folk-Lore.
PMM-B	Public Museum (City of) Milwaukee, Bulletins.
UC-PAAE	University of California, Publications in American Archaeology and Ethnology.
USNM-R	United States National Museum, Reports.
UW-PA	University of Washington, Publications in Anthropology.

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PLATES AND EXPLANATION OF PLATES

EXPLANATION OF PLATES

Plate 1. a, Steban Miranda with steatite bowls and pipes used in rain making. b, Frances Philips. c, Estefana Miranda Salazar. d, Mike Miranda.

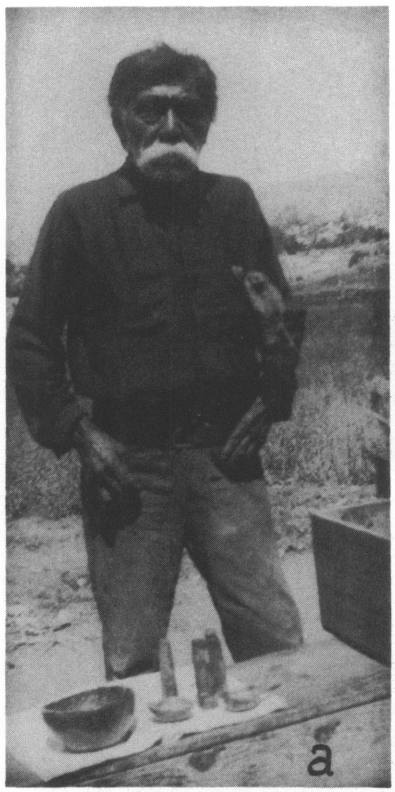
Plate 2. a, central section of South Fork valley, looking S to Nichols peak and Paiute mts. from Steban Miranda's rancheria, village site no. 9. In foreground sagebrush, Digger pines, scrub oak; in valley beyond, willows and cottonwoods. b, village site no. 9, Steban Miranda's rancheria, looking E. In foreground cottonwoods around springs; on mts. in background Digger pines. c, e. end of South Fork valley, 6 mi. above Onyx, looking NE. In foreground sagebrush, in middle background tree yuccas, on mt. slopes Digger pines.

Plate 3. a, field of wild tobacco, 1/2 mi. E of Weldon, central South Fork valley. b, tobacco plants in field shown above, after third pruning, showing enlarged leaves. Dimensions of envelope at base of plants 3 1/2 x 6 1/2 in. c, samples of tobacco plants taken from patch shown above after final gathering of crop. From left to right, 1, 2, 3, plucked stalks, 1, 16 in. high, 2, 3, 24 in. high; 4, 5, unplucked plants overlooked in final gathering, height 38 in., leaves 6-8 in. long, 2 1/2-3 in. wide; 6, large untended N. bigelovii plant, height 35 in., leaves 4-6 in. long, 1 1/2-2 1/2 in. wide; 7, untended N. attenuata plant, 22 in. high, leaves 2-3 in. long, 1-2 in. broad.

Plate 4. a, Estefana Salazar gathering tobacco leaves. b, Frances Philips stripping midribs from tobacco leaves. c, Legora Tungate, Frances Philips, Estefana Salazar with tobacco wrapped in willow bundles ready to be cured.

Plate 5. a, cured tobacco drying in sun. b, brush-shaded pit mortar, showing pestles, fiber brush, and basketry tray used when pounding cured tobacco. c, balls and plugs of tobacco drying in sun.

Plate 6. a, sweat-house pit with remains of sweat house at village site no. 4 (fig. 11). Circumference of pit 37 ft., depth 6 ft. b, necklaces of cylindrical shell beads and colored-glass trade beads. c, ruins of transitional house type of tules and cottonwood at village site no. 7, Onyx rancheria, South Fork valley. d, pa·ša·pan, at base of mts. 3 mi. SW of Onyx and 1/2 mi. E of Kelso creek; showing boulder which Coyote, according to legend, broke in 3 pieces when Bluejay attempted to build bridge across Kelso creek to Nichols peak.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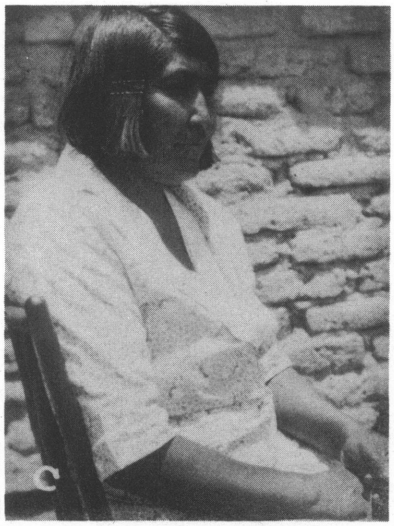
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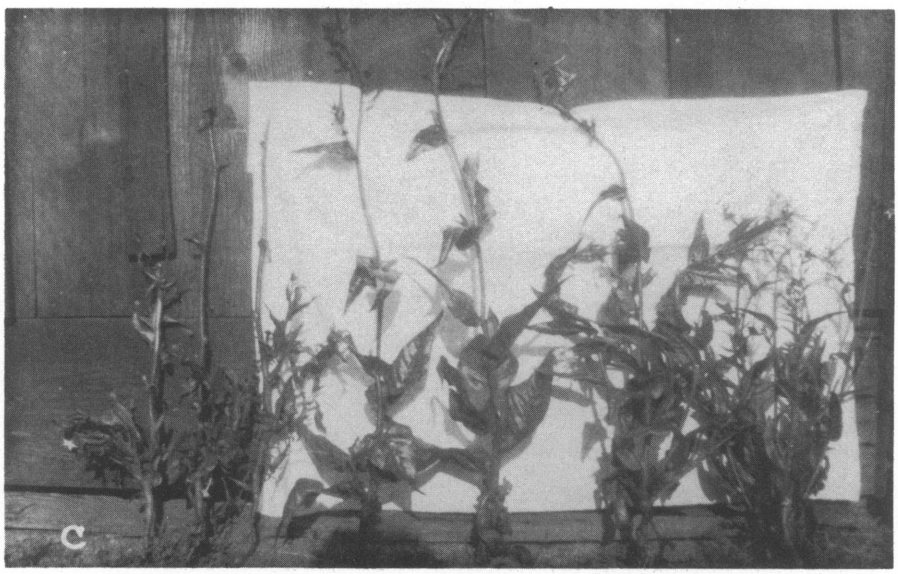
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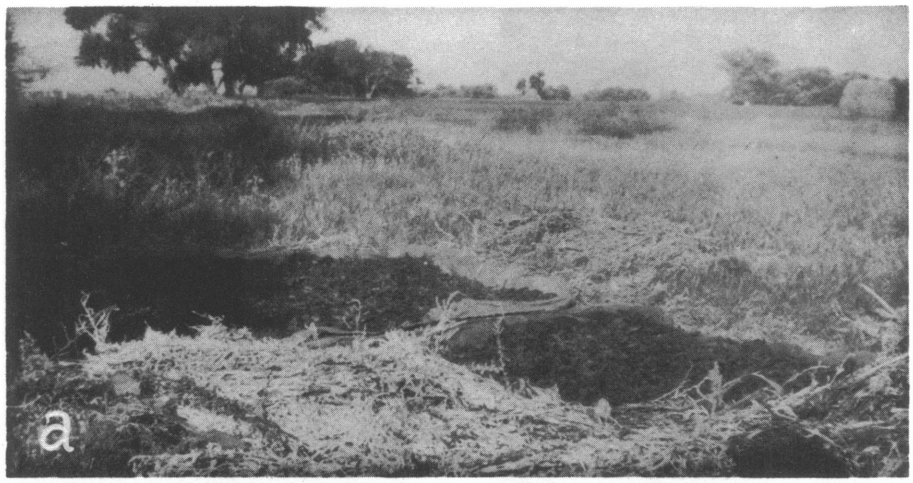
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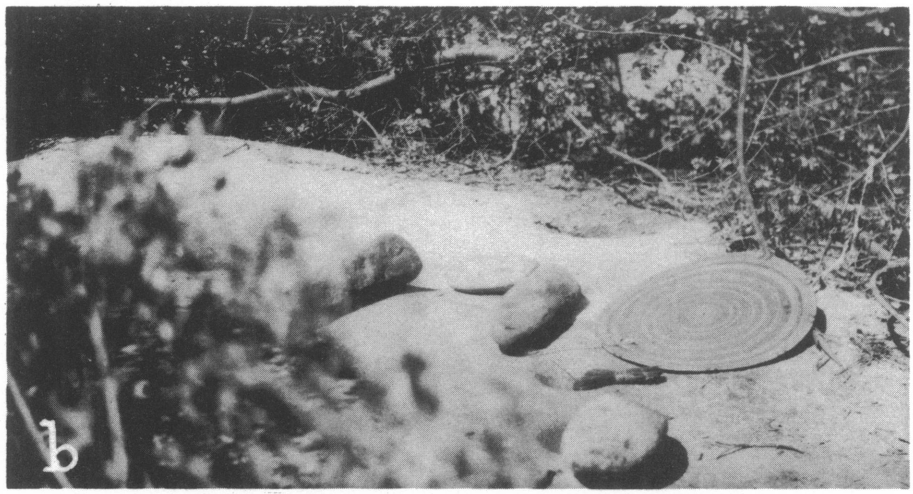
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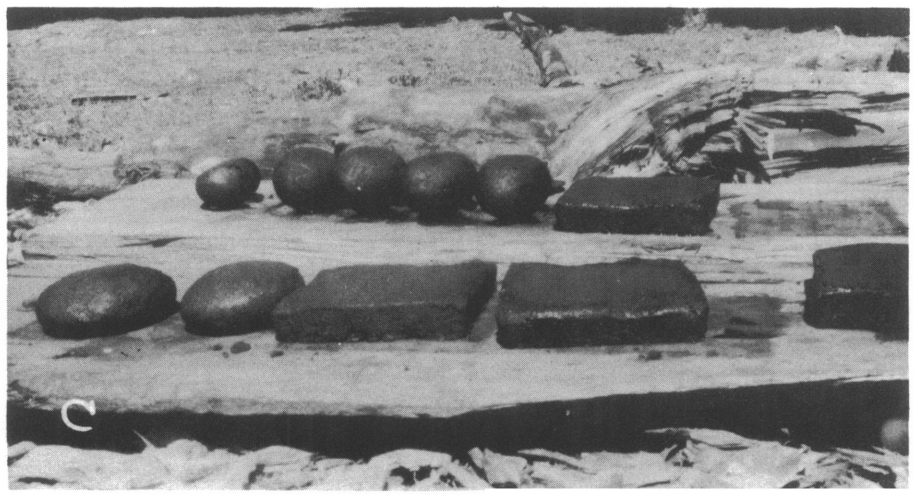
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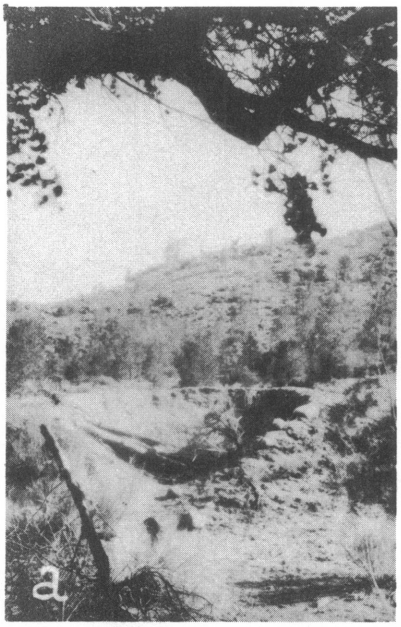
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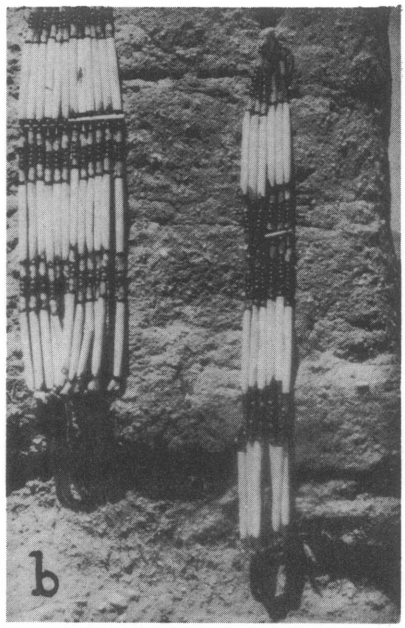
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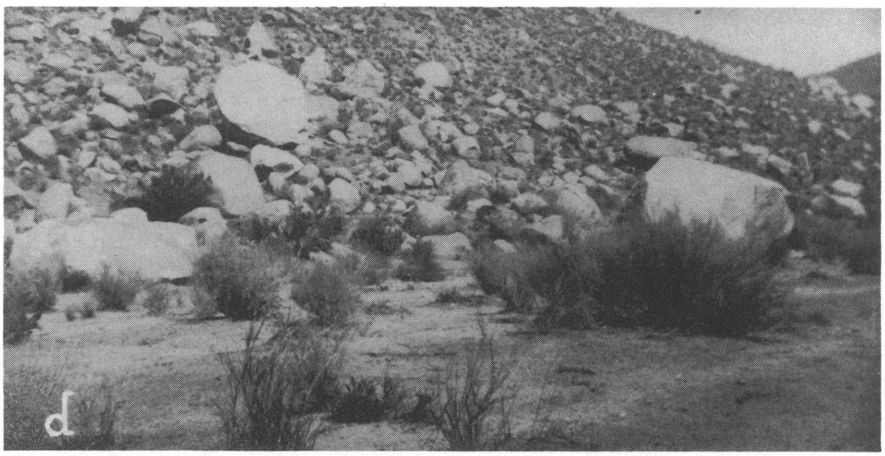
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