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**VOLUME II**  
**WITH 21 PLATES AND MAP**

**FREDERIC WARD PUTNAM**  
**EDITOR**

**BERKELEY**  
**THE UNIVERSITY PRESS**  
**1904-1907**



Ms 307.2

: July 25, 1904 -  
Apr. 20, 1907.  
The university.

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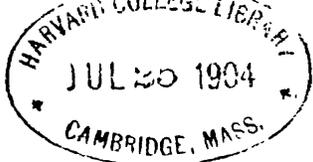
No. 1

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THE EXPLORATION  
OF THE  
POTTER CREEK CAVE

BY  
WILLIAM J. SINCLAIR

BERKELEY  
THE UNIVERSITY PRESS  
APRIL, 1904  
PRICE 40 CENTS



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Interior of the main chamber of Potter Creek Cave. Looking toward the southeast from the top of the earth slope in the northwest end.  
Drawn from photographs.

THE EXPLORATION  
OF THE  
POTTER CREEK CAVE

BY  
WILLIAM J. SINCLAIR.

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INTRODUCTION.

The limestone caves of California have only recently received the attention due them as localities which have afforded exceedingly favorable opportunities for the entombment and preservation of the remains of man and of the Quaternary fauna of this coast. Some of the most reliable evidence regarding the existence of man during the Quaternary has been derived from the caves of Europe. North American caves have been largely overlooked,



and it is only rarely that they have been made the subject of special or extended investigation by the anthropologist and the palaeontologist.

The work of cave exploration has been undertaken by the Department of Anthropology of the University of California, as a part of the investigation being carried on with a view to determining the antiquity of man on this coast. It has received the generous support of Mrs. Phoebe A. Hearst and has been conducted under the immediate direction of Professor J. C. Merriam.

The existence of bones in the Potter Creek cave was first discovered in 1878, by Mr. J. A. Richardson, who found there the skull of a large extinct bear afterwards described by Professor Cope as the type of a new species.\* Later, Professor Cope in company with Mr. Richardson visited the cave, but Cope did not descend into the chamber where Richardson's discoveries were made, assuming that there was nothing of value remaining.

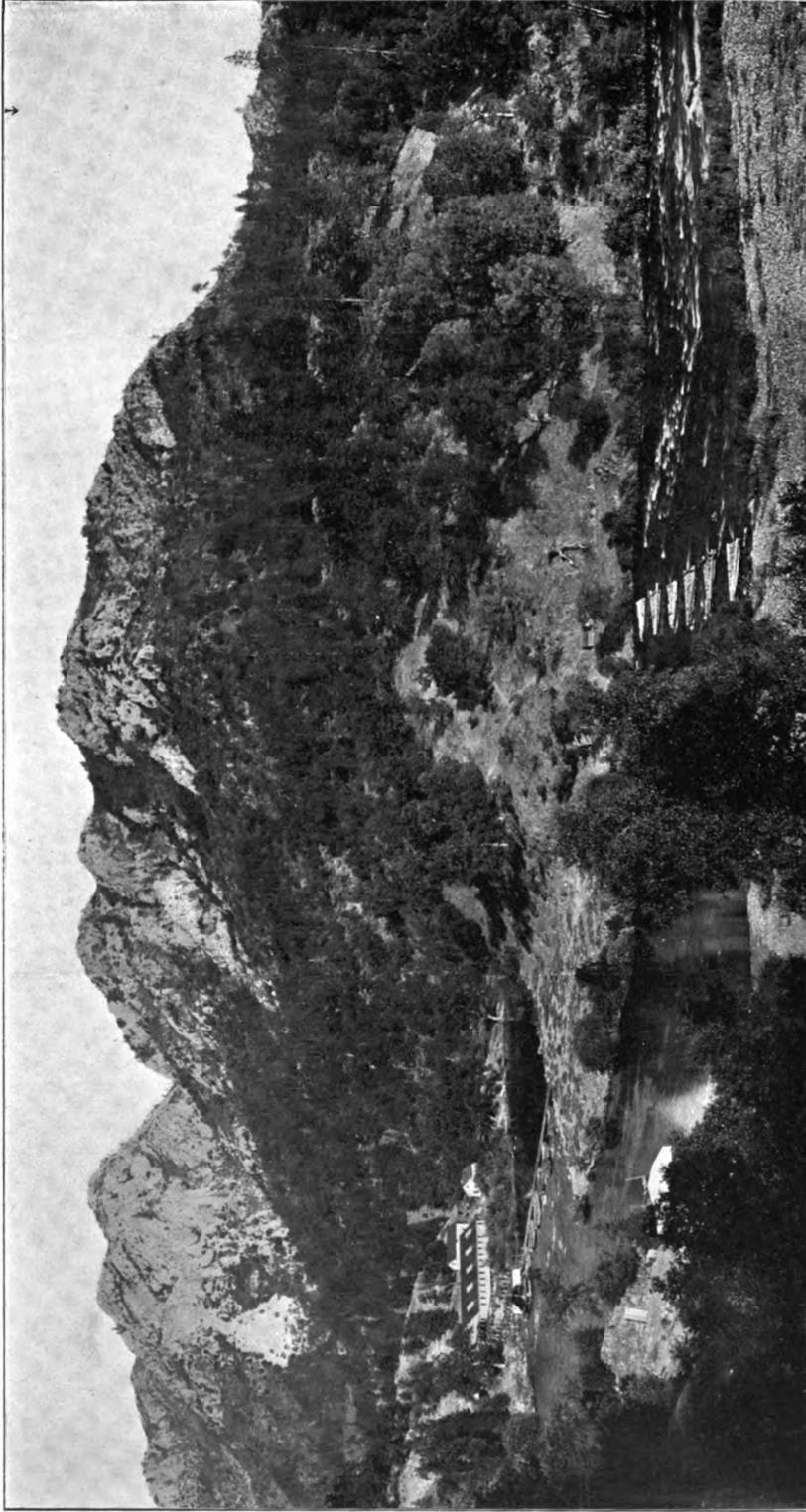
The cave was rediscovered by Mr. E. L. Furlong of the University of California in July, 1902. Mr. Furlong excavated a part of the deposit on the floor of the main chamber, finding a large number of bones pertaining to extinct species. On Mr. Furlong's return to Berkeley, the exploration was continued by the writer and was completed in the summer of 1903.

The present paper is a report on the exploration of the first of the Californian caves in which excavation has been systematically conducted. It has been thought best to reserve for separate publication the descriptions of new species discovered, and to present here the results of more general interest.

The writer desires to express his obligation to Professor F. W. Putnam, the head of the department, for the privilege of conducting this investigation and to Professor J. C. Merriam who has planned and supervised the work and has furnished the list of cave carnivora. Dr. C. Hart Merriam has generously given of his time in the determination of many of the mammals. The fish remains have been studied by President David Starr Jordan. Professor C. A. Kofoid has undertaken the study of the blind spiders collected in the cave. Mr. E. L. Furlong has furnished valuable information regarding

\* *Arctotherium simum*, Am. Nat. XIII., p. 791; XXV., pp. 997-999, Pl. XXI.





Looking east across the McCloud River from Baird. The 240-foot terrace is shown above the river on the right, the 90-foot terrace above the buildings on the left. The pointer indicates the ridge in which the cave lies.

the stratigraphy of that portion of the bone-bearing deposit which he excavated. To Mr. J. S. Diller the writer is indebted for information which has been of great value in studying the topographic development of the region in its relation to the cave.

The results of the exploration were secured by leases kindly given to the University by the controllers of the property, Dr. W. C. Bruson and Mr. D. P. Doak.

#### DESCRIPTION OF THE CAVE.

The Potter Creek cave is situated in Section 23, Township 34 North, Range 4 West, Mount Diablo Meridian. It derives its name from its location in the high bluff on the north side of Potter Creek. The cave is about one mile southeast of the United States fishery station at Baird, on the McCloud River (Pl. 2). It lies in a belt of Carboniferous limestone (McCloud limestone) at an elevation of 1500 feet above sea level, and about 800 feet above the level of the McCloud, at the mouth of Potter Creek (Pls. 8 and 9).

The system of galleries forming the cave trends in a north-west-southeast direction approximately parallel with the strike of the McCloud limestone. The arched entrance (Pl. 3) communicates with a smaller chamber through which admittance is gained to a narrow passageway. Beyond this point the explorer must depend for light on lamp or candle. Following this passage to the left, it is found to terminate abruptly on the margin of a great pit. Here a convenient stalagmite pillar offers a secure point of attachment for a rope ladder. A vertical descent of forty-two feet affords entrance to a room one hundred and seven feet long, about thirty feet wide at its widest part, with the roof rising about seventy-five feet above the lowest point of the floor (Pl. 1). Both walls of the chamber slope toward the west. The west wall overhangs, and is fringed with numerous massive pendants, some of which are shown in Plate 4.

Forming the floor of this great room were two fan-like deposits of earth and stalagmite-cemented breccia, sloping from opposite ends of the chamber and coalescing at their borders. (Pls. 1, 5, 6, 12, 14). Above the apices of the fans rose almost vertical chimney-like openings.

Ascending the chute above the apex of the northwest fan by the rope and ladder shown in Plate 5, a point was reached, forty-one feet above the earth floor, where a small arched cavity communicated with an earth-choked fissure leading toward the surface. Live pine roots were protruding from the clay filling the fissure. On the hillside above, a depression in the limestone, filled with yellow earth and supporting a vigorous growth of brush and one or two young pine trees, may represent the continuation of the fissure toward the surface.

Above the apex of the southeast fan a vertical chimney sub-divides into several openings too small to follow. Leading off from this chimney, a deep pocket-like hole was found, containing a large number of bones imbedded in a highly calcareous earthy matrix. A sheet of stalagmite covered the surface of both fans along the western side of the chamber. Four prominent rock masses rose above the even slope of the floor. The largest of these was in the form of an altar resting upon a base of crystalline stalagmite. Above the altar, a great stalactite hung from the roof (Pls. 1, 6 and 14). Two broad benches of white calcite, rising above the floor, were overlapped by the stalagmite sheet (Pl. 14, Nos. 10, 11). A large fallen block, fringed with pendants and partly imbedded in the surface stalagmite and clay, lay against one of the benches (Pl. 14, No. 8). A record of Mr. Richardson's visit was found on this block, together with the names of several other visitors. Loose blocks of limestone were scattered over the surface of both slopes, especially that in the southeast end. Bat excrement had accumulated over a part of the floor, reaching a depth of a foot and a half along the east wall. It was in the stalagmite floor of this chamber that the bones collected by Mr. Richardson were found.

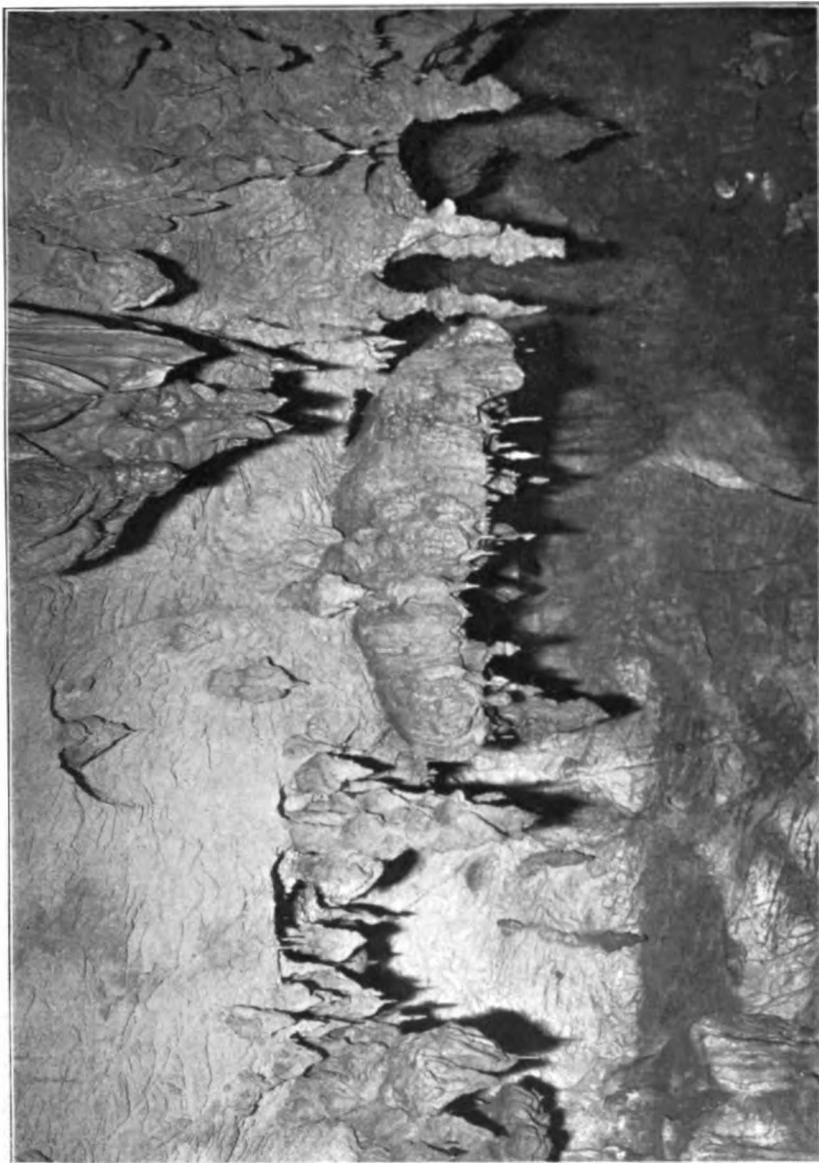
#### METHOD OF WORKING.

Work was begun in the clay about the middle of the main chamber near the margin of the northwest fan, and was carried toward the northwest end. Later, the excavation of the southeast fan was completed. The surfaces of the slopes were staked out in four-foot squares and each of these was worked in ten-inch levels, all the specimens from each section being labeled with the



**The cave mouth. The outer chamber mentioned in the text is at the top of the ladder.**





Stalactites on the west wall, main chamber.





number of the section and the depth at which they were found. The corner stakes of some of these sections are shown in Plate 6. Much of the material composing the southeast fan was firmly cemented with stalagmite, requiring the use of powder to loosen it, and it was worked by slicing from a vertical face instead of by excavating individual squares horizontally as elsewhere (Pl. 6). Particular attention was given to preventing specimens from a higher level rolling down and becoming confused with bones from a greater depth. The loose earth was sorted with a trowel and removed after each shot. A somewhat similar method was followed in blasting out the lower stalagmite layers. The soft clay beneath was removed and the portions undermined were shot out. The large blocks of cemented clay dislodged by the blasts were carefully broken, and the pieces were examined individually. As excavation advanced the material examined was shoveled back over the worked area.

#### STRATIGRAPHY OF THE NORTHWEST FAN.

The structure of the fan in the northwest end was found to be as follows in descending order:

- A. Clay with gravel lenses, greatest depth  $13\frac{1}{2}$  feet.
- B. Persistent gravel stratum, 6 inches to  $1\frac{1}{2}$  feet.
- C. Volcanic ash, 0 to  $1\frac{1}{2}$  feet.
- D. Clay with fallen limestone blocks, 0 to 3 feet.
- E. Clay and gravel cemented with stalagmite (false floor), 6 inches to  $2\frac{1}{2}$  feet.
- F. Soft clay, maximum thickness 4 feet.
- G. Stalagmite blocks in clay matrix, greatest depth not determined.
- H. Stalagmite bosses—cave floor.

The clay of stratum A was similar to the surface soil on the hillside above the cave. It was of a dull yellow color approaching red when wet, and contained abundant angular fragments of blue limestone and occasional pieces of stalactite from the roof. The layer of stalagmite capping the clay on the west margin rarely exceeded a few inches in thickness, usually averaging from half an inch to an inch. It was largely deposited by water dripping from the pendants fringing the west wall.

Within the limits of stratum A were two lenticular sheets of gravel, which terminated abruptly toward the southeast against a large boss of crystalline calcite probably forming part of the original cave floor. (Pl. 12, Sec. 7.) These gravel layers were similar to the larger and more persistent stratum B. All three roughly paralleled the surface of the fan, and thinned out toward the northwest. They were composed of angular, drip-worn fragments of limestone, and seem to have been formed by water falling from the roof and washing the small limestone fragments from the clay. Along the west wall, the gravel strata were in some places found to coincide with sheets of stalagmite. This would indicate that the gravel layers like the stalagmite were formed during halts in the accumulation of the cave deposit. The gravel layers were separated by sheets of clay similar in every respect to the first clay stratum described. On the disappearance of the gravel all these clay strata blend. This is shown in the cross section (Pl. 12), and accounts for the great thickness of stratum A. It is evident from the section (Pl. 12, Sec. 7) that the lower layers of this stratum are older than those above, but it was not possible to separate them beyond the limits of the gravel layers.

The ash layer, stratum C, was composed of fine particles of volcanic glass. It was thin-bedded throughout, indicating deposition in a small pool of standing water. The deposit attained a thickness of a foot and a half toward the center, thinning out at the northwest and southeast margins. The purest samples of the glass are of a pale straw color, and under the microscope appear as fine filaments with vitreous luster. Between crossed nicols they remain dark for all positions of the field. That a part of the ash stratum lying toward the center of the deposit was a deeper ochreous yellow is due, probably, to the presence of limonite leached in from the beds above. The leaching in of lime and iron from the overlying clays has not affected the glass, which is perfectly fresh.

The ash shows little mixture with foreign material, indicating very perfect assorting by the winds which transported it into the cave, and rapid deposition in the pool which then lay on the cave floor. Scattered through the ash there are small black or



**Apex of the northwest fan. The vertical chute rises above the ladder.**



dark brown grains of doubtful nature, which may represent decomposed rock or mineral particles erupted with the ash.

The stratum lay in general flat, but at the northwest margin it had a dip of about five degrees toward the southeast due to the deposition of the margin of the sheet over the sloping surface of the clay beneath it.

The source of the ash is unknown. It was probably produced by an explosive eruption of some one of the numerous volcanic peaks to the north or east. Apart from the remnant preserved in the cave, no trace of this ash has been found. It must have been deposited widely over the surface of the country, but the thin layer of incoherent material was readily removed during the period of erosion which followed the accumulation of the cave deposit.

Stratum D was similar to the clay composing the upper layers of stratum A, from which it could not be separated beyond the limits of the ash. It contained a considerable number of limestone boulders and was more or less hardened by stalagmitic material.

Excavation ceased during the season of 1902 at the so-called false floor, stratum E, a sheet of cave breccia too hard to penetrate without blasting. The greater part of the floor was removed during the past summer, when it was found to be composed of layers of yellow clay with numerous limestone fragments, the whole cemented by stalagmite into a compact mass.

Lying beneath the false floor was a deposit of soft yellow clay, stratum F, reaching at its maximum a thickness of four feet. The clay was not a constant feature beneath the floor, disappearing toward the southeast, where stratum E rested on bosses of stalagmite.

Stratum G, lying beneath the clay, was composed of large loose blocks of yellow calcite in a clay matrix. Locally the clay was more or less hardened by the infiltration of calcareous material. Filling what appeared to be deep basins in the limestone floor, and occasionally occurring between the loose blocks, was a soft chocolate-colored mud showing stratification planes and evidently deposited in pools of water. The greatest depth of this formation was not determined.

Excavation ceased when great masses of white stalagmite were encountered. These growths did not form a sheet, but were highly irregular, rising as rounded bosses with deep depressions between. They are prolongations of the inward slopes of the cave walls, which are covered with a similar accumulation of stalagmite, and formed the rock floor on which the layers of clay, ash, and gravel were accumulated.

#### STRATIGRAPHY OF SOUTHEAST FAN.

The southeast fan was much simpler in structure, possessing none of the variety of stratified deposits found in the middle of the main chamber. The entire deposit in this end of the cave resembled in material and structure the cemented breccia layer, stratum E, of the northwest fan. It was composed of sheets of clay containing a large number of rock fragments of all sizes. Clay and rock were firmly cemented by stalagmite into a hard breccia. Lenses of soft earth occurred, irregularly distributed through the breccia. Often the deposit was quite soft along the cave walls. The soft and hard layers bore no definite relationship to each other either in stratigraphic sequence or areal extent, and frequently passed abruptly from hard to soft. The rocks imbedded in the clay and breccia were either angular masses of blue limestone or more or less rounded calcite bosses similar to the altar base. The calcite bosses seemed to have fallen from above rather than to have formed in place, as the clay was often soft on all sides of them. In the section (Pl. 12) the entire deposit in this end of the cave has been referred to stratum A.

Wherever the rock floor was struck beneath the southeast fan, it was found to be similar to that described for the opposite end of the cave.

#### BURIED GALLERIES.

During the excavation of the northwest fan there was discovered a series of chambers not before visible. The opening leading to these chambers (Pl. 11, I; Pl. 13, Fig. 5, I) was in the west wall of the main cave and was buried beneath about eleven feet of stratified deposits. The principal gallery had a length of forty-two feet extending parallel with the trend of the main room of the cave. At its northwest end it was prolonged by a low



Apex of the southeast fan. The vertical face developed by blasting is shown beneath the line of stakes in the foreground.





narrow tunnel, eleven feet in length. Joining the main gallery on the west was a semi-circular passage, the floor of which was of blue limestone, but some earth and a few bones had found their way into it.

Flooring the long straight gallery was a mass of cave earth derived from the deposit in the large room. The top of this earth mass represented the continuation of the upper surface of the false floor (Pl. 11). From this point the surface sloped downward steeply toward the northwest. The surface was covered with a creamy white stalagmite varying in thickness from a thin shell up to three or four inches. A small amount of soft earth filled the entrance above the level of the false floor. Within the entrance stratum E could no longer be distinguished, but is probably represented in part by the stalagmite layer. The earth deposit in this tunnel was soft above, but hardened into breccia as the rock floor was approached. Extending at least half way down the slope, beneath the clay, was a sheet of crystalline stalagmite a foot or more in thickness. This was a prolongation of the mass shown at H in Section 5, Plate 13. Beneath the stalagmite the chocolate-colored mud was present to a depth of more than three feet.

#### POCKET DEPOSITS.

In the east wall of the main cave there is a small tunnel opposite the altar and about twelve feet above the floor. From an entrance of irregular shape it runs downward for about fifteen feet. This hole contained a small amount of earth and a number of rather poorly preserved bones. A much larger tunnel opened from the chute at the southeast end of the cave. This hole was six or seven feet in diameter and descended vertically. It also contained earth and bones which appeared to have found their way in through a narrow vertical opening extending toward the surface. This bone-bearing deposit was worked to a depth of nine feet when the increasing difficulty of handling the excavated material and the want of proper facilities for ventilating the narrow shaft compelled a cessation of the work. The earth in both these pockets was highly calcareous, due to the softening and sloughing off of stalagmitic material covering the walls of

the cavities leading to them. At deeper levels the matrix investing the bones contained more clay. The pockets received their contents in the same manner as the main chamber, but their feeding conduits were smaller and became more readily choked by stalagmitic growths. Several other small cavities in the main cave and leading off from the vestibule were explored, but nothing of value was found in them.

#### DEPOSITS AT THE ENTRANCE.

Beneath the limestone arch at the entrance and flooring the passage leading back to the top of the rope ladder, deposits of soft yellow ossiferous earth were found. This material had a depth of over five and a half feet at the entrance, resting on a limestone floor which pitched steeply toward the northwest. In the gallery beyond the entrance the clay occupied shallow basins in the limestone floor. In one of these basins bones and charcoal fragments were found from six to eighteen inches beneath the surface.

#### ORIGIN OF THE CAVE DEPOSIT.

With the exception of the stalagmitic growths and fallen blocks, the entire cave deposit was brought in through the vertical chutes which are situated above the apices of the alluvial fans, and through other openings which have been more or less completely closed by the formation of calcite growths. These openings still permit the entrance of water after several days of heavy rain.

Excepting the chocolate-colored mud and the volcanic ash, which show every indication of having been laid down in shallow, water-filled basins, the structure of the main deposit is that of alluvial fans over which successive accumulations arranged themselves with reference to the surface slopes, without involving much water as the stratifying agent. The gravel layers, as already suggested, represent halts in the process of accumulation, during which stalagmite sheets began to form in the most favorable places along the west wall. Otherwise there is nothing to indicate the rate of accumulation or to mark the successive surfaces of the fans.

Surface soil was probably added during each wet season, while earthquakes may have detached some of the larger fallen blocks. Aeolian agencies were effective in transporting the fine ash which must have entered the cave through one or more openings of considerable size. Through some of these dry clay and loose rocks probably fell from time to time, adding to the growth of the cave fans.

#### CHARACTER AND MODE OF INTRODUCTION OF ORGANIC REMAINS.

Bones were found in all the strata explored excepting the volcanic ash and the chocolate-colored mud. Part of the skull of an *Arctotherium* and some remains of *Ursus* lay among the loose rocks on the surface of the southeast fan. Additional material was secured from the stalagmite on the surface of the slope in the northwest end.

The majority of the specimens collected are dissociated limb bones, jaws, teeth, and indeterminate fragments. Complete skeletons were not common. Associated parts of the skeletons of a few squirrels and wood-rats, a snake (*Orotalus*), and a bat were found in the gravel layers. In addition to these, several complete limbs of *Arctotherium simum*, with all the elements in their natural positions, were discovered imbedded in soft clay, in the main chamber. Associated with these were various parts of the skeletons of several individuals of this species.

In all cases the bones have lost their organic matter completely, adhering to the moistened fingers like kaolin. Some of them are weather cracked, indicating that they lay for a time on the surface. The decay of bones in the cave is exceptional, but has been noticed at several places, where they were found reduced to a fine yellow powder. Occasionally some of the large limb bones were found broken across, where they had become softened by percolating water and were unable to support the weight of the earth above them. Many of the bones have been gnawed by rodents.

Apart from fragments, over four thousand six hundred determinable specimens were collected. This material requires no preparation except to wash off the adhering clay. The bones are usually white, but often show yellow and faint blue discolora-

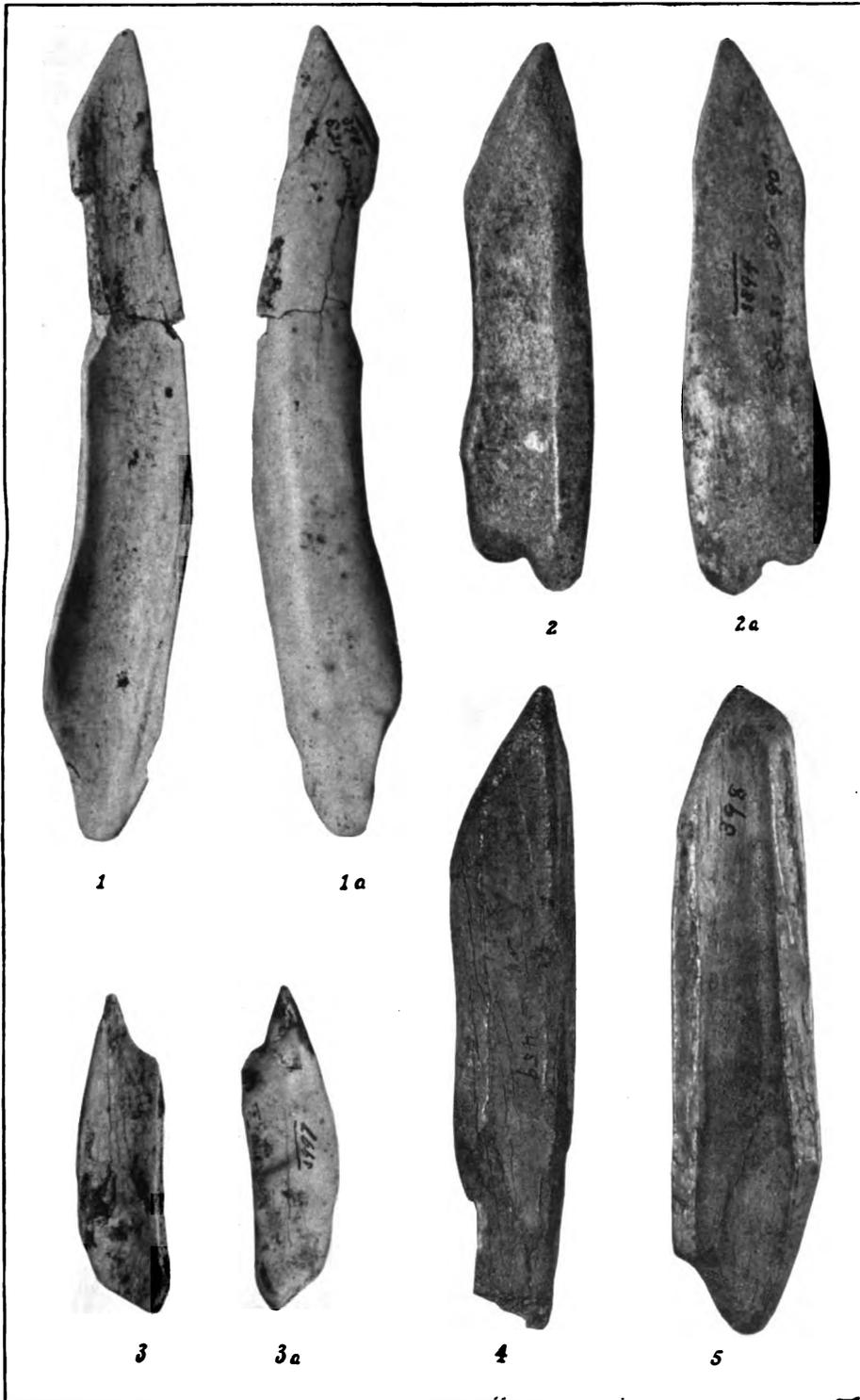
tions. Those from the superficial layers of stratum A are often blackened.

It is difficult to see how such a variety of animal remains could accumulate in the cave, as the number of individuals of the larger forms represented by dissociated parts is considerable. There is little definite evidence indicating that *Arctotherium* lived in any of the existing galleries, and, as it could not easily have climbed into the chamber where its remains were found, it is possible that it fell in, but not necessarily by way of the present entrance. There is nothing to indicate that a catastrophic event destroyed large numbers of animals in this vicinity. The cave seems to have remained open for a long time, receiving bones swept in by rills during wet weather, and the remains of such forms as accidentally fell in. It is possible that the *Arctotherium* inhabited a den adjoining the large chamber, and that from this bones found their way into the cave. The edges of some of the larger bone fragments are flaked off in such a manner as to suggest that they might have been broken by the powerful teeth of this great carnivore. No trace of such a den can now be found, owing to later erosion which dissected the surface of the region.

#### RELICS OF POSSIBLE HUMAN ORIGIN.

Human remains and implements were carefully sought during the whole course of excavation in the Potter Creek cave. During the first season's exploration several polished bones were found which bear a striking resemblance to rude implements. Three typical specimens are represented, natural size, on Plate 7. The largest of these, No. M3982 (Figs. 1, 1a) is pointed at both ends, with indications of beveling at one extremity. The whole fragment is polished. The second specimen, No. M3894 (Figs. 2 and 2a), has the edges on either side of the point beveled and polished, and shows a distinct notch in the broad end. The remaining edges are rounded and polished. This specimen was found embedded in soft clay between eighty and ninety inches beneath the surface. In an adjacent section several teeth of an extinct ungulate, *Euceratherium collinum*,\* were

\* See foot-note on p. 18.



**Figs. 1-3a.** Implement like bone fragments from the Potter Creek Cave (Natural size).

Figs. 1, 1a, No. 3982, Sec. 20, 130-140 inches beneath surface; Figs. 2, 2a, No. 3851, Sec. 33, 80-90 inches beneath surface; Figs. 3, 3a, No. 3997, Sec. 7, 80-100 inches beneath surface.

**Figs. 4, 5.** Bone implements from the Emeryville Shell Mound (Natural size).



found at a level six feet above the implement-like piece of bone. The considerable depth at which the specimen was found in undisturbed earth and the presence of remains of an extinct species above it, indicate that it is not of recent origin. The third specimen, No. M3997 (Figs. 3 and 3a), is sharply pointed at one end, both surfaces are polished and the edges rounded. These polished bones closely resemble many of the rough implements from the shell mounds of California. Figures of two of these implements, reproduced from the plates accompanying the manuscript of Dr. Max Uhle's report on the exploration of the shell mound at Emeryville, are given on Plate 7, Figures 4 and 5. Dr. Uhle believes that these implements were originally splinters accidentally formed in breaking up long bones. Favorable pieces were selected because they had sharp points and these were polished in use. Often the point has been beveled by rubbing on one side.

To eliminate as far as possible all question regarding the nature and origin of these polished bones, every fragment encountered during the excavation was preserved. These were carefully examined in the laboratory for traces of polish and any indication of cutting or rubbing to form a point or beveled edge. The result has been that a considerable number of specimens were found showing all degrees of polish associated with much variety of form. Some of these fragments bear no relation to any known form of implement and it is not easy to see how they could have been used. Many gradations exist between the irregular polished fragments and the implement-like specimens. This suggests the idea that they have all been made in some other way than through the agency of man, and that the rough, implement-like form is purely a chance occurrence. It is therefore important to inquire whether the wear and polish could have been produced by natural means. In one or two instances polished fragments were found associated with limestone gravel in small rock-rimmed basins, where they had been exposed to the action of dripping water. The association of polished bones with drip-washed gravel suggests that some of the worn bones found in the clay may have been abraded in pot holes by this means, or by rill action, before they were entombed.



While the explanation just given may readily apply to the irregularly-shaped polished fragments, the beveled edges and notched base of the specimen shown in Figure 2 convey a very strong impression of definite purpose controlling its fashioning. On the other hand, the writer does not feel justified in positively asserting the human origin of this relic, believing that we require stronger evidence than it has yet been possible to obtain before such a statement is made.

A large part of the material collected consists of sharp-edged bone splinters. These are found at all depths in the bone-bearing deposits, and in all parts of the cave. Many of the splinters occur low down in the deposits and are associated with remains of numerous extinct animals. They resemble the fractured bones from the shell mounds along the coast. We can conceive of these splinters having been formed in a number of ways. They might have been produced by large bone-crushing carnivores, but well-marked traces of gnawing, excepting those referable to rodents, have not been observed on these fragments. In some cases, bones may have been fractured by the impact of their dropping into the cave, or by heavy stones crushing down upon them, but these explanations can not account for the presence of the large number of sharp-edged splinters found, without having some very definite evidence in their support, and this has been obtained in only a few cases. Fractured bones were found near the entrance in the upper gallery, where the distance from the surface is small. Again, bones may have been broken by striking against the irregular walls of the chutes, through which much of the cave earth entered. Regarding this, it may be said that fragile bones were often recovered entire, while most of the splinters were produced from the fracture of large limb bones. Furthermore, the percentage of abraded specimens is much smaller than would be required by this theory, as most of the splinters still have sharp edges.

Another possible explanation is that they were produced on the surface of the ground outside the cave by the process of weather cracking. Only a few could have been formed in this way, and they would in the majority of cases have the edges rubbed down in the process of being carried into the cave.

Since other suggestions fail to explain the presence of these

splinters satisfactorily, it is not beyond the limits of possibility to suppose that they were made through the agency of man. In the case of the material from the shell mounds, the bones were broken to extract the marrow by pounding with a heavy stone, resulting in the production of splinters identical in character with those from the cave. A difficult point to explain by this hypothesis is the presence of these fragments in all manner of inaccessible places, as in the pocket in the east wall, where they could not have been thrown, and must have been carried down through narrow rock channels now closed by stalagmitic growths. Possibly they were washed in from a refuse heap or the accumulation in a rock shelter. The uncertainty of the evidence must be advanced in this case also. At the present time no explanation of the origin of the fragments has been discovered which accords with all the observed facts, though the suggestion that they were made by man appears on the evidence of occurrence to be open to the fewest objections.

In the clay flooring the passage leading back to the top of the swinging ladder, a sharp-edged stone chip, flaked from a river-worn pebble, was found associated with the charcoal mentioned as occurring in the clay. A *Margaritana* shell, several bone fragments, a tooth of the large ungulate, *Euceratherium*, and a fragment of a mammoth tooth were associated with the stone chip. The charcoal did not occur as a definite stratum, but was scattered in small fragments through a fine clay from six inches to eighteen inches beneath the surface of the floor of the gallery. It seems to have accumulated with clays which were carried in from the surface by rain water percolating through fissures in the limestone. It can hardly be considered as certainly representing a local hearth deposit, though such may be the case. It is also possible that it is the result of Quaternary forest fires and has been washed into the cave.

A careful study of the cave collection has failed to indicate the presence of human bones. Early man might have been in existence in the region and yet his remains have escaped preservation in the cave. Those chambers in which the ossiferous deposit attained its maximum accumulation may not have been easily accessible to man or may have been so far from the entrance

that he would have preferred not to visit them frequently. A fragment of modern Indian basket work was found on the surface near the top of the ladder seen in Plate 3, indicating that the entrance chambers may have been used occasionally in recent years as a place of storage. There was nothing to indicate that they had been so used in prehistoric times. It seems probable that the main chamber of the cave originally had free communication with the surface, serving as a pitfall to catch unwary mammals. The accumulation of human remains in such a pitfall would be of rare occurrence, depending upon accidents against which the superior intelligence of man would protect him.

The cave fauna is not too old to negative the idea of contemporaneity with man. There can be little doubt that if man reached the North American continent during the Quaternary it was by way of the land bridge which then united Alaska with Siberia at Bering Strait. This land connection permitted the migration of many of the mammals now common to the most northern parts of both continents.\* It seems reasonable to expect that some of the earliest traces of man in North America would be found on the Pacific coast where the climate was congenial and food supply abundant while the eastern portion of the continent was submerged beneath the ice sheet. Glaciation in California has never been general, occurring only at the higher altitudes. At its maximum the coast was almost as well adapted to human habitation as it is to-day.

#### THE CAVE FAUNA.

With the exception of bats, no vertebrates are living in the perpetually darkened portion of the cave. A few wood-rats have nested in some of the holes in the cliff above the entrance. Cliff-nesting birds (swallows and wrens) occupy some of the narrow ledges and smaller holes. An occasional rattlesnake may be found in the brush and loose stones about the cave mouth. Several white isopods and a number of spiders were collected in the main chamber of the cave. These were submitted to Professor C. A. Kofoid. The isopods, Professor Kofoid states, are closely allied to *Procellio scaber*, a cosmopolitan species.

\*R. Lydekker. "A Geographical History of Mammals," p. 337, pp. 346-348.

The spiders belong to an undetermined species in which external eyes are not apparent. They were living on webs spread in crevices in the cave walls and on the altar in the southeast end. In addition to these, an earthworm and several beetle larvae were found in the damp earth on the floor. A few specimens of a large myriapod were noticed, and encrusted fossil remains of an allied form were occasionally found in the breccia and gravel layers.

The following is a revised† list of the vertebrate species represented by remains collected in various parts of the cave. All extinct species are marked with an asterisk:

- \**Arctotherium simum* Cope.
- \**Ursus* n. sp.
- \**Felis* n. sp.
- Felis* near *hippolestes* Merriam, C.H.
- Lynx fasciatus* Rafinesque.
- Lynx fasciatus* n. subsp. (†)
- Urocyon townsendi* Merriam, C.H.
- Vulpes cascadenis* Merriam, C.H.
- \**Canis indianensis* Leidy.
- \**Taxidea* n. sp. (†)
- Bassariscus raptor* Baird.
- Mephitis occidentalis* Baird.
- \**Spilogale* n. sp.
- Putorius arizonensis* Mearns.
- Arctomys* sp.
- Sciurus hudsonicus albolimbatus* Allen.
- Sciuropterus klamathensis* Merriam, C.H.
- Spermophilus douglasi* Richardson.
- Eutamias senex* (†) Allen.
- Callospermophilus chrysodeirus* Merriam, C.H.
- Lepus californicus* Gray.
- Lepus klamathensis* Merriam, C.H.
- Lepus* near *audoboni* Baird.
- Lepus* sp.
- \**Teonoma* n. sp.
- Neotoma fuscipes* Baird.
- Microtus californicus* Peale.
- \**Thomomys* n. sp.
- Thomomys leucodon* Merriam, C.H.
- Thomomys monticola* Allen.
- \**Aplodontia major* n. subsp.
- Scapanus californicus* (†) Ayres.
- Antrozous pallidus pacificus* Merriam, C.H.

† Provisional list in Science, N.S., Vol. XVII., No. 435, pp. 708-712, May 1, 1903.

\* Extinct.

- \**Platygonus* (?) sp.
- Odocoileus* sp. a.
- Odocoileus* sp. b.
- Haplocerurus montanus* Ord.
- \**Euceratherium collinum* n. gen. and sp.†
- \**Bison* sp.
- \*Camelid
- \**Megalonyx wheatleyi* (?) Cope.
- \**Megalonyx jeffersonii* (?) Harlan.
- \**Megalonyx* n. sp.
- \**Megalonyx* sp.
- \**Mastodon americanus* Kerr.
- \**Elephas primigenius* Blumb.
- \**Equus occidentalis* Leidy.
- \**Equus pacificus* Leidy.
- Crotalus* sp.
- Mylopharodon conocephalus* Baird and Gerard.
- Ptychocheilus* (?) *grandis* (?) (Ayres).
- Acipenser medirostris* (?) Ayres.

In addition to the species listed, there should be mentioned a large number of birds which have not been determined, and

\* Extinct.

† This form is being investigated jointly by Mr. E. L. Furlong and the writer. The following preliminary description is abstracted from their manuscript:

*Euceratherium collinum* n. gen. and sp.

*Type*.—No. M8751 Univ. of Cal. Palaeontological Museum. A cranium without mandible discovered by Mr. E. L. Furlong in the Samwel cave, Shasta Co., Calif.

*Generic Characters*.—Horn-cores solid, situated far behind orbit, close together on posterior extremity of frontal. Frontal reaching occiput, with large pneumatic cavities extending into bases of horn-cores. Parietal confined to occiput, forming no part of cranial roof. Lachrymal pit broad and shallow. Dental formula 0, 0, 3, 3. Teeth hypsodont, large, without cement or accessory cuspules.

*Specific Characters*.—Horn-cores laterally compressed and curved, elliptical in cross section at base, circular at tip. Proximal half directed upward and backward, distal half outward and forward. Frontals broadly convex above orbits, slightly inflated toward bases of horn-cores. Occiput with sharp median keel above foramen magnum. Size almost equal to that of *Bos*.

*Systematic Position and Relationships*.—The new genus is a member of the cavicorn division of Artiodactyla. It combines characters of several groups. From the Bovinae it is separated by the lack of cement and absence of accessory cuspules on the teeth. It differs from the goats in possessing a lachrymal depression. The shape and position of the horn-cores, and the large size of the animal separate it from *Ovis*. It is larger than any of the so-called goat-antelopes of North America, and differs from them in the presence of a lachrymal depression, the conformation of the parietal zone, and the shape and position of the horn-cores. On the other hand, it resembles the Bovinae in size, in the posterior position of the horn-cores, and in the relations of the frontal and parietal, but differs from that group in the possession of a lachrymal pit, and in dental structure. The teeth approximate in size and structure those of *Ovibos*, but there are marked cranial differences which separate *Euceratherium* from that genus. E. L. FURLONG and Wm. J. SINCLAIR.

a tortoise. Shells of the helicoid mollusc *Epiphragmophora mormonum* were common, as were also remains of a fresh-water mussel allied to *Margaritana falcata* living in the McCloud river. The fresh-water molluscs and the fishes are believed to have been transported by birds.

Of the fifty-two species listed, twenty-one are extinct and two or three in addition doubtfully so.\* All the large ungulates and carnivores are extinct, while of the surviving forms the rodents comprise the major portion. Associated with mountain and forest types like *Haplocerus* and the deer are plains species, the horses, camel, bison and elephant. The fauna listed is a unit. No distinction is to be drawn between the collections from the different layers. Several living forms which were not known to date back beyond the recent epoch have been found. Among these may be mentioned the Aplodontidae, the so-called Rocky Mountain goat, *Haplocerus*, and the rattlesnake, *Crotalus*. With the exception of a single individual from Mercer's cave, Calaveras County, ground sloths of the genus *Megalonyx* have been found for the first time in this state, while *Myiodon*, a contemporary of *Megalonyx* in California, is not represented. The types present, as well as the proportion of living to extinct species, indicate that we are dealing with an assemblage of forms of later Quaternary age.

#### THE CONTEMPORARY FAUNA.

*The San Pablo Bay Quaternary.*—On the east shore of San Pablo Bay, north of Pinole, there are marine beds resting on the upturned edges of the San Pablo. One stratum is composed largely of oyster shells. Dr. Ralph Arnold has collected from these beds *Ostrea lurida*, *Ostrea conchaphila*, *Mytilus edulis*, and *Tagelus californicus*. On the basis of the character of the strata and their fauna, Dr. Arnold has correlated these beds with the Upper San Pedro series.†

Above the shell beds are alluvial deposits of sand, clay and gravel which have afforded bones of various extinct mammals. Remains of *Elephas* have been found in the shell stratum beneath

\*A doubtful sub-species of *Lynx fasciatus*, a *Lepus* and a species of *Odocoileus* may be extinct.

†Memoirs Cal. Acad. Nat. Sci. Vol. III, p. 49.

the alluvium. Including this specimen with the species from the alluvial deposits, the list of vertebrates from this locality is as follows:

Large carnivore genus and sp. indet.

Camelid.

*Morotherium gigas* Marsh.\*

*Bison antiquus* Leidy.

*Elephas primigenius* Blumb.

*Mastodon americanus* Kerr.

*Equus pacificus* Leidy.

*Equus* sp.†

This is a plains fauna, and a comparison of it with the cave fauna should be confined to the plains species from the latter, as the bay region during the accumulation of these alluvial deposits was probably not adapted to forest types. With this limitation in mind, the two faunas are seen to be practically the same. From the sequence of Quaternary geological events which Professor Lawson has worked out for the bay region, the beds at Pinole are known to belong probably to the last quarter of that period.‡ This evidence combined with that derived from a study of the mammalian fauna indicates with considerable certainty that they are of the same age as the cave deposit.

*The Fauna of the Silver Lake Beds of Oregon.*—In order to fix the age of the cave deposit as definitely as possible, comparison may be made with the fossiliferous deposits at Silver Lake in Southern Oregon. The age of these beds is determined by the relation of their mammalian fauna to the faunas characterizing an extensive series of Miocene, Pliocene and Quaternary deposits in the John Day region. The following list of species from this locality is compiled from lists furnished in the manuscript of a paper on the "Fauna of Silver Lake" by Dr. Alice Robertson and from a paper entitled "List of the Pleistocene Fauna from Hay Springs, Nebraska" by Dr. W. D. Matthew.§

*Ursus* sp. indet.

*Felis* sp. indet.

\* From Tomales Bay and Bull's Head Point, Contra Costa County. Quaternary, same beds as those at Pinole. Merriam, J. C., Bull. G. S. A. Vol. XI, pp. 612-614.

† Smaller than *E. pacificus*, but with more complex tooth pattern than *E. occidentalis*.

‡ Communicated.

§ Bull. Am. Mus. Vol. XVI, pp. 317-322.

*Canis latrans* Say.  
*Canis* cf. *occidentalis*, Richardson.  
*Vulpes* cf. *pennsylvanicus*, Rhoads.  
*Lutra canadensis* Schreber.  
*Fiber zibethicus* Linnaeus.  
*Arvicola* sp. div.  
*Thomomys* sp.  
*Geomys* sp.  
*Castor* sp.  
*Castoroides* sp.  
*Lepus* sp. (cf. *campestris* Bachman).  
*Mylodon sodalis* Cope († *M. harlani* Owen).  
*Equus pacificus* Leidy.  
*Equus* n. sp.\*  
*Elephas primigenius?* *columbi* Falconer.  
*Platygonus*, cf. *vetus* Leidy.  
*Platygonus* sp. minor.  
*Eschatus conidens* Cope.  
*Camelops kansanus* Leidy.  
*Camelops vitakerianus* Cope.  
*Camelops?* sp. max.  
*Antilocapra*.

Regarding this association of species Dr. Matthew writes:†

"This is equally a plains fauna, with two aquatic mammals, *Castor* and *Lutra*, not found at Hay Springs. Otherwise the list is very similar to that at Hay Springs, and, like it, is characterized by the absence of the forest types found in the Pleistocene cave deposits, river gravels, and peat bogs of the East."

The list contains several species not found in the cave, among which may be mentioned *Lutra*, *Fiber*, *Geomys*, *Castor*, *Castoroides*, *Antilocapra* and the coyote. Horse, camel and elephant bones make up the greater part of the Silver Lake collections, while the remaining forms are represented by fewer individuals, in some cases by one or two specimens only. In the cave material, there are scores of specimens of *Arctotherium*, *Ursus*, deer, *Euceratherium* and various rodents, while of such plains types as *Elephas*, *Equus* and the camels a few fragmentary teeth were found. *Megalonyx*, which in California seems to have preferred the foot-hill region of the Sierra Nevada and the Klamath Moun-

\* Podial elements of an equine very much smaller than *E. pacificus*. The remains are regarded by Dr. Robertson as those of an adult individual.

† loc. cit., p. 321.



tains is replaced in the Oregon plains fauna by the contemporary *Mylodon*.

The Silver Lake fauna is Quaternary and is probably of about the same age as the cave deposit, as the proportion of living to extinct species is practically the same. *Equus pacificus* and *Elephas primigenius* are common to the cave, the beds at Pinole and the Silver Lake locality. Several additional genera are common to the Silver Lake beds and the cave, but there are a number of species, mostly living forms, represented in the Oregon fauna which have not been found in the cave. Some of these differences may be accounted for by the topographic dissimilarity of the two regions and their separation by considerable mountainous areas.

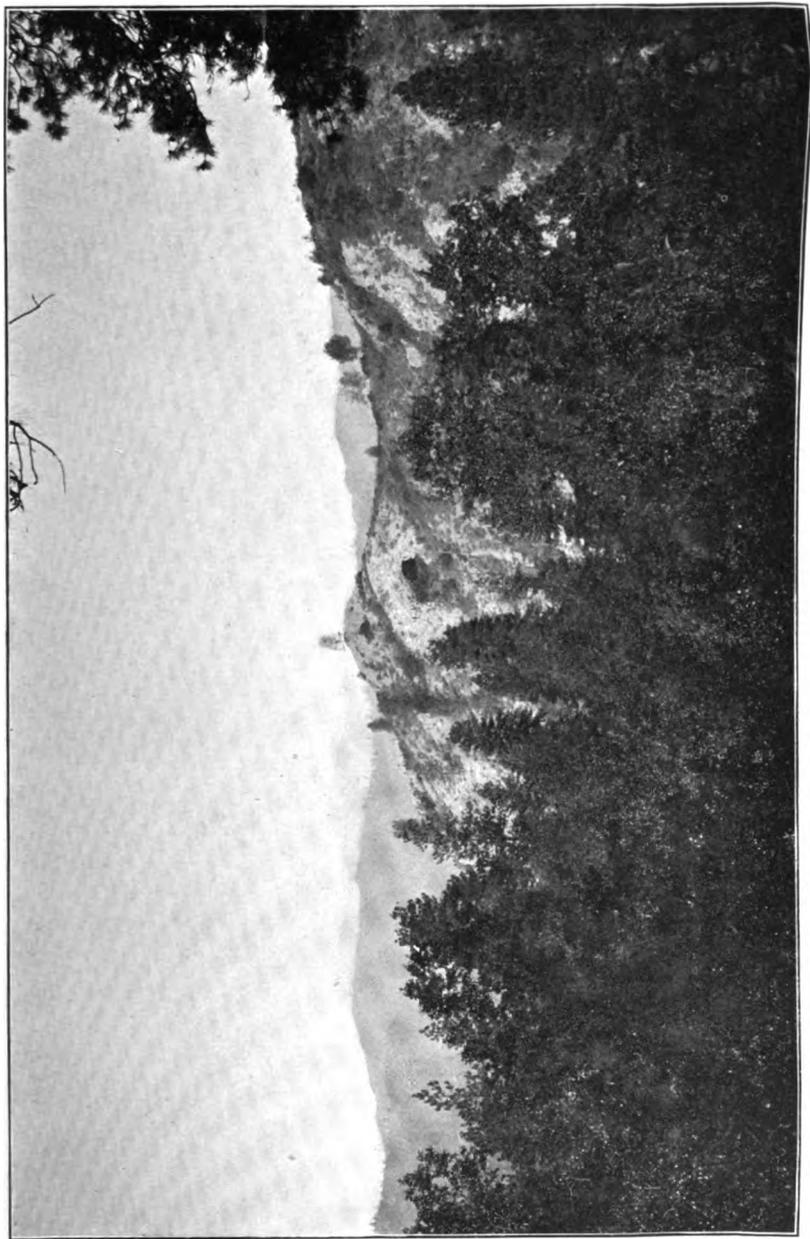
#### RELATION OF THE CAVE TO THE EXISTING TOPOGRAPHY.

The spur on which the cave lies (Pls. 8 and 9) is one of several westerly and southwesterly trending ridges carved out of the Baird formation and the McCloud limestone, by short streams emptying into the McCloud River. The ridges form divides between cañons with steep slopes. Where they are not controlled by the limestone outcrop, they rise gradually from the 1500-foot contour toward Horse Mountain (4040 ft.). Below the 1500-foot line, the slopes fall off rather abruptly toward the river. The surface from the cave to the mouth of Potter Creek has a fall of 800 feet in about one and one eighth miles.

On the west side of the river, back of Baird, the topography is less rugged. The break below the 1500-foot contour is also better marked (Pl. 10). The stream cañons are fairly deep where they cut through the Baird shales, but broaden out at their head waters on Johns Creek and Turntable Creek.

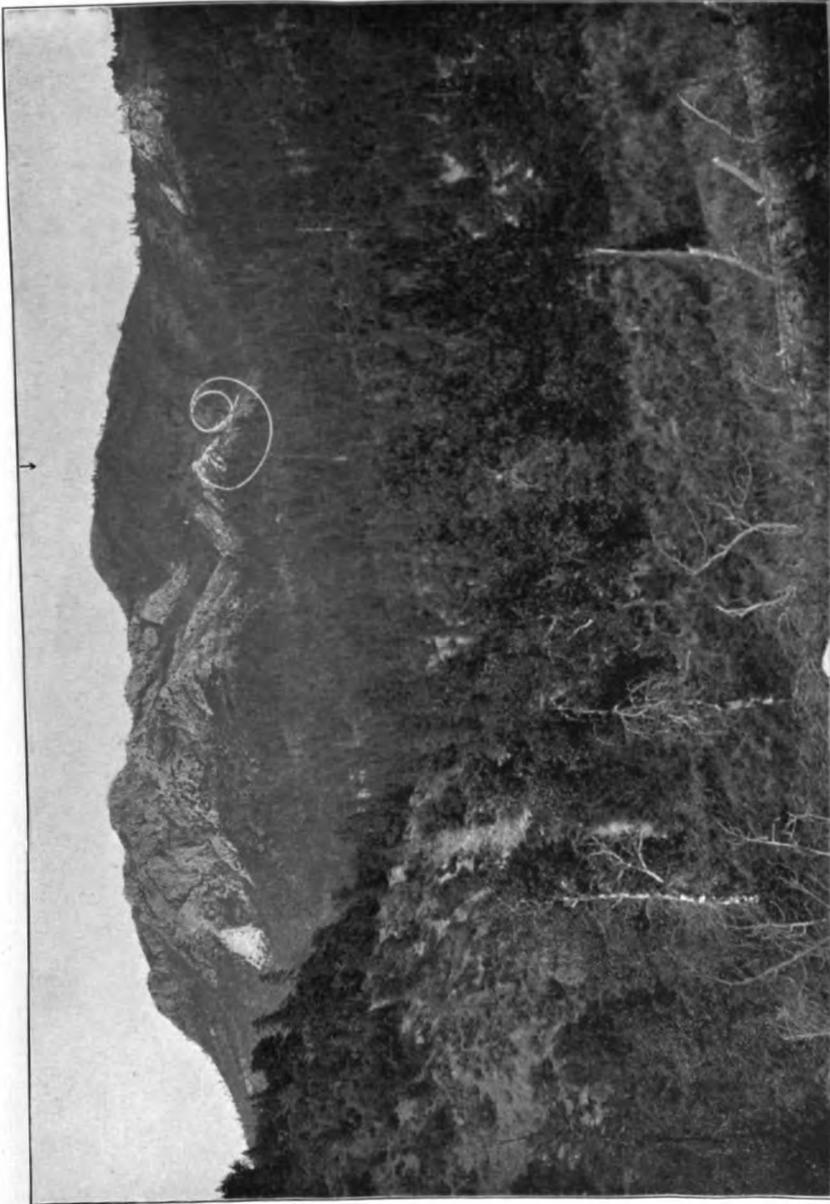
The creeks coming in from both sides reach the McCloud at the low water level of that stream, but this grade does not extend far up the tributaries, which have a fairly steep slope and are still cutting vigorously.

On both sides of the river water-worn pebbles are abundant up to a level of 1500 feet above sea. These are found on the crests of divides between streams, on cañon slopes and on isolated summits.



Entrance to the cave. Looking northwest across the cañon of Potter Creek.





Looking northeast across the McCloud cañon from the south side of Turntable Creek. The cave lies on the lower limestone ridge indicated by the arrow.



## RELATION OF THE CAVE TO THE QUATERNARY TOPOGRAPHY.

The 1500-foot contour marks approximately the present elevation of an earlier valley stage beneath which the existing cañons are trenched. This topographic feature is not particularly well developed in the vicinity of the cave, owing to the excessive amount of stream dissection which the region has suffered. Mr. J. S. Diller has informed the writer that it is well shown in the vicinity of Kennett. It is also developed to the east and northeast of Bear Mountain, and may be viewed to advantage from the high ridge on the south side of Potter Creek. In Plate 10 the trace of this earlier valley surface is shown on the summit of the flat-topped hill in the background. River-worn gravel was found on the top of this hill and also strewn the slopes to the back of the terrace shown in the middle ground.

At the time when the cave deposit was accumulating the McCloud River flowed at a level not much lower than the bottom of the cave, or not far below the 1500-foot contour. This level was maintained not only during the time of accumulation, but during the much longer preceding interval required for the removal by solution and otherwise of a mass of limestone equal in volume to the cave. This could not have been accomplished with the river at a higher level, as in that case there would be no exit for the underground water, which would tend to stand in the country rock under pressure rather than to assume a single direction of flow along the fissure line controlling the trend of the cave. The shape of the cave, wide above and narrowing downward, shows that the point of discharge for the percolating waters must have been at a level lower than the present entrance.

As the tributary streams extended back by headwater erosion, the country on either side of the cave was better drained. Less rain water circulated along the fissure and cave cutting ceased, because, instead of draining into the cave by a sink, the water flowed into the creeks. At this stage the large calcite bosses on the floor were formed. Later, openings in the roof, probably formed by rills washing off some of the surface material on the slopes of the incipient cañons of Potter and Marble Creeks, per-

mitted the entrance of clay, rock fragments, broken bones, and possibly living animals.

The mingling of plains and forest types in the Quaternary fauna is in accordance with the known moderate relief of the region, which was a broad valley with wooded hills on either side, above which rose higher peaks like Horse Mountain, affording a congenial habitat to mountain dwelling forms like *Haplocerus*, while the valley land was favorable to the presence of camels and horses.

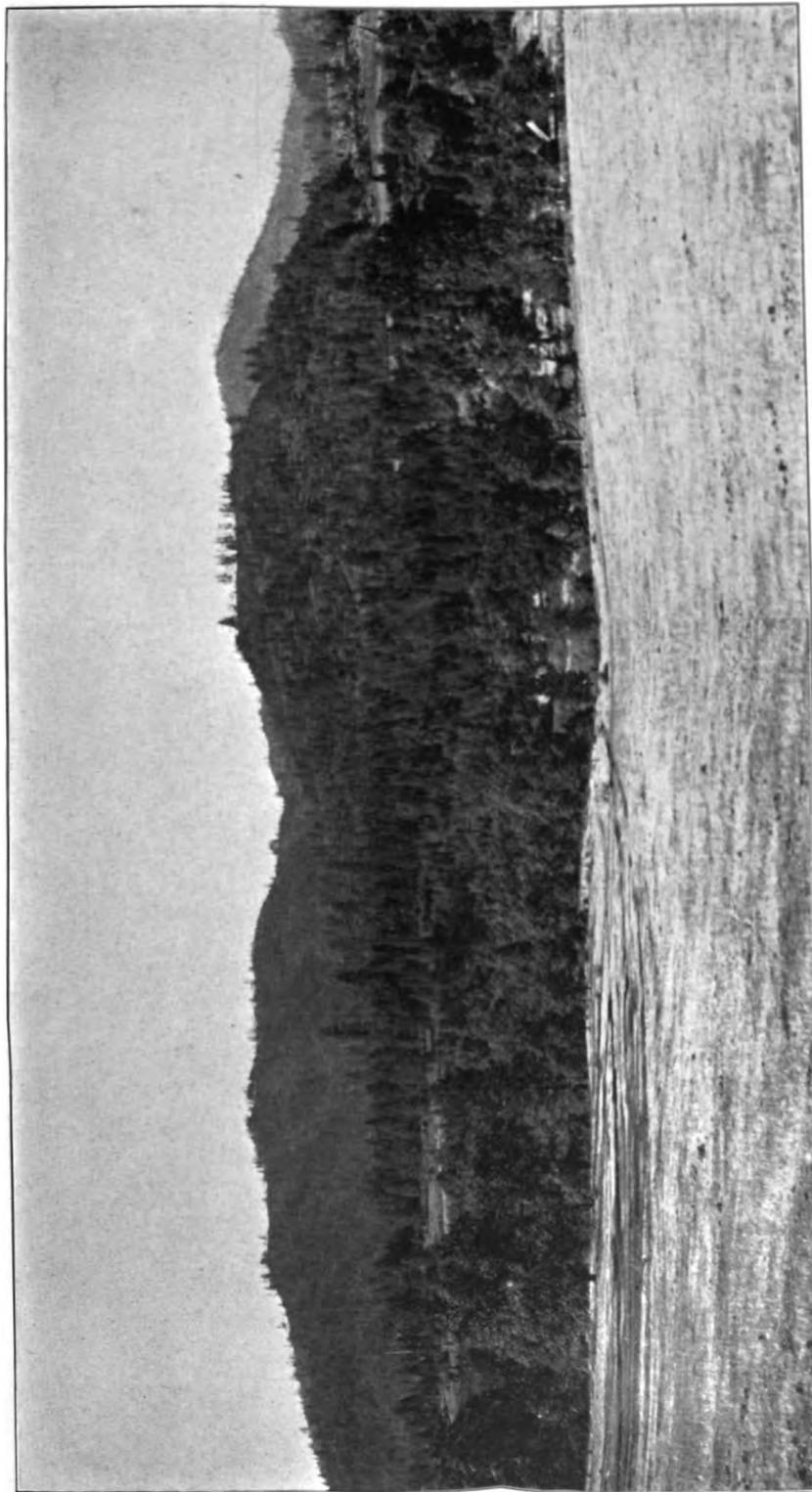
An eruption from one of the volcanic peaks to the north or east showered the region with fine ash during this stage of topographic development, but this was a mere episode, scarcely an interruption, which did not alter the character of the fauna in the least.

This cycle of low relief was terminated by an uplift, increasing the grade of the master stream, initiating the cutting of the present McCloud cañon, and renewing headwater erosion in the lateral tributaries. Eventually one of these, Potter Creek, cut down through one of the galleries of the cave, opening the present entrance.

With the stripping off of the surface soil from the ridge sides by the deepening creeks, no more clay could enter the cave. The entrance channels were blocked by rocks or crystalline growths and the cave began to seal up its treasures by the formation of a stalagmite sheet, marking the last halt in the process of accumulation.

At first the cañon cutting was rapid, but later the river reached a lower grade and began to meander. A terrace about 240 feet above the present low water stage marks the position of the first halt. This terrace is shown on Plate 2. It is rock-cut with a thin coating of gravel on the surface. The stream gravels scattered on the cañon slopes above this level were left stranded by the McCloud as it cut down from the old 1500-foot base-level.

A second uplift, possibly of a differential character, renewed the downward cutting of the river. A second terrace, also rock-cut but of much greater extent than the first, was formed about 150 to 160 feet above the river at Baird (Pl. 10). The surface of this terrace is strewn with river gravel. A lower and much



West side of McCloud cañon, near Baird. 160-foot terrace in middle ground. The flat-topped hill in the background (elevation 1522 feet) marks the level of the earlier valley stage.





smaller terrace occurs at about ninety feet, and other less distinct levels may be traced to perhaps fifty feet above the river.\*

Taking into consideration the amount of cañon cutting accomplished by the McCloud above the 240-foot terrace and comparing it with a similar degree of cutting above a certain terrace level in the cañon of the Sacramento, it seems reasonable to correlate the high terrace at Baird with the broad terrace which is so well developed in the upper end of the Sacramento Valley in the vicinity of Redding. Regarding the age of this terrace Mr. Oscar Hershey† says:

"The Red Bluff formation belongs to the last one-fourth of the Quaternary era. On the northern border of the Sacramento Valley, in Shasta County, there are flats one to two miles wide, consisting of the Red Bluff gravel resting on the truncated edges of the highly inclined metamorphic formations. They are elevated one hundred to two hundred feet above the present streams, as Clear Creek and the Sacramento River, which have trenched narrow cañons below them. The Red Bluff terrace can be traced for several miles up into the mountain valleys of such main streams as those mentioned above, and it is thus made evident that at the very least three-fourths of the erosion of the Sierran valleys had been accomplished by the time of the opening of the Red Bluff epoch."

The amount of erosion in the McCloud cañon above the upper terrace agrees favorably with Mr. Hershey's estimate, and strengthens the correlation of the high river terrace at Baird with the top portion of the Red Bluff formation, spread out over the surface of the Red Bluff terrace in the north end of the Sacramento Valley. About one-quarter of the entire interval of cañon-cutting is represented by the amount of erosion accomplished by the McCloud below the 240-foot terrace level.

The sequence of events which has been made out in the cañon of the McCloud agrees very closely with Professor Lawson's

\* The terrace levels given in the writer's preliminary paper (*Science N. S.*, Vol. XVII, No. 435, pp. 708-712) were based on roughly made observations and are not exact. The elevations given here were determined by hand level, distance from the ground to the eye of the observer being taken as a measuring rod. The measurements of the higher terraces were made twice, giving in each case approximately the same result.

† *Bull. Dept. Geol. Univ. of Cal.*, Vol. III, No. 1, p. 12.

presentation of Quaternary history as recorded in the upper Kern basin,\* but the cañon of the McCloud is not as deep as that of the Kern, owing to a lesser degree of elevation occasioning the cañon cutting. Professor Lawson's high valley zone corresponds with the earlier valley stage which has been recognized in the vicinity of the cave, beneath which the cañon of the McCloud is trenched. The trenching of the cañon occupied an exceedingly short time compared with the much longer interval required for the development of the old valley surface. The cave fauna occupied the latter during its completed stage, but was not necessarily in existence in the region while this topographic feature was being evolved.

The material excavated by the McCloud while cutting down to the upper terrace level forms a part of the great debris fan buried in the upper end of the Sacramento Valley beneath the Red Bluff terrace.

Older base levels of erosion have not been recognized in the vicinity of the cave owing to the excessive amount of dissection which the region has suffered, but a series of Tertiary penepains in the Klamath Mountains has been described by Mr. Diller.†

The cave fauna described in the preceding pages is much older than the glacial period in this state. The maximum glaciation of the Sierra Nevada has been referred to the Wisconsin epoch of the glacial time scale worked out for the eastern part of the continent.‡ The Red Bluff epoch which has been correlated with the upper river terrace at Baird, although referable to the last quarter of the Quaternary, is older than the Californian glaciation, from which Hershey has separated it by two epochs of erosion and one of deposition.§

#### THE FAUNA IN ITS RELATION TO TOPOGRAPHIC CHANGES.

The change from a country of moderate relief to a mountainous district dissected by river cañons reacted on the fauna,

\* Bulletin Dept. Geol. Univ. of Cal., Vol. III, No. 15, pp. 362-368.

† "Topographic Development of the Klamath Mountains." Bul. 196, U. S. Geological Survey.

‡ O. H. Hershey. Bull. Dept. Geol. Univ. of Cal., Vol. 3, No. 1, p. 27. H. W. Turner. Proc. Cal. Acad. Sci., 3rd series, Vol. 1, No. 9, p. 270.

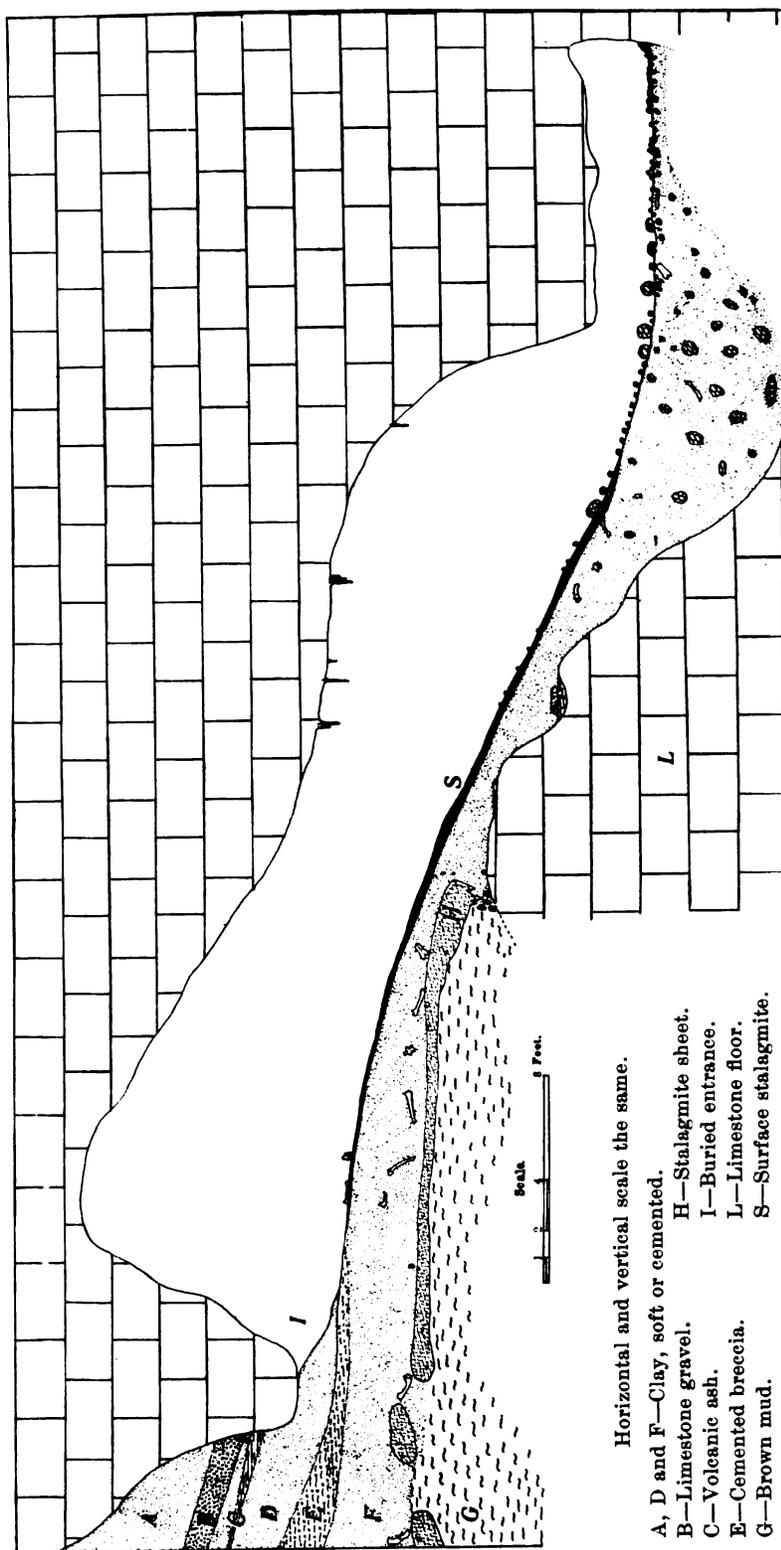
§ O. H. Hershey. Bull. Dep. Geol. Univ. of Cal. Vol. 3, No. 1, p. 28

causing migration and extinction. Those species which still exist in the region are the successful survivors, which were able to adapt themselves to the changed conditions. Some of the species which are now extinct may have continued to inhabit the region for a considerable time after the topographic revolution, but this can not be determined until bone-bearing Quaternary deposits of later age have been found. Higher up the McCloud, Mr. Furlong has discovered a cave fauna which is supposed to be younger than that described here. The study of this fauna will, it is believed, throw much light on the problem of faunal migration. The thorough examination of a series of caves ranging in age from early Quaternary to Recent will doubtless furnish valuable evidence relating to the faunal migrations, and should also give most important testimony concerning the time when man first came to inhabit this region.

*University of California,  
April, 1904.*

**EXPLANATION OF PLATE 11.**

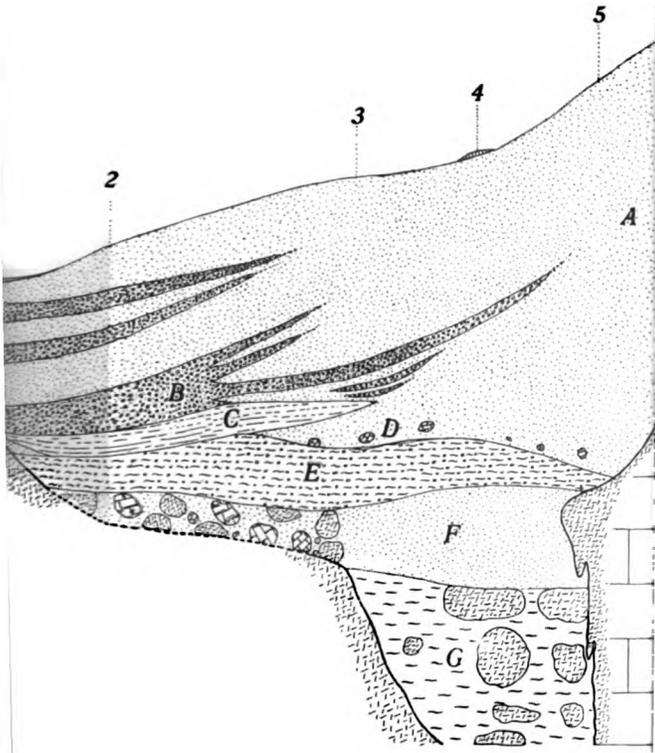
**Longitudinal section of the buried gallery, showing the relation of its deposits to the beds in the main chamber of the cave.**



Horizontal and vertical scale the same.

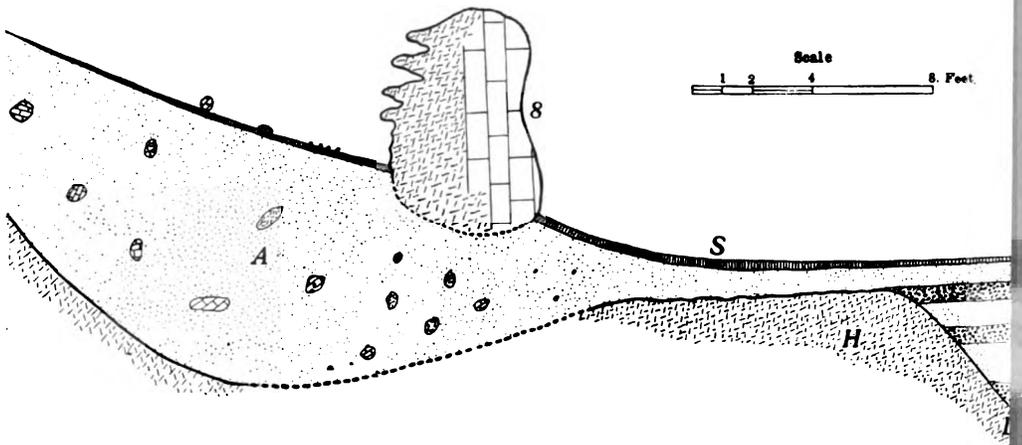
- A, D and F—Clay, soft or cemented.
- B—Limestone gravel.
- C—Volcanic ash.
- E—Cemented breccia.
- G—Brown mud.
- H—Stalagmite sheet.
- I—Buried entrance.
- L—Limestone floor.
- S—Surface stalagmite.

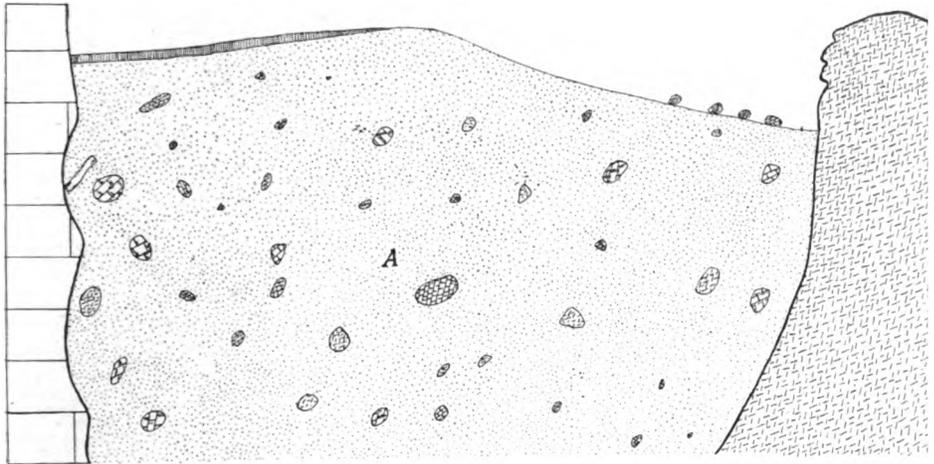




14).  
 he c  
 Pls.







Longitudinal section of the deposit in the main chamber (Section 7, Pl. 14).

Horizontal and vertical scale the same.

A, D and F—Clay, soft or cemented.

B—Limestone gravel.

C—Volcanic ash.

E—Cemented breccia.

G—Brown mud, cemented clay and stalagmite blocks.

H—Stalagmite bosses forming the c.

S—Surface stalagmite.

1-6—Lines of cross sections, see Pls.

8—Fallen block.

9—Altar.

Handwritten text in a vertical column, possibly a list or index, consisting of several lines of characters.

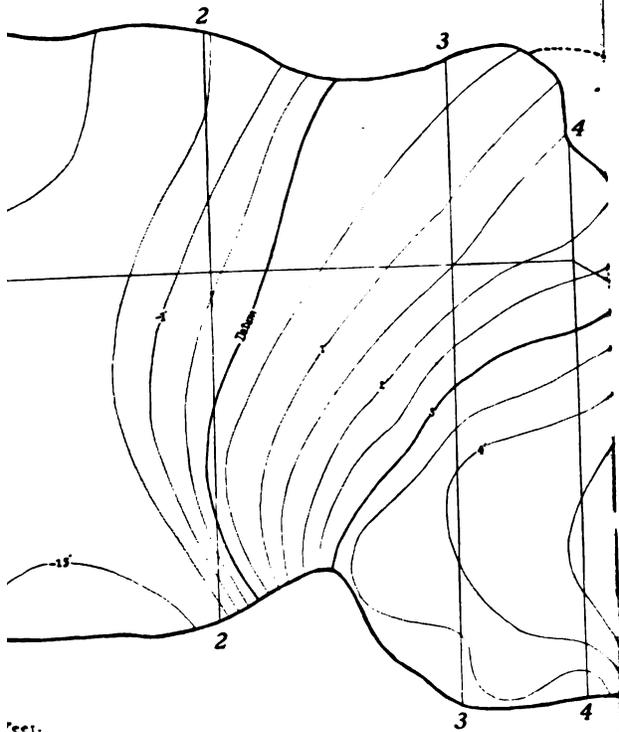


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the main chamber in the Potter Creek Cave.

: interval 6 inches.

rary datum plane, below which depression contours are  
 ndaries of rock masses, the cave walls and the lines of  
 o at the extreme northwest end is not shown on the map.  
 ries is represented by broken lines.

3. 9—Altar.

10, 11—Stalagmite-covered rock benches.

s resting on ossiferous clay.









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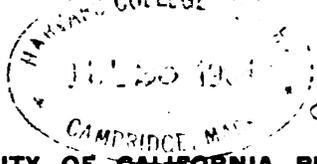
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THE LANGUAGES OF THE COAST  
OF CALIFORNIA  
SOUTH OF SAN FRANCISCO

BY

A. L. KROEBER

BERKELEY  
THE UNIVERSITY PRESS  
JUNE, 1904  
PRICE 60 CENTS



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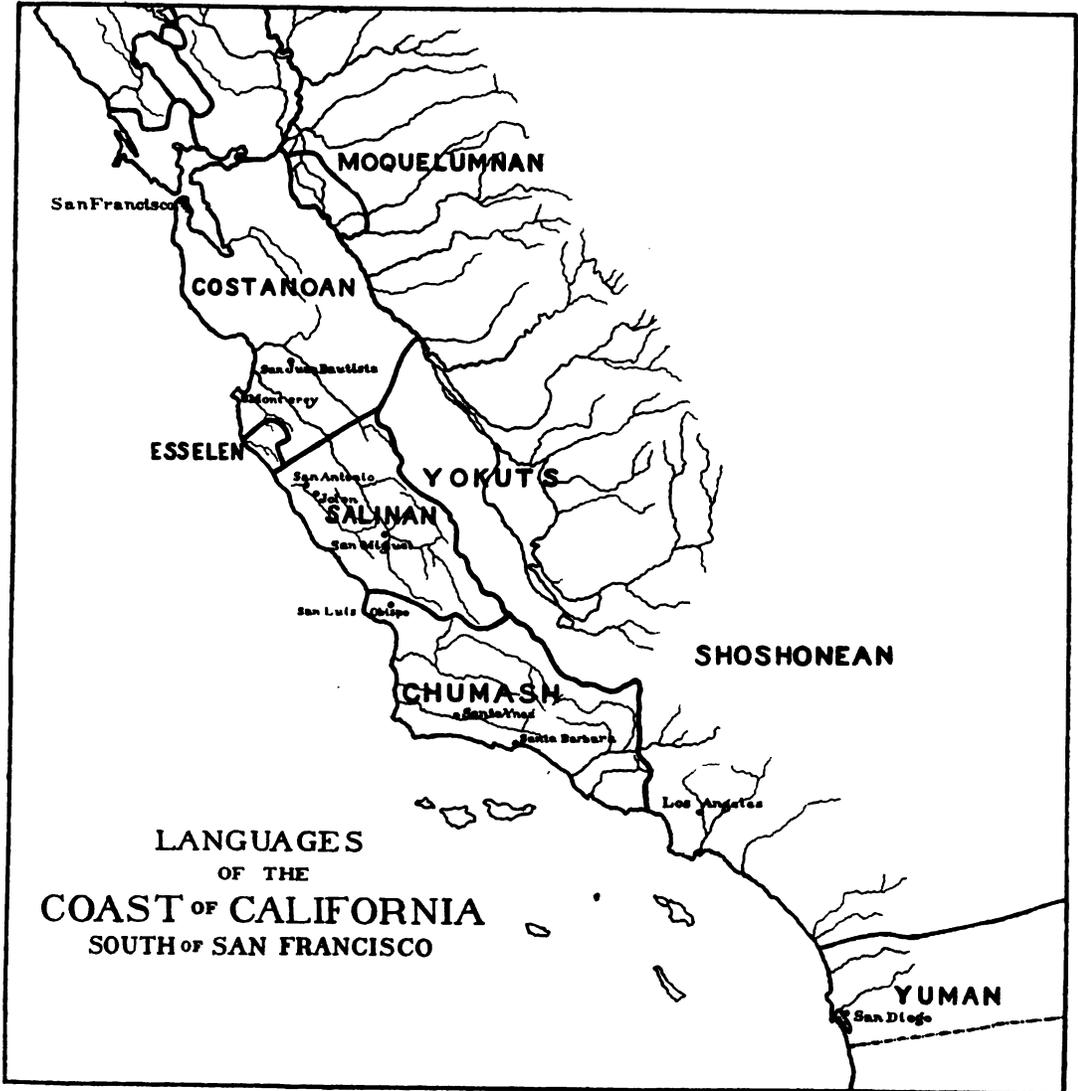
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LANGUAGES  
OF THE  
COAST OF CALIFORNIA  
SOUTH OF SAN FRANCISCO

THE LANGUAGES OF THE COAST OF CALIFORNIA SOUTH OF SAN FRANCISCO.

BY

A. L. KROEBER.

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## INTRODUCTORY.

Through the munificence of Mrs. Phoebe A. Hearst, the Department of Anthropology of the University of California has for several years conducted extensive researches. Among these has been an anthropological investigation of the little known Indians of California, which has recently been organized into an Ethnological and Archaeological Survey of the State. The present paper is based on linguistic notes made in the winter of 1901-2 as part of this investigation. One of the languages on which information was desired being now extinct, it was necessary to have recourse to older records. Thanks are due to Professor W. H. Holmes, Chief of the Bureau of American Ethnology, for courtesy in granting permission to use several vocabularies containing such material.

The coast of California south of San Francisco was formerly inhabited by Indians of six linguistic stocks. These were, in



Powell's terminology, Yuman, Shoshonean, Chumashan, Salinan, Esselenian, and Costanoan, in order from south to north. Yuman and Shoshonean, the two southernmost of these six stocks, were extensive. Only a small part of their territory lay within the state of California. The four other stocks were smaller, confined to the coast, and entirely Californian. Only these four are treated in this paper.

Throughout the area under consideration, from Santa Barbara to San Francisco, there are now very few Indians. Only a fraction of these, mostly older people, still know the native languages. All the Indians speak Spanish. With one exception no continuous texts could be obtained in any of the languages. To gain an idea of the grammatical structure it has therefore been necessary to depend on sentences. Owing to this fact and the writer's limited command of Spanish, the investigation of the languages was carried only far enough to obtain an outline of the structure. The results elaborate certain conclusions as to the morphological grouping of the linguistic families in California stated in a paper on the Native Languages of California.<sup>1</sup>

The following alphabet has been used.

Vowels:

a, ā	as in father, short and long respectively.
ä, ǟ	as in American fat, short and long respectively.
e, i, o, u	short open vowels.
ē, ī, ō, ū	long closed vowels.
è, ì, ò, ù	long open vowels.
ö, ü, ȫ, ǖ	nearly as in German; closed vowels, short and long.
â	English aw.
a <sup>n</sup> , e <sup>n</sup> , i <sup>n</sup> , o <sup>n</sup> , u <sup>n</sup>	nasalized vowels.
Ä, Ê, Î, Ô, Û	obscure vowels.
ä; e, i, o, u	scarcely articulated vowels.
o, u, ö, ü, ȫ, ǖ, ȫ̄, ǖ̄	peculiar impure vowels.

<sup>1</sup> R. B. Dixon and A. L. Kroeber, the Native Languages of California, Amer. Anthr., n.s., V, p. 1, 1903.

## Consonants:

	q	g	X	g'	
	k	g	x	g'	ñ
	tc	dj			
	t	d	ç	ð	n
	p	b	f	v	m
w, y, h, l, z	as in English.				
s, c	English s and sh, but often approaching each other.				
j	zh, sonant of c.				
L	palatal l (tl).				
r	trilled.				
t', k', g', x'	palatal t, k, g, and x, approximating ty, ky, gy, xy.				
q!, k!, t!, p!	stressed.				
g, d, b	between surd and sonant.				

## CHUMASH.

The following grammatical material on one of the Chumash dialects was obtained at Santa Ynez from Dolores, one of the few Indians there who still know their native language. It appears to differ somewhat from the language of the Lord's Prayer given by Duflot de Mofras as from Santa Ines.<sup>1</sup> Gatschet gives a few phrases and grammatical notes on the Kasuá dialect recorded by Loew,<sup>2</sup> and Caballeria y Collell has published several pages of grammatical notes, vocabulary, and religious texts on the language of Siujtu rancheria at Santa Barbara.<sup>3</sup>

## PHONETIC.

The following are the sounds of the language.

## Vowels:

a, e, i, o, u; ā, ē, ī, ō, ū; è, ò; (â); o, u, ö, ü, ô, û, õ, ũ.

<sup>1</sup> Duflot de Mofras, *Exploration du Territoire de l'Oregon*, 1844, II, 393.

<sup>2</sup> A. S. Gatschet in *Wheeler, Rep. U. S. Geogr. Surv.*, VII, 419, 485, and *Rep. Chief of Engineers*, 1876, III, 551.

<sup>3</sup> Rev. Juan Caballeria y Collell (E. Burke, translator), *History of the City of Santa Barbara*, Santa Barbara, 1892.

## Consonants:

q X  
 k x g'  
 tc  
 t n l s, c  
 p m  
 w, y, L

The vowels *ö, ü, õ, û* are open sounds and give the impression of impurity. They may be identical with *o, u, ô, û*. Similar sounds are characteristic of Shoshonean and Yokuts, two adjacent linguistic families.<sup>1</sup> Both ordinary and velar gutturals occur in Chumash. Sonants seem to be lacking. Palatal L is quite soft, at times difficult to distinguish from l. R has been found only before q, and is probably an induced rather than an independent sound of the language.

All the consonants occur in either first or last position in double combinations, except that y has not been found as the first member of a compound consonant and L not as the second. Combinations of three consonants are rare. Some monosyllabic words that may reasonably be regarded as root-forms begin with double consonants. But none end thus.

As compared with the majority of Californian languages, Chumash is rough.

A euphonic vowel is much used between words and before consonantal suffixes. It occurs even when one of the two words ends in or begins with a vowel.

nai qot'qoti-wun- <b>a</b> ènèrqnerq	<i>I I-see-them women</i>
ma-k-itetu'n- <b>i</b> k-aqciiyak	<i>the-my-son I-like</i>
k-isawōus- <b>i</b> kactāpin	<i>I-sweated yesterday</i>
ma-qo <b>i</b> s-āwo'	<i>the-my-dog he-white</i>
noi moki k-acūn- <b>o</b> -woe	<i>I already I-eaten-have</i>
k-siniwē-wun- <b>u</b> -woe	<i>I-kill-them-did</i>

The euphonic vowel is shown in black type.

<sup>1</sup> A. S. Gatschet, Rep. Chief of Engineers, 1876, III, p. 557, speaking of Shoshonean: "O, u, often assume a darker shade by being pronounced surd or by being nasalized. This pronunciation of the three vowels is also peculiar to the Utah, and occurs in many of the Pueblo idioms of New Mexico."

VERB.

Verbs are conjugated by having the following pronominal elements prefixed, generally immediately to the verb-stem.

	<i>Singular</i>	<i>Dual</i>	<i>Plural</i>
<i>First person</i>	k-	kis-	ki-
<i>Second person</i>	p-	pis-	pi-
<i>Third person</i>	s-	sis-	si-

These prefixes are used alike with transitive and with intransitive verbs. They are also used as possessive pronouns with the noun.

p-axotiwil	<i>thou-speakest</i>
s-axotiwil-i-was	<i>he-speak-did</i>
si-cumā-woc	<i>they-good</i>
k-siniwē-lin	<i>I-kill-thee</i>
ma-ènerq s-eXpètc	<i>the-woman she-sings</i>
ini-k-mūxūn	<i>not-I-hungry</i>

The objective pronouns are suffixed to the verb-stem. So far as determined, they are the following:

	<i>Singular</i>	<i>Dual</i>	<i>Plural</i>
<i>First person</i>	-it	ʔ	-ūʔ
<i>Second person</i>	-in	ʔ	-ōʔ
<i>Third person</i>	—	ʔ	-ūn

With some verbs, -lit is used instead of -it, and -līn or -wīn instead of -in. Sometimes -wūn occurs for -ūn. These variant forms appear to be due to phonetic influences.

It will be seen that if the object is in the third person singular, it is not expressed by a pronominal affix. *I kill him* and *I kill* are identically expressed, as in a number of other American languages, including Yokuts and Yuki in California.

In sentences where subject and object are nouns, these parts of the sentence are expressed over again by means of the subjective and objective pronominal affixes in the verb. This fact puts Chumash in a class with those American languages in which the noun-subject and noun-object are regarded as appositions to the holophrastic verb.

enerqnerq ci-aqciik-ūn ma-ug'ug'ūig'	<i>women they-like-them the-men.</i>
--------------------------------------	--------------------------------------

The reflexive is expressed by the suffix *-caci*, which like the object pronouns is appended to the verb stem.

*p-aqiiyak-caci* *thou-lovest-self.*

Sometimes the word *kōkci*, of unknown meaning, is used with the reflexive verb.

*kōkci c-qoti-caci* *he-sees-self.*

A past tense, perhaps perfect in meaning, is expressed by the suffix *-woc*. This suffix follows the objective suffix-pronoun.

A future seems to be indicated by the particle *ka*, placed before the verb.

The negative of the verb is expressed by the prefix *ini-*. This prefix precedes the pronominal prefixes.

The interrogative is formed by the final suffix *-ē*.

The imperative seems to be identical with the stem of the verb.

A desiderative is formed by the prefix *sili-*.

There are several particles used with verbs, some of them quite frequently. They always precede the verb. Their significance is not clear. The most common one, no, may be a prefix rather than a particle.

The following phrases contain examples of the forms mentioned.

<i>kai ka no-c-tiyepi</i>	<i>this-one will he-teach</i>
<i>kai ka-no-s-axotiwil</i>	<i>this-one will-he-speak</i>
<i>axotiwil</i>	<i>speak!</i>
<i>no-p-na'n</i>	<i>thou-goest</i>
<i>no ni-k-na'n</i>	<i>not-I-go</i>
<i>ini-k-sili-Xalk'inowo'n</i>	<i>not-I-wish-jump</i>
<i>qòlò enerq ini-[s] sil<sup>1</sup>-aqmil-ē'</i>	<i>that woman not-she-wishes-drink-?</i>
<i>noi k-sili-siniwe-lin</i>	<i>I I-wish-kill-thee</i>
<i>noi k-cili eXpète</i>	<i>I I-wish sing</i>
<i>eXpète</i>	<i>sing!</i>
<i>k-aqmil-i-was</i>	<i>I-drink-did</i>
<i>p'-kitwo'n-o-wac-è pi</i>	<i>thou-emerge-didst-? thou</i>

It will be seen that the foregoing prefixes and suffixes include the pronominal prefixes and suffixes between themselves and the

verb, the pronominal affix being always nearest the verb stem. The only exception is the desiderative prefix *sili-*, which itself prefixes the pronoun. It is therefore doubtful whether *sili-* is not to be regarded rather as an auxiliary verb than as a prefix. The following are similar cases:

no k-cūtc <sup>a</sup>	<i>I-begin</i>
no k-cūte-i'-aqmil	<i>I-begin-drink</i>
qòlò s-wòL	<i>that-one he-shoots</i>
k-wòL-siniwe	<i>I-shoot-kill (I kill by shooting)</i>

A verbal noun is denoted by the prefix *a'l-*.

p-olXo	<i>thou-stealest</i>
a'l-olXo	<i>thief.</i>
pīi p'-a'l-olXo	<i>thou thou-thief (thou art a thief)</i>
c-ukcâ	<i>he-(is)-dead<sup>1</sup></i>
a'l-ak'can	<i>(a) dead(one)</i>

A habitual agent is also denoted by reduplication.

k-aXciLc	<i>I-fish</i>
ma-a-caX-caXciLc	<i>the-fisher</i>
xuniowc	<i>hunt</i>
a-xun-xuniowc	<i>hunter</i>

The prefix *a-* in these reduplicated verbal nouns may be a form of *a'l-*.

The stem *acün*, *eat*, is given the meaning *food* by the prefix *lām-*.

k-acün	<i>I-eat</i>
ma-k-lām-acün	<i>the-my-food</i>

#### NOUN.

The possessive pronominal elements, as already remarked, are identical with the subjective ones, and like them are prefixed. From this fact, however, it can not be concluded, as has been done in analogous cases in other languages, that verb and noun are not distinguished in Chumash, and that the verb is in reality a noun. Were this the case, we should not find the verbal nouns that have been mentioned.

<sup>1</sup> A. Taylor, in Powers, *Tribes of California*, Contr. N. A. Ethn., III, 564: *shuckshaw, dead*.

Some nouns, when used with the possessive pronoun, have a form different from their simple one.

*hūteu, dog; ma-p-qo, the-thy-dog*  
*ma'm, house; ma-ki-ap, the-our-house*

A word for dog similar to *hūteu* occurs in many Californian languages; *qo* seems to be distinctively Chumash.

There is an article, *ma*. It has wider meaning than the modern European definite articles, inasmuch as it is customarily used with the possessive pronoun. It is a proclitic or prefix, not an independent particle.

<i>tsāya</i>	<i>basket</i>
<i>ma-tsāya</i>	<i>the-basket</i>
<i>ma-s-q'ap</i>	<i>the-its-feathers</i>
<i>ma-k-mūt</i>	<i>the-my-belly (panza)</i>
<i>s'-mūt</i>	<i>his-belly</i>

What may be a distributive, to judge from analogies in other American languages, is formed by reduplication.

<i>ug'ū'ig'</i>	<i>man</i>	<i>ug''ug'ū'ig'</i>
<i>e'nerq</i>	<i>woman</i>	<i>enerq'ne'rq</i>
<i>XoXau</i>	<i>coyote</i>	<i>XoXoXau</i>
<i>hū'teu</i>	<i>dog</i>	<i>hūte'hū'teu</i>
<i>ma'm</i>	<i>house</i>	<i>ma'ma'm</i>
<i>caq!</i>	<i>turtle</i>	<i>caq!cā'q!</i>
<i>p'co'c</i>	<i>snake</i>	<i>p'co'p'co'c</i>
<i>tsā'ya</i>	<i>basket</i>	<i>tsai'tsā'ya</i>

It will be seen that this reduplication comes very near being duplication of the entire word. Both animate and inanimate nouns are reduplicated.

The following examples make it difficult to determine whether the reduplication denotes a plural, a distributive, or a collective.

<i>ickōm-a xus</i>	<i>two bears</i>
<i>ekumu-a XoXau</i>	<i>four coyotes</i>
<i>ma-XoXoXau</i>	<i>the-coyotes</i>
<i>ma-ki-tsaya yila</i>	<i>the-our-baskets all</i>
<i>yila p'co'p'co'c</i>	<i>all (the) snakes</i>

It is remarkable that when a noun to which a possessive pronoun is prefixed is reduplicated, the pronoun is sometimes reduplicated with it. Evidently the noun and the pronominal element are regarded as very much a unit.

k-itc-antük, <i>my friend</i>	p-itc-p-itc-antük, <i>thy friends</i> <sup>1</sup>
ma-k-its-is, <i>my younger brother</i>	ma-k-its-k-its-is, <i>my younger brothers</i>
ma-k-itc-tu'n, <i>my child</i>	ma-k-itc-k-itc-tu'n, <i>my children</i>
k-a-wa, <i>my aunt</i>	ma-k-a-k-a-wa, <i>my aunts</i> <sup>1</sup>
	ma-p-aX-p-a-wa, <i>thy aunt</i>
	ma-ki-hax-h-a-wa, <i>our aunts</i>
k'-a-nüc, <i>my paternal uncle</i>	ma-k'-a-k'-a-nüc, <i>my paternal uncles</i>
ma-k'-ap, <i>my house</i>	ma-k'-ap-k'-ap, <i>my houses</i>
ma-ki-ap, <i>our house</i>	ma-pi-ap-i-ap, <i>your houses</i>
ma-k-uwu, <i>my knife</i>	ma-k-öX-k-uwu, <i>my knives</i>
ma-s-uwu, <i>his knife</i>	ma-s-öX-s-uwu, <i>his knives</i>
ma-ki-uwu, <i>our knife</i>	ma-ki-öX-y-uwu, <i>our knives</i>

On the other hand reduplication of nouns occurs also without reduplication of the possessive prefix.

ma-p-qo, <i>thy dog</i>	ma-p-qoX-qo, <i>thy dogs</i>
ma-ki-qo, <i>our dog</i>	ma-ki-qoX-qo, <i>our dogs</i>
ma-k-to, <i>my brother-in-law</i>	ma-k-to-to, <i>my brothers-in-law</i>
ma-k-pepe, <i>my older brother</i>	ma-k-pe-pepe, <i>my older brothers</i>

It appears that when a noun commencing with a vowel is reduplicated, the possessive prefix is reduplicated also. When the noun begins with a consonant, the pronoun is not reduplicated.

Reduplication occurs in the verb as well as in the noun, but expresses an iterative or a continuative, not a plural or distributive. The verb may be used with plural subject or object pronoun without being reduplicated.

XoXoXau k-uniō-wun	<i>coyotes I-see-them</i>
k-aqciik-ün	<i>they-like-them</i>

<sup>1</sup> In terms of relationship -itc- and -a- are apparently prefixes, perhaps denoting possession or relationship.



ki-müXün	<i>we hunger</i>
noi qot'-qoti-wun-a ènèrqnerq	<i>I I-look-at-them women (habitually)</i>
qutī-u-wun ènèrqnerq	<i>I-look-at (the) women</i>
no k-tiyepi-o	<i>I-teach-ye</i>
no k-ti-tiyepi-o	<i>I-teach-ye "all the time"</i>

As stated previously, a noun-agent implying more or less iteration of action is formed from the verb by reduplication.

A few verbs are regularly used in a reduplicated form.

wopwūupw	<i>hit</i>
su-taxtaxsün	<i>frighten (su- = causative)</i>

Cases are altogether wanting. A noun is identical as subject and object. The possessive case is expressed, as in so many American languages, by means of the possessive pronoun.

ma-c-uc èmet	<i>the-his-hole ground-squirrel</i>
ma-s-uwu k-itcantük	<i>the-his-knife my-friend</i>
ma-s-kani cīw'	<i>the-his-flesh elk</i>

The various local and instrumental relations are expressed by separate words, placed before the noun.

ksunuwu a Xō'p	<i>with stone</i>
alapā'ya ma'm	<i>on house</i>
māma o''	<i>in water</i>
kitca hū'teu	<i>like day</i>
lülükün ma-tcāi'ya-c	<i>in the-basket</i>

#### ADJECTIVE.

The adjective seems, like the verb, not to be reduplicated to denote the plural. The following examples show its unchanging use with animate and inanimate nouns and attributively and predicatively.

kièna ènerq i-s-teòhò	<i>this woman she-good</i>
kie p'o'n o-s-teòhò	<i>this wood it-good</i>
teòhò tcítece	<i>(a) good child</i>
k-teòhò	<i>I-good</i>
hūteū áwox	<i>(a) dog white</i>
no qoti-wac a ciwa áwox	<i>I-see-did elk white</i>

ma-qo i s-áwo'                    *the-my-dog he-white*  
 kèna-Xōp i s-áwo-wac        *this-stone it-white-was*

Just as the adjective is used predicatively, a noun can be used predicatively by prefixion of the pronominal elements.

kiku ki-ug'ug'ūig    *we we-men (we are men)*  
 pii p-a'l'olxo        *thou thou-thief (thou art a thief)*

PRONOUN.

To express the ordinary functions of pronouns, the subjective possessive prefix and the objective suffix are generally sufficient. The separate form of the pronoun, used as an independent word, is probably emphatic. The forms of this are:

	<i>Singular</i>	<i>Dual</i>	<i>Plural</i>
<i>First person</i>	noi	kicku	kiku
<i>Second person</i>	pii	picku	piku

There is no third person. It will be seen that these forms are nothing but the subjective-possessive prefixes with -i added in the singular and -ku in the dual and plural. In the first person singular noi takes the place of kii.

These independent forms of the pronoun stand in the same relation to the verb as a noun, being connected with the verb by the pronominal affix which is part of the verb. Hence there are forms such as:

noi k-sili-siniwe-lin    *I I-wish-kill-thee;*

corresponding exactly in structure to forms such as:

ma-amelikana si-sili-siniwe-lit    *the-Americans they-wish-kill-me*

It would not be possible to use noi, *I*, directly with the verb without k-. On the other hand the prefix k-, denoting *I*, is often used without noi.

DEMONSTRATIVES.

The demonstratives are:

kai, *this one*; plural, kaiuwun  
 qòlò, *that one*; plural, qòlòwun

It will be seen that the plural ending -wun is identical with the pronominal suffix denoting the object of the third person plural.

The following adjectival demonstratives have been found:

- kièna, *this*, with animate nouns  
 kie, kia, *this*, with inanimate nouns  
 qòlò, *that*, with animate nouns

The article that has been described is distinct from the demonstratives both in meaning and in use.

#### NUMERALS.

The numerals are as follows:

1. pākā
2. ickòm
3. māsōx
4. ckūmu
5. yītipakās
6. yītickòm
7. yītimāsōx
8. malawa
9. ts'pa'
10. tciya

The numbers from 11 to 19 are formed by putting na- before those denoting 1 to 9. Twenty is simply *two-ten*, ickò'm-a-tci'ya, thirty is *three-ten*, and so on regularly up to ninety. The word for one hundred was not obtained.

The forms given above are used in counting. When used with nouns the numerals are followed by -a.

ickòm-a	xūs	<i>two bears</i>
māsōx-a	ènerq'nerq	<i>three women</i>

This numeral system is decimal. There is no trace of any vigesimal method of counting, and none of a quinary one, unless masōx, *three*, and malawa, *eight*, contain a common element. The word for *four* is related to that for *two*. *Five*, *six*, and *seven* are *one*, *two* and *three* plus the prefix yīti-, of unknown origin but equivalent to *four*.<sup>1</sup>

<sup>1</sup>Caballeria, op. cit., p. 42, says that the "iti" forming the first part of the numerals five, six, and seven in the Siujtu dialect means "here."

RADICALS.

A number of the words that denote common or natural objects are monosyllabic and apparently irresolvable.

cūp	<i>land</i>	ò'	<i>water</i>
tüüp	<i>mountain</i>	ũk'	<i>lake</i>
Xōp	<i>rock</i>	p'o'n	<i>wood</i>
Xa's	<i>sand</i>	ma'm	<i>house</i>
q'si	<i>sun</i>	ya	<i>arrow</i>
nü <sup>n</sup>	<i>fire</i>	ax	<i>bow</i>
tòx	<i>smoke</i>		

The following names of animals are monosyllabic:

xūs	<i>bear</i>	p'co'c	<i>snake</i>
cīw'	<i>elk (ciervo)</i>	xcap	<i>rattlesnake</i>
-qo	<i>dog</i>	yox	<i>watersnake</i>
q'ū'n	<i>rabbit</i>	caq!	<i>turtle</i>
ma'	<i>jackrabbit</i>	qop'	<i>toad</i>
nāq	<i>rat</i>	q'loq	<i>tadpole</i>
slo	<i>eagle</i>	tōq	<i>grasshopper</i>
ā'	<i>crow</i>	c-ik'	<i>louse</i>
X'òX	<i>heron</i>	s-tèp	<i>flea</i>
ceew	<i>owl</i>	kt'ū't	<i>spider</i>

The following may have been formed by reduplication from monosyllabic stems:

XoXau	<i>coyote</i>	wawau	<i>crane</i>
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The more important parts of the body are frequently expressed by monosyllabic root-like words. Most of them seem to occur only with the possessive prefixes.

noX'	<i>nose</i>	ū'L	<i>leg</i>
tuX	<i>eye</i>	te'm	<i>foot</i>
tōu	<i>ear</i>	qām	<i>wing</i>
sa'	<i>tooth</i>	āL	<i>liver</i>
po'	<i>cheek</i>	paX	<i>skin</i>
nii	<i>neck</i>	ōc	<i>fur</i>
muut	<i>back</i>	Xot'	<i>penis</i>
pū	<i>arm, hand</i>	se'	<i>bone</i>

The following are polysyllabic:

oqwo'n	<i>head, hair</i>	eleu	<i>tongue</i>
a'tsüs	<i>beard</i>	oXeoL	<i>urine</i>
usüi	<i>chest, heart</i>	tīli	<i>vagina</i>
akeuu	<i>belly</i>	eq'wai	<i>nail</i>

Terms of relationship also show monosyllabic roots in most cases; but the roots are generally either duplicated or preceded by itc- or a-.

qò, <i>father</i>	ma-qòqo, <i>my father</i>
tuq, <i>mother</i>	ma-k-tūq, <i>my mother</i>
pe, <i>elder brother</i>	ma-k-pèpe, <i>my elder brother</i>
is, <i>younger brother or sister</i>	ma-k-its-is, <i>my younger brother</i>
tu'n, <i>son or daughter</i>	ma-k-itc-tu'n, <i>my son</i>
nüc, <i>paternal uncle</i>	k-ā-nūc, <i>my paternal uncle</i>
ta, <i>maternal uncle</i>	k-tāta, <i>my maternal uncle</i>
wa, "aunt"	k-a-wa, <i>my "aunt"</i>
tcüix, "woman's nephew (?)"	k-tcüix, <i>my "nephew"</i>
mus, <i>father-, mother-in-law</i>	k-mus, <i>my father-in-law</i>
to, <i>brother-, sister-in-law</i>	ma-k-to, <i>my sister-in-law</i>
ne, <i>parent of mother</i>	k-nène, <i>my maternal grandparent</i>
ma, <i>parent of father,</i>	ma-k-māma, <i>my paternal grand-</i>
	<i>parent</i>
ma, "grandchild"	ma-k-a-ma, <i>my "grandchild"</i>

The following do not reduce to monosyllabic roots.

ma-k-isüyix	<i>my husband</i>
ma-k-tā'lik	<i>my wife</i>
ma-k-sūmepèpe	<i>my son- or daughter-in-law</i>
	[cf. pe, <i>elder brother</i> ]
k'-ōna'	<i>my "nephew"</i>
ma-k-itc-antük	<i>my friend</i>

Verbs for the most part, even if of simple significance, are of two and three syllables.

Monosyllabic verbs:

na'n	<i>go</i>	wopwuupw	<i>hit</i>
we	<i>sleep</i>	īke	<i>give</i>
wōL	<i>shoot</i>		

## Polysyllabic verbs:

goti	<i>see</i>	ni'qot	<i>break</i>
aqciik	<i>like</i>	tiXuan	<i>scratch</i>
axotiwil	<i>talk</i>	caXcile	<i>fish</i>
eXpète	<i>sing</i>	tiyepi	<i>show, teach</i>
ilük!ün	<i>sit</i>	alpät	<i>run</i>
lukumil	<i>stand</i>	olXo	<i>steal</i>
unio	<i>seek</i>	aqmil	<i>drink</i>
xunio	<i>hunt</i>	kit'wo'n	<i>go out, emerge</i>
siniwe	<i>kill</i>	-nowo'n	
acün	<i>eat</i>	Xo-nowo'n	<i>fly</i>
müXün	<i>hungry</i>	Xalk!i-nowo'n	<i>jump</i>

Most adjectives are also of more than one syllable. Prepositional words are all of some length.

There are some words—nouns, adjectives, and verbs—which are reduplicated or duplicated in their normal forms.

wopwūpw	<i>hit</i>
Xul'Xül	<i>heavy</i>
su-taXtaXsün	<i>frighten</i>
tei'tei	<i>child</i>
XöpXöp	<i>gravel (Xöp, rock)</i>
pèpe	<i>elder brother</i>
māma	<i>paternal grandparent</i>
nène	<i>maternal grandparent</i>
lülükün	<i>in</i>
tâp'ânp'ân	<i>kidney</i>

## SALINAN.

In 1861 Shea printed as volume VII of his *Library of American Linguistics* a *Vocabulary of the Language of the San Antonio Mission, California*, by Father Buenaventura Sitjar (1739–1808). To the vocabulary Shea has prefixed ten pages of grammatical notes based upon it. These notes serve to give an idea of the grammatical structure of the language.

The chief features of the San Antonio language are a strongly developed plural, both in verbs and nouns, formed by the suffixion or the infixion near the end of the word of a very

variable element, which generally however contains either *l* or *t*; the employment of this plural in verbs for both a plural subject and a plural object; the pronominal conjugation of the verb by means chiefly of prefixes for the subject and suffixes for the object, with considerable unexplained variability of forms; a very peculiar combination of the noun with the possessive pronoun; the absence of cases; and the expression of local relations in the noun by means of separate prepositions. Throughout, the language is remarkable for its apparent irregularity.

Material obtained by the writer at Jolon, upon the dialect of San Miguel, shows this to be a closely related language with the same general characteristics.

The independent pronouns of the San Miguel dialect are:

	<i>Singular</i>	<i>Plural</i>
<i>First person</i>	ke [ek-toyove]	ka <sup>n</sup> [kak]
<i>Second person</i>	mo [mo]	mom

The words in brackets are the San Antonio forms according to Shea.

The San Miguel verbal forms obtained had these pronominal forms suffixed. In some cases the suffix *-leu* or *-lew* seemed to indicate the third person singular. In San Antonio the subjective pronominal elements are chiefly prefixed.

Demonstratives are *na*, *he*, and *hò*. *Na* means *this*; *he* and *hò* presumably indicate different distances of *that*. In San Antonio *na* means *this*, *pe* *that*. Besides *he*, *heūna* is found in San Miguel: *he luwai* and *heūna luwai*, *that man*. *Hewat* or *hiwet* seems to be a plural of *he*.

The plural of nouns is formed by the same methods as in San Antonio. The following forms illustrate its variability.

	<i>Singular</i>	<i>Plural</i>
<i>man</i>	lowai	dām
<i>woman</i>	lene	lentsen
<i>child</i>	sepxa	sem'ta
<i>old woman</i>	teini	tcinten
<i>house</i>	t'ām	t'āmā'nīL
<i>dog</i>	hūtcāi	hōste
<i>knife</i>	t'cak	t'cakèL

<i>bird</i>	sāxe	saxtin
<i>dead</i>	cetep	cetlip
<i>beautiful</i>	smat	smatel

The noun is identical in form whether subject, object, or possessor. The possessive case is expressed by the possessive pronoun.

ticxep-o luwai	<i>foot-his man</i>
he-menen-o lene	<i>the-hand-hers woman</i>

Local relations in nouns are expressed by independent prepositions.

mumtòke t'a	<i>in the water</i>
memtòke t'ām	<i>in the house</i>
tòke tecaan	<i>in the basket</i>
lèmo t'a	<i>over, on, above the water</i>
lèmo t'akat	<i>on the mountain<sup>1</sup></i>

The possessive pronoun is fused into one word with the noun. The following are typical cases. The bracketed forms are San Antonio as given by Shea in Spanish orthography.

Meaning	<i>house</i>	<i>teeth</i>	<i>bone</i>
Word	t'ām		
1 s.	t'èm	t'ule't	[ejac]
2 s.	est'me'm	t'mu'let	[cimegac]
3 s.	t'èmo	t'ule'to	[ejaco]
1 p.	tat'èm	tat'u'let	
2 p.	taxt'èm (?)		[za ejac]
3 p.	t'èmdot	t'ule'tot	[zug oejac]

Meaning	<i>elder brother</i>	<i>food</i>	<i>eye</i>
Word			
1 s.	kaiye'	lamxat	cukanit
2 s.	t'umkai'	t'amlamxat	t'omsokanit
3 s.	ākai'y	lamxato	
1 p.			taeukanit
2 p.		talamxat	
3 p.	ākai'yot		

<sup>1</sup> lè-m-ō = *above, on*, lè-m = *sky*. So in Chumash: *alapa-ya* = *above, on*, *alapa* = *sky*.



Meaning	<i>father</i>	<i>mother</i>	<i>dog</i>
Word			hucā'i
1 s.	tata <sup>m</sup> [tili]	apai'	tī'itco <sup>s</sup>
2 s.	t'embek [cimic]	t'mèebex <sup>1</sup>	tmī'itco
3 s.	t'embeko [ecco]	èxo [epjo]	tī'itcoo
1 p.	t'abek [za tili]	t'aebex	
Meaning	<i>knife</i>	<i>hand</i>	<i>brother</i>
Word	t'ak, teak		
1 s.	tecak	menenke	[citol]
2 s.	t'mecak	t'umenen	[e*tsmitol]
3 s.	tecasto	meneno	[citolo]

The structure of these pronominal forms is very difficult to understand. Additional cases that were obtained do not make the matter clearer. What contributes largely to the complexity is the initial t' (t, te, ts, c, s), which occurs in many of the forms and is absent from others. It cannot be regarded as part of the pronominal possessive prefix because it occurs with equal frequency as the first sound of many nouns in their simple non-possessive form. Nearly three-fourths of the prefixless names of animals and natural objects begin with t' or one of its variants.

It is possible that the initial t' is of demonstrative origin, perhaps an article that has become incorporated. It will be remembered that in Chumash the article is generally used with the possessive prefix. If this explanation is correct, San Miguel t-m-iitco, *thy dog*, would be equivalent to Chumash ma-p-*qo*. Salinan otherwise shows a tendency to use demonstratives before the possessive prefixes.<sup>2</sup>

<sup>1</sup> Sitjar: *thy mother*, pe\*tsmipeg, mats mipeg, e\*tsmipeg.

<sup>2</sup> Sitjar gives *dog* as o'tcho in San Antonio, *my dog* as si o'tch'vo or si'tch'vo. *Nest* is kilni, *my nest* ziklin, (*his*) *nest* ziklin. *Stone house* e\*xcon, *my house* ch'licono', *thy house* zimch'licono, *his house* ch'liconou. *My bed* quiche\*me't, *thy bed* aquimiche\*me't, *his bed* quiche\*me'to.

<sup>3</sup> San Miguel:

ho t'umpasi	<i>thy son</i>	San Antonio:	pe*tsmipeg	<i>thy mother</i>
he meneno lene	<i>the woman's hand</i>		pe <sup>a</sup>	<i>that</i>
e t'omenen	<i>thy hand</i>		na cim-lamay	<i>thy right hand</i>
na tat'òpik	<i>our heads</i>		na	<i>this</i>
na t'umkal	<i>thy older brother</i>			
na t'mecak	<i>thy knife</i>			
na t'ulet, t'ulet	<i>my teeth</i>			
ho t'abek, t'abek	<i>our father</i>			

In the Lord's Prayer given by Duflet de Mofras, Expl. du Terr. de l'Oregon, II, 392, and quoted by Shea, na, *this*, occurs seven times, five of the occurrences being before nouns to which a possessive pronoun is affixed: na sananaol, the our debt; natsmalog, thy will; etc.

On the other hand the Washo language of the eastern slope of the Sierra Nevada shows a peculiarity of structure that may be similar to this one in Salinan. The stems of many nouns and verbs are identical in Washo. The first person is indicated by the prefixion of the same elements in noun and verb. The same is true of the second person. The third person is indicated in both noun and verb by the absence of pronominal elements. Thus from the root *añal* are formed *l-añal-i*, *m-añal-i*, *añal-i*, *I live, you live, he lives*, and *l-añal*, *m-añal*, *añal*, *my house, your house, his house*. To form the non-pronominal simple noun, a *d-* is prefixed to the root. While *his house* is *añal*, *house* absolutely or *a house, the house*, is *d-añal*. There is thus an apparent but unreal formation of the third person possessive by apocope; and there is also a large class of nouns beginning with the element *d-*. As both these conditions are similar to those in Salinan, it is not impossible that an analogous morphological process has been operative there.

The complexity of these pronominal noun-forms is however such that their nature cannot be positively ascertained without extensive study. It is evident that phonetic influences have contributed to bring about the irregularity.

The following are the numerals:

	<i>San Miguel</i>	<i>San Miguel</i> <i>Hale</i> <sup>1</sup>	<i>San Antonio</i> <i>Shea</i>
1	dō'i	tohi	tōl
2	ha'kec	kûgsu	caquiche
3	la'pai	tlûbahi	lappay
4	g!e'ca	kesa	quicha
5	oltcā'd	oldrato	ultrao
6		paiate	painel
7		tepa	que*tté
8		sratel	shaanel
9		teditrup	tetatsoi
10		trupa	zoe

<sup>1</sup> Trans. Am. Ethn. Soc., II, 126. The marked u in *kûgsu* and *tlûbahi* has the quality of English u in *but*.

## RELATIONSHIP OF CHUMASH AND SALINAN.

There are the following lexical similarities between the Chumashan and the Salinan material obtained.

<i>English</i>	<i>Chumash</i>	<i>Salinan</i>
<i>rabbit</i>	q!ū'n	map!
<i>jack rabbit</i>	ma'	g!ōol
<i>rock</i>	Xōp	c-xap
<i>sky</i>	alapa	lēm
<i>work</i>	talawaxa <sup>1</sup>	talxual <sup>1</sup>
<i>younger brother</i>	its-is	t'-os
<i>older sister</i>	pepe	pe
<i>ground squirrel</i>	è'mèt	c-emkom

Several of these resemblances are probably only apparent. The similarities found<sup>2</sup> between other Chumashan and Salinan dialects seem doubtful. There is as yet no reason to consider the two languages genetically related.

On the other hand Chumash and Salinan are alike in the following respects:

1. Their general phonetic character, which is not absolutely harsh, but yet less simple and smooth than that of most Californian languages.

2. The existence of a plural, though this is differently formed in the two languages.

3. The employment of the pronominal elements in the form of affixes instead of independent words; further the prefixion of the subjective and possessive elements and the suffixion of the objective.

4. The use with the possessive pronoun of a prefixed element more or less demonstrative in nature.

5. The close fusion of the pronominal elements with the noun, as evidenced in Chumash by reduplication of the pronoun with the noun and in Salinan by the inability of analysis to separate noun from pronoun with certainty.

6. The absence of both syntactical and local cases.

<sup>1</sup> Perhaps Spanish.

<sup>2</sup> A. S. Gatschet, Rep. Chief of Engineers, 1876, III, p. 553.

7. The use of independent prepositions to express local relations in nouns.

8. The numeral system, which in both languages is decimal, not quinary, and has the words for four and two derived from the same stem. The latter is the case also in Yokuts and Costanoan.

The two languages differ in the following points of structure:

1. The presence of reduplication as a syntactical or formal means in Chumash, and its absence in Salinan.

2. The presence of a plural in verbs in Salinan and its absence in Chumash.

Some of the features enumerated are of a general nature and of weight in showing similarity only because most of the neighboring languages are different. For instance, while the use of independent prepositional words is in itself not a very specific characteristic, it becomes so in California and the surrounding region, where almost all the less extensive families, as well as the larger Shoshonean, Yuman, Piman, and Sahaptian stocks, employ case-like suffixes in place of prepositions. In general the salient characteristics common to Chumash and Salinan are not found elsewhere in the region, and the two languages must therefore be regarded as constituting a morphological group.<sup>1</sup>

### ESSELEN.

The Esselen people and language having become extinct, the author is indebted to the courtesy of the Bureau of American Ethnology for the material on which the following account is based.

The extant material belonging to this linguistic stock is very limited and unsatisfactory for grammatical purposes, consisting only of several short vocabularies which include a few phrases.<sup>2</sup> There are no texts, not even a Lord's prayer.

Two short Esselen vocabularies, one of twenty-two and the other of thirty-one words, were collected before the close of the eighteenth century by la Pérouse and Galiano. These have been

<sup>1</sup> *American Anthropologist*, n. s. V, p. 1, 1903.

<sup>2</sup> The total number of words and phrases in all of the vocabularies is over three hundred, but there are little more than two hundred different words.

reprinted once or twice.<sup>1</sup> Duflot de Mofras gives a set of Esselen numerals under the heading Carmelo.<sup>2</sup> The Franciscan missionary Arroyo de la Cuesta, from whom we have a Mutsun grammar and phrase-book, wrote in 1821 a manuscript entitled "Idiomas Californios," containing brief material from a dozen Californian languages and dialects, one of which is Esselen. He gives some fifty words and phrases. A copy of this manuscript, then in Santa Barbara, California, was made in 1878 by Mr. E. T. Murray for the Bureau of American Ethnology. In 1888 Mr. H. W. Henshaw, then investigating the languages of California south of San Francisco on behalf of the Bureau, obtained one hundred and ten words and sixty-eight phrases of Esselen, in part from a man named Pacifico, but mainly from an old woman at Monterey, named Eulalia, who has since died.<sup>3</sup> Neither de la Cuesta's nor Henshaw's vocabularies have been printed. They constitute the material which has been put at the author's disposal by the Bureau of Ethnology.<sup>4</sup> In 1902 the writer attempted to obtain Esselen material at Monterey, but found only an old Costanoan woman who after considerable effort succeeded in remembering half a dozen Esselen words.

As the extant Esselen material is not likely to be increased, and as most of it has never been printed, it is here given entire and unchanged from the originals.

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<sup>1</sup> Neither the original account of the voyage of la Pérouse, nor Galiano's *Relacion del viage hecho por las Goletas Sutil y Mexicana, 1802*, have been accessible. The la Pérouse vocabulary, taken by Lamanon, was reprinted in the English translation published in London in 1799, and this has been available. La Pérouse's vocabulary was also reprinted by A. S. Taylor in the *California Farmer*, October 17, 1862. These two la Pérouse vocabularies show discrepancies in regard to six words of which one is an omission by Taylor. Of Galiano's vocabulary a manuscript copy from the Bureau of Ethnology has been available. Galiano's vocabulary has been reprinted in the *Transactions of the American Ethnological Society*, II, 137, and by A. S. Taylor in the *California Farmer*, April 20, 1860. Of these two reprints the former shows nine variations and one omission, and the latter seven variations, from the Bureau manuscript copy.

<sup>2</sup> Duflot de Mofras, *Expl. du Terr. de l'Oregon, 1844*, II, p. 401.

<sup>3</sup> In the *American Anthropologist*, III, 45-49, 1890, under the title "A New Linguistic Family in California," Henshaw gives an account of the obtaining of his Esselen material.

<sup>4</sup> De la Cuesta's vocabulary is in Spanish orthography, while Henshaw used the Bureau of Ethnology alphabet. Galiano's spelling is Spanish, that of la Pérouse and de Mofras French.

ESSELEN

	<i>Henshaw</i>	<i>de la Cuesta</i>	<i>de Mojras</i>	<i>Gaitano</i> <sup>1</sup>	<i>la Pérouse</i> <sup>2</sup>
1	pek	pec	pek	pek	pek
2		julan	oulhaj	u-lhaj	oulach
3	hu-lép	julep	koulep	julep	oullef
4		amaug	kamakous	jamajus	amniahou
5		pemajabs <sup>3</sup>	pemakala	pe-majala'	pemaca
6		pelmalanai <sup>4</sup>	pegualanai	pegualanai	pekoulana
7		julaghualanai	kulakulanai	julia-jualanai	houlakoalano
8		julephualanai	kounallepia	julep-jualanai	koulefala
9		jamughualanai	kakouslanai	jamajus-jualanai	kamakoualane
10	tomáila	to'moila	tomoila	tomolla	tomolla
11		pekelenai			
12		julagkelenai			
friend	nic-té'; <sup>5</sup> nic-i'-wis; n'ó-fé	nistenóje		mish-fe	nigefech
bow				payunaj	pagounach
beard					iscotre
to dance	mé'p-pé; mé'p-pe-yi'-si				mefpa
teeth					sour
no	me'-tos; a'-na				masal
yes	i'-kè				ike
father					soi
mother	ma't-si	haya		a-hay	atzia

<sup>1</sup> Taylor, Cal. Farmer, April 20, 1860, shows the following variants: *two*=*utay*; *five*=*pemajahala*; *six*=*pequealana*; *seven*=*julep-jualanai*; *soy*=*pana*; *woman*=*janutek*; *thing*=*nimstaha*. Most of these are misprints. Taylor's manuscript is in the library of the University of California. He wrote *u-thaj* *pemajahala*, *pegualanai*, *jula-jalanai* or *julap-jualanai*, *pana*, *tanutek*, *nimstaha* or *nimetaha*. The vocabulary printed in *Trans. Am. Ethn. Soc.*, II, 127, has these variants: *six*=*peguatanoi*; *seven*=*jula-jualanai*; *eight*=*julep-jualanai*; *nine*=*jamajus-jualanai*; *bow*=*payunay*; *small*=*ojask*; *fire*=*ma-namenes*; *daughter*=*tapanas*; *brother* is omitted; *woman*=*tahitek*.

<sup>2</sup> Taylor, Cal. Farmer, October 17, 1862, has the following variants: *four*=*annahon*; *ten*=*tomouéla*; *friend*=*nigefech*; *bow*=*pagounache*; *father*=*svi*; *sea* is omitted.

<sup>3</sup> b for l.

<sup>4</sup> lm for ku.

<sup>5</sup> "trusted friend."



	<i>Henshaw</i>	<i>de la Cuesta</i>
<i>my father</i>		maaths
<i>my wife (mi muger, ó esposa)</i>	nic-ta; nic-ta'	nista
<i>child</i>		panajueg
<i>I will eat (voy a comer)</i>		ne amlala
<i>I will cry (voy a llorar)</i>		ne sia hualala
<i>grandfather</i>	nēm-Is-mI't-toi; <sup>1</sup> mē't-h'ē	metg
<i>hit him (pegale)</i>		hachilis mu
<i>sing (canta tu)</i>		na me
<i>wood</i>	i-i	ii
<i>mountain</i>		polo'mo
<i>sun</i>	a'-ci	assi
<i>give me (dame)</i>	to'-h'Y'-sa	tugesa
<i>take it (toma)</i>		yu
<i>stone</i>		shiefe
<i>the ground (tierra)</i>	mak-sa'-la	mathra
<i>cottontail rabbit (conejo)</i>	t'ci'-ci	chis
<i>fish</i>	koh'l-koh'l	calul
<i>he died (murio)</i>		moho
<i>I</i>	ēn-nI	enne
<i>you</i>	nē'm-mI	name
<i>he (aquel)</i>	lal	huiniki
<i>we</i>		lees
<i>ye</i>		nomeths
<i>they (aquellos)</i>		laths
<i>I eat (yo como)</i>		enne ama
<i>you eat (tu comes)</i>		name ama
<i>he eats (aquel come)</i>		huiniki ama
<i>come with me! (ven conmigo)</i>		iyo enemanu
<i>I go with you (voy contigo)</i>		ninenu nanmemanu
<i>come! (ven)</i>	i-yu'	iyo
<i>look! (vete)</i>		abscula
<i>don't cry! (no llores)</i>		au siahuage
<i>I love you much (te quiero mucho)</i>		mislayaya colo
<i>hit me with the stone! (dame, ó pegame con la piedra)</i>		pejuisma shiefent
<i>it is finished (se acabo)</i>		amomuths
<i>there is no more (ya está no mas)</i>		alepus
<i>foot (pies)</i>		ke'le
<i>hair (pelo)</i>		haca
<i>nails (uñas)</i>		uloje
<i>body (cuerpo)</i>		menjel
<i>heart (corazon)</i>		masianeg
<i>flea (pulga)</i>		huojehahui
<i>eyes (ojos)</i>		ca
<i>head (cabeza)</i>	ka'-ta	jissi
<i>mouth (boca)</i>		catusneg

<sup>1</sup> The two last vowels are not quite certain in the manuscript.



	<i>Henshaw</i>	<i>de la Cuesta</i>
<i>above, up (arriba)</i>		susai
<i>under (abajo)</i>		jujuhuai
<i>what is your name? (como te llamas?)</i>		kiakit na mismap
<i>speak! (habla tu)</i>		alpa nanme
<i>river (rio)</i>		asum
<i>creek (en la Soledad arroyo)</i>	▲	cuehun
<i>dry creek (arroyo seco)</i>		aspasianag
<i>old woman</i>	u'-I-yan	
<i>dark or black woman</i>	a-la'-ki-u-yun	
<i>boy</i>	ě-hl'-pa-na'-sis	
<i>girl</i>	so-le'-ta	
<i>my daughter</i>	nic-ā-lě't-a	
<i>little girl; baby</i>	u-ku'+s-ki-ta-pa-na'-si	
<i>little boy; baby</i>	u-ku'+s-ki ě-hě'-note	
<i>little white girl</i>	hěl-ě'l-ki-pa-na	
<i>old man</i>	la-ll-he'-si	
<i>devil (other informant: dark)</i>	tu'-mas	
<i>the devil or evil spirit</i>	tu+mas-ato-hā-pa	
<i>you are a devil</i>	ha-teoh'-pa	
<i>mother-in-law</i>	i-si'-kĭs	
<i>sister</i>	i'-tei	
<i>niece</i>	tut-su'+	
<i>my son</i>	nic-pa'-na; mĭs-pa'-na	
<i>said to be an oath</i>	at-sa'-ni-ca	
<i>nothing</i>	a-na-i	
<i>knife</i>	kum-mal	
<i>dizzy</i>	ti-ma'-ma	
<i>he is drunk</i>	la-wa'-ti-ma'-ma	
<i>dandy; fop</i>	ti-hi'k-pas	
<i>to flirt</i>	ti-hi'k-pas	
<i>joker</i>	těn-n'l'n-paic	
<i>a nuisance; one who is in the way</i>	tsě'-ěs	
<i>bay</i>	i-mi-lě'n-o	
<i>house</i>	i-wa'-no	
<i>basket, water-tight</i>	t'si-la	
<i>winnowing basket, small jug or bottle of wicker</i>	ku'-uh', ku'uh'	
<i>roasting pan of roots</i>	ic-pa-ca'-a+	
<i>winnowing basket</i>	ca'k-a	
<i>rabbit robe</i>	ě-he'-pās	
<i>asphaltum</i>	ci'-kĭl-i	
<i>wet ground</i>	a'-sel-hěl-ki-ta	
<i>hole</i>	i-mu'-sa	
<i>ground-squirrel</i>	mě'-h'ě	
<i>freshly made squirrel hole</i>	a'-sal-hě'l-ki-ta-mě'-hě-i-mu'-sa	
<i>people</i>	ěf-fe'-h'ĭ	

	<i>Henshaw</i>
"common people ( <i>gente de rason</i> )" <sup>1</sup>	mats-hai'-ba
rat	ma'-kël
coyote	ma'tc-kas; mü'tc-käs
dog	ute-mas; hu'-teu-mas; can-ä'-eo
deer	a-mi'-sah'
<i>gopher (pocket)</i>	ta-na'-ni
<i>bear (black)</i>	kol-ta'-la; ko'l-ta-la
<i>mountain lion</i>	h'ä'-käs
<i>wild cat</i>	tä-lo'-ma
<i>quail</i>	ku'-mul
<i>birds; all birds that fly</i>	tea'p-his
<i>crow</i>	fo-ka' <sup>2</sup>
<i>salmon</i>	ta'-lin; ki-li'-wä
<i>rattlesnake</i>	tes't-sëlk-ka-ma-thi
<i>mussels</i>	ha-la'k-al
<i>cat</i>	mi's-ka-tas (Carmelo lang.?)
<i>chicken</i>	kai-yi'-nap-ca
<i>acorn</i>	pa-la't-sa
<i>white-oak</i>	has+
<i>tule</i>	ka-pa'-na
<i>grass roots used to make baskets</i>	cë'te-e
<i>good night</i>	sa-le'-ki-it-su <sup>3</sup>
<i>yesterday; another day</i>	la'-wa-ef; la'-wa-ëf
<i>running water</i>	teä-lo-lä'-si
<i>tobacco</i>	k'a'-a, k'a'-ah
<i>give me tobacco</i>	ka'k-a-to-he'-sa
<i>salt</i>	mak-h'a-la-na
<i>smoke</i>	te'a-h'a
<i>sea, ocean</i>	i-mi'-lä
<i>seeds of plants for food</i>	i-ya'm-pas
<i>meat</i>	tä't-si
<i>pinole</i>	a-mu'h'; am-muh'
<i>mush (of acorns)</i>	tee'r-wün
<i>to eat pinole</i>	hu'-i-ya-a-muh'
<i>a quantity, much</i>	ma'-li-ai-ha-pa'
<i>spotted tail</i>	su-hu'-lul-pa-wis
<i>necklace of beads</i>	am-hë'n-ni
<i>a favorite dance on feast days</i>	le'-li-ma
<i>that is the truth</i>	man-tah'-i-te
<i>I am hungry</i>	ma-cai'-pa-ën-ni; ma-cai'-i-pa-ën-ni
<i>he is hungry</i>	la'l-ma-cai-pa
<i>we are going to bring wood</i>	tei'-li-ha's-la
<i>bring water</i>	ës-la'-ha-sa'-na
<i>build a fire</i>	lu-cu'fi-huh
<i>where do you come from</i>	ke'-ya-i'-ya-në'm-mi

<sup>1</sup>"Gente de rason" denotes civilised people, the whites.

<sup>2</sup>Or a-fo-ka'. Manuscript doubtful.

<sup>3</sup>The third vowel may be e.

## Henshaw

<i>give me this</i>	i-yuh'
<i>come to bed</i>	i-yu'h'-pok-a-ni'-si
<i>get up, to get up</i>	ak-kih'-pi-si; a'k-h'i-pi'-si
<i>are you going</i>	i-ya/k-al <sup>1</sup>
<i>let us go</i>	tei'-li-yä/k-al
<i>who knows</i>	me'-tea <sup>2</sup>
<i>go away</i>	tei-li-nēn-i
<i>let us go home</i>	i-yak-al-i-wa'-no
<i>are you married?</i>	mut-tf-ha'-wi-nūnt
<i>good day</i>	sa-le'-ki a-sa't-sa
<i>haven't got it; there is nothing</i>	ma-li-tah'-pa
<i>you have arrived</i>	la-wa-lā-hā-yi-si
<i>bring the coat (of rabbit skins)</i>	i-yu'h' hi-ti'-ta
<i>I am glad</i>	hi-la'-pa-ēn-ni
<i>I am mad</i>	h'li-lā-h'li-lük+ēn-ni
<i>he is angry</i>	la-wat-su'-h'a-i'-sa
<i>he is coming to-day</i>	lā'-ma-ca-pa ēn-ni
<i>women are going to bring a load</i>	u'-mis-wa-lu'-si ta-note a-wai-a-ke-
<i>of tule</i>	su-lo-hā'n-ka <sup>3</sup>
<i>give me a drink</i>	to-h'e-sa-pēk-lu+ku <sup>4</sup>
<i>drink (of water)</i>	lu'-ku
<i>you are nice</i>	o-wē'p-pās
<i>I am cold</i>	su'-tuk-ēn-ni
<i>come, come!</i>	i'-yu-i'-yu
<i>put it on</i>	e-mē'n-na-h'u
<i>what are you laughing at?</i>	pa-el'm-a-ke-na't-su
<i>talk, talk, what is the matter!</i>	hal-pa-ma-tei'-hal-pu-mato-ka'ts-ski
<i>I am sleepy</i>	a-tin-ni-a
<i>to sleep</i>	po-ko-ni's-h'i; ats-i-ni'-si
<i>to sleep near the fire</i>	i'e-to-lo
<i>who is that?</i>	ki-nik-i-la-li
<i>that is that</i>	a-ka-la-li-a-ni-ki
<i>he is over there</i>	a-ka-la-ci-ha-ni-ki
<i>is it your wife?</i>	nīm-mle-ta
<i>to sit down</i>	ko-sūn-noh'; ko'-so-ni's-h'i
<i>where are you going?</i>	kē'ts-pam-nē-ni'-puk
<i>where is he?</i>	ki-ki
<i>to relate; to tell</i>	hu-mu'l-pa
<i>to eat</i>	a'-ma
<i>food</i>	ha-ma'k'-cu
<i>come</i>	i-yu'
<i>to bet</i>	su'-i-yun-hu'
<i>to run</i>	can-ca-yi'-si

<sup>1</sup> The manuscript has ya- at some distance before i-ya/k-al, apparently not intended to form part of it.

<sup>2</sup> Cf. "no."

<sup>3</sup> "u'-mis-wa-lu'-si = load of tule," "a-wai-a-ke-su-lo-hā'n-ka = are coming."

<sup>4</sup> "-pek- = one."

	<i>Henshaw</i>
<i>to walk</i>	nə'n-I
<i>to laugh</i>	a-ke-ni-si
<i>to sing</i>	ma-wi-pá
<i>sing, sing!</i>	mau'-wí
<i>hip, buttock</i>	hi's-ki-si
<i>nose</i>	ho'-cís
<i>mouth</i>	i'-cī
<i>ears</i>	tu-su's-ní-ya'
<i>sole of foot; footprint? or foot?</i>	és-ke'-li
<i>bone</i>	i'-ya
<i>your bones</i>	nə'm-mí-ci'-ya
<i>eye</i>	hi'k-pá; a'-ha
<i>your eyes</i>	nə'm-mís-hi'k-pa

Scant as this material is, it allows the determination of a number of the structural traits of the language.

#### PHONETICS.

The sounds of Esselen are the following:

u	o	a	e	i
ai				
k		x		
tc, ts				
t			n	l c, s
p	f		m	
	w, y, h			

Of the vowels, a is the most frequent, and i is nearly as common. These two sounds constitute two-thirds of the occurrences of vowels. U and e are of about equal frequency, but o is uncommon. There are a few cases of diphthongal ai.

Among the consonants full sonants are probably lacking. F, an uncommon sound in America, is found several times: nicfe, effeh'i, lawaef, shiefe.<sup>1</sup> La Pérouse states that it is spoken as by Europeans.

<sup>1</sup>R. given twice by Henshaw (tserwin, *mush*; kinianermi, *who are you*) is probably not a true sound of the language (cf. nemmi, *you*). The same may be said of Henshaw's sporadic ç (tsetselkamathi, *rattlesnake*), b (matshaiba, *gentle de reason*), and ñ (lucñihuh, *build a fire*, which probably = lucunxux). The ths of de la Cuesta appears to be meant for tc. La Pérouse gives r twice and b once.

There appears to be a certain correspondence between *s* and *h*, *x*, *k*. Thus, *asanax*, *asanas*; *mitci*, *methe*, *metg*; *eh'inute*, *ejennutek*; *tanote*, *tanutek*.<sup>1</sup>

All consonants except *w* appear at the beginning of words and all except *t*, *m*, *ts*, and *w*, *y*, *h* have been found at the end of words. It is probable that in larger vocabularies *t*, *m*, and *ts* would be found occurring finally.

Vowels constitute more than one-third of the initial sounds of words, and considerably more than two-thirds of the final sounds. The syllable of most common type therefore consists of a consonant followed by a vowel. There are no words commencing with two consonants and none ending with two. There are no combinations of three consonants in the middle of words. It is clear from this that the syllables of the primary elements or radicals of the language contain no double consonants, and that all combinations of consonants are due to composition or derivations. Part of the occurrences of double consonants can, by analysis, be shown to result from this cause. For instance, *am-lala*, *es-keli*, *nic-fe*, *hatcoh'-pa*, *mis-katas*. Nevertheless double consonants are not rare. *K*, *t*, *x*, *n*, *m*, *l*, *s*, *c*, *ts*, *tc* occur as the first sound, and *k*, *t*, *p*, *x*, *f*, *n*, *m*, *l*, *w*, *h* as the second element in such combinations. Accordingly all the consonants but *y* enter into combinations.

It thus appears that the phonetics of Esselen are simple and regular.

#### PRONOUNS.

The Esselen pronouns appear to be the following:

- 1 s. *eni*, *ene*
- 2 s. *nemi*, *name*, *nanme*
- 3 s. *lal*
- 1 p. *lec*
- 2 p. *nometc*
- 3 p. *late*

---

<sup>1</sup> The same variability is found in Moquelumnan (Powers, *Contr. N. A. Ethn.*, III, 362) and in the Diegueño of Yuman stock. *S* and *h*, *x*, *k* are also interdialectally equivalent in Moquelumnan and Costanoan, and in certain Shoshonean dialects of Southern California.

There is nothing to show whether *lal* and *late* are pronominal or demonstrative.

The possessive forms, which are prefixed, are:

- 1 s. *nic-*
- 2 s. *nemic-, mic-*

It is possible that *m-* is a possessive prefix of the second person.<sup>1</sup> Parts of the body are found without affixed possessives.

Nearly all the conjugational forms of the verb show the full unabridged pronoun.<sup>2</sup> De la Cuesta puts the pronoun separate from the verb and before it.<sup>3</sup> Henshaw makes it follow the verb, except in the third person.<sup>4</sup> It appears from this that Esselen does not belong, as do Chumash and Salinan, to the type of languages characterized by incorporated pronominal elements.

There is only one doubtful occurrence of an objective pronoun. This form is identical with the possessive pronoun of the same person, and like it is prefixed.<sup>5</sup>

The third person intransitive shows two forms, *lal* and *lawa*.<sup>6</sup>

Instead of *lal*, de la Cuesta gives *winiki* for *he* (*aquel*). A similar form, *aniki*, is found once or twice in Henshaw's material with demonstrative meaning.<sup>7</sup> The stem of the interrogative is *ki*. *Who?* is usually *kini*,<sup>8</sup> and *where?* *ke-*.<sup>9</sup>

<sup>1</sup> Cf. "mother": Henshaw, *matsi*; Gallano, de la Pérouse, *atsia*.

<sup>2</sup> The exceptions are: *ne amlala, voy a comer, ne siawalala, voy a llorar*.

<sup>3</sup> *ene ama, I eat, name ama, you eat; winiki ama, he eats; but alpa nanme, habla tu.*

<sup>4</sup> *macaipa eni, I am hungry; lal macaipa, he is hungry; keya iya nemi, where do you come from? hilapa eni, I am glad; lawa tsuxaisa, he is angry; etc.*

<sup>5</sup> *mislayaya kolo, te quiero mucho, I like thee much.*

<sup>6</sup> <i>lal-macaipa</i>	<i>he is hungry</i>
<i>kini-ki-lall</i>	<i>who is that?</i>
<i>lawa-timama</i>	<i>he is drunk</i>
<i>lawa-tsuxaisa</i>	<i>he is angry</i>
<i>lawa-loháyisi</i>	<i>"you have arrived"</i>

<sup>7</sup> <i>aka-lal-i-aniki</i>	<i>that is that</i>
<i>aka-lac-i-haniki</i>	<i>he is over there</i>

<sup>8</sup> <i>kini a nē'me</i>	<i>who is that fellow? (quien es ese?)</i>
<i>kini-a-ne(r)mi</i>	<i>who are you?</i>
<i>kini-ki-lall</i>	<i>who is that?</i>
<i>kiki</i>	<i>who is he?</i>
<i>kiakit na mismap</i>	<i>what is thy name? (como te llamas?)</i>

This *ki-* may be the same as the *-ki* in *winiki*, *aniki*.

<sup>9</sup> <i>keya iya nemmi</i>	<i>where do you come from?</i>
<i>kets-pam-nini-puk</i>	<i>where are you going?</i>

From the fact that unabridged forms of the independent pronoun are used in the verb conjugation, that the personal pronouns can assume the case endings of nouns,<sup>1</sup> and that words denoting parts of the body are used without possessive pronouns, it is evident that the pronoun of Esselen is substantival rather than syntactical.

## VERBS.

The imperative seems to be formed by the stem. An optative or imperative is expressed by *teili-*.

<i>teili-hasla</i>	<i>we are going to bring wood (esla, bring)</i>
<i>teili-yākal</i>	<i>let us go (iyakal, are you going?)</i>
<i>teili-neni</i>	<i>go away!</i>
<i>ha-teili-smu</i>	<i>hit him! (pegale)</i>

The suffix *-la* may denote the future.

The negative is probably *an*.<sup>2</sup>

## ADJECTIVES.

Adjectives appear almost always with a suffix *-ki*. If the translations are correct, this suffix serves to render the adjective attributive. This process is analogous to one in Costanoan. The adjective precedes the noun.

<i>oxusk, ukuski, uhusk</i>	<i>small</i>
<i>ukūski ta-pana-si</i>	<i>small girl, female infant</i>
<i>ukūs ehinute</i>	<i>small boy, male infant</i>
<i>heleki pana</i>	<i>little white girl</i>
<i>alaki unun</i>	<i>black (old) woman</i>
<i>putuki, yakiski</i>	<i>large</i>
<i>saleki asatsa</i>	<i>good day</i>
<i>saleki itsu</i>	<i>good night</i>

## NOUNS.

It is impossible to determine from the limited material whether syntactical cases, either possessive or objective, existed in the language.

<sup>1</sup> See p. 61.

<sup>2</sup> *an siawaxe (for ah?), do not weep (no lloras); ana, no; anai, nothing.*

Of local-instrumental cases there are a few instances.

pexuisma	ciefe-nu	<i>hit-me stone-with!</i>
iyo	ene-manu	<i>come me-with!</i>
ninenu	nanme-manu	<i>I-go thee-with</i>

It appears that -nu is instrumental and -manu comitative. The occurrence of these case-suffixes, analogous to those found in most Californian languages, distinguishes Esselen quite sharply from Chumash and Salinan. The use of these suffixes on the pronoun shows that this part of speech had much the morphological value of a noun.

The vocabularies give several forms that purport to be plural, but there is nothing to show that any of the forms given are really so. Such identical forms as

iya	<i>bone</i>	nemic-ya	<i>your bones</i>
hikpa	<i>eye</i>	nemis-hikpa	<i>your eyes</i>

may be due to real absence of a plural or to inexact translation. There is nothing that has the appearance of being a plural suffix.

It is possible that final reduplication was used to express a plural.

k'a, k'ax, kaka	<i>tobacco</i>
aimoulas [for aimutas?]	<i>star (la Pérouse)</i>
amutatas	<i>stars (de la Cuesta)</i>
tus-us-niya	<i>ears (de la Cuesta)</i>

In Washo final reduplication expresses a category related to the plural.

#### NUMERALS.

The Esselen numerals, as they may be reconstructed from the various vocabularies, seem to be:

1	pek
2	xulax
3	xulep
4	xamaxus
5	pemaxala
6	pek-walanai
7	xulax-walanai



- 8 xulep-walanai
- 9 xamaxus-walanai or xamax-walanai
- 10 tomoila
- 11 pek-kelenai
- 12 xulax-kelenai

This system is strictly quinary. The numerals from six to nine are formed from those for one to four by the addition of *walanai*, and those from eleven to fourteen by the addition of *kelenai*. Two and three show analogous forms, *xulax* and *xulep*. Five, *pe-max-ala*, appears to contain the root of *pek*, *one*, while its last element, *-ala*, occurs also in the formative *walanai*.

#### REDUPLICATION.

There are about fifteen instances of reduplication in the Esselen vocabularies. It does not seem likely that these can all be accidental and meaningless. Owing to the disjointed nature of the sentences and phrases, the functions of this reduplication are, however, not ascertainable.

amomute	<i>it is finished (se acabo)</i>
cancayisi	<i>to run</i>
ne amlala	<i>I will eat (voy a comer)</i>
ne siawalala	<i>I will cry (voy a llorar)</i>
mislalaya kolo	<i>I like thee much</i>
timama	<i>dizzy</i>
lawa-timama	<i>he is drunk</i>
xuxuwai	<i>under, below, (abajo)</i>
suh-ul-ul-pawis	<i>spotted tail</i>
mamanes	<i>fire</i>
lelima	<i>a dance</i>
kaka, k'a, k'ax	<i>tobacco</i>
amutatas	<i>stars</i>
tus-us-niya	<i>ears</i>
koxlkoxl	<i>fish</i>
kalul	<i>fish</i>
xilaxiluk-enni	<i>I am angry</i>
teololosi	<i>running water</i>
tsetselkamati	<i>rattlesnake</i>
opopabos	<i>seal</i>

## DERIVATION.

A number of suffixes, both nominal and verbal, are discernible, but the meaning of most remains conjectural.

-nex occurs on nouns:

masianex	<i>heart</i>
katusnex	<i>mouth</i>
aspasianax	<i>dry arroyo</i>
anix	<i>fire</i>

-no is also substantival:

imilāno	<i>bay (imila, ocean)</i>
iwano	<i>house</i>

-s is a common ending of nouns:

tumas	<i>"devil," dark</i>
tse-es	<i>nuisance, one in the way</i>
lotos	<i>arrow</i>
ehepas	<i>rabbit-skin robe</i>
mutckas, matchkas	<i>coyote</i>
teaphis	<i>birds</i>
utemas, huteumas	<i>dog</i>
mis-katas	<i>cat (Spanish)</i>
iyampas	<i>seeds for food</i>
hocis	<i>nose</i>
tomanis	<i>night</i>
mamanes	<i>fire</i>
nic-inatas	<i>day</i>
opopabos	<i>seal</i>
panasis	<i>boy</i>
isikis	<i>mother-in-law</i>
nic-iwis	<i>friend</i>
xekis	<i>panther</i>
amutatas	<i>stars</i>

-la is found both in nouns and in verbs. In the latter case it appears to denote a future or an optative:

tcili-has-la	<i>we will bring wood</i>
es-la hasana	<i>bring water!</i>
yoku-la asanax	<i>bring water!</i>

iuk-la asanax	<i>give me water!</i>
ne am-la-la	<i>I will eat (voy a comer)</i>
ne siawa-la-la	<i>I will cry (voy a llorar)</i>
absku-la	<i>look! (vete)</i>
tsila	<i>a kind of basket</i>
koltala	<i>black bear</i>
imila	<i>ocean</i>
maksala	<i>ground</i>
tomoila	<i>ten</i>
<b>-sa:</b>	
tohi-sa, tuxe-sa	<i>give me!</i>
lawa-tsuxai-sa	<i>he is angry</i>
atsani-ca	<i>an oath</i>
imu-sa	<i>hole</i>
kaiyina-p-ca	<i>chicken (Spanish)</i>
<b>-pa:</b>	
macai-pa eni	<i>I am hungry</i>
lal macai-pa	<i>he is hungry</i>
malitax-pa	<i>haven't got it, there is nothing</i>
hila-pa eni	<i>I am glad</i>
lâ'-maca-pa eni	<i>"he is coming to-day"</i>
mawi-pa	<i>"to sing"</i>
hal-pa, al-pa	<i>talk, speak!</i>
humul-pa	<i>tell, relate</i>
hatcox-pa, atchâ-pa	<i>devil; you are a devil</i>
matshai-ba	<i>whites (gente de razon)</i>
malinaiha-pa	<i>a quantity, much</i>
hik-pa	<i>eye</i>

One of the commonest suffixes is -pisi, which also appears as -nisi, -isi, -pis. It makes substantives of verbs. Many of the verbs given by Henshaw as in the absolute form have this suffix and are therefore probably really nominal participles.

malpa-pic <sup>1</sup> , alpapisi	<i>hablador, gossip, talkative man</i>
kolxala-ðic, kolhala	<i>hablador, story-teller</i>
akix-pisi, akxi-pis	<i>get up</i>
lawa-loho-yisi	<i>"you" have arrived</i>

iyux poka-nisi	<i>come to bed</i>
poko-nisxi	<i>sleep</i>
atsi-nisi	<i>sleep (atinia, I am sleepy)</i>
koso-nisxi	<i>sit down</i>
canca-yisi	<i>run</i>
ake-nisi	<i>laugh</i>
mepe-yisi	<i>dance (also: mep, mefpa)</i>

Several forms in -pas are probably to be included:

tihik-pas	<i>"dandy, fop;" "to flirt"</i>
tenin-paic	<i>joker</i>
owe-pas	<i>"you are nice"</i>

The same suffix is perhaps present in the following nominal forms:

lalihesi	<i>old man</i>
hiskisi	<i>hip, buttock</i>
tecolosi	<i>running water</i>
iyampas	<i>seeds for food</i>
ehepas	<i>rabbit-skin robe</i>

#### COMPOSITION.

The following instances of composition have been observed:

asi, aci	<i>sun</i>
as-atsa	<i>day</i>
xetsa	<i>light (luz)</i>
itsu	<i>night</i>
tumas	<i>dark, devil</i>
tomanis	<i>night</i>
tomanis-aci	<i>moon</i>
pana	<i>child</i>
ta-pana	<i>daughter</i>
pana-xuex	<i>son</i>
ta-pana-si	<i>girl</i>
ehi-pana-sis	<i>boy</i>
ehi-nute	<i>man</i>
ta-note	<i>woman</i>
sole-ta, ni(c)-cole-ta	<i>girl, my daughter</i>

mak-sala, matra	<i>ground, earth</i>
mak-xalana	<i>salt</i>
imi-ta	<i>sky</i>
imi-la	<i>sea</i>
kele	<i>foot</i>
es-keli	<i>sole</i>

The formation of the words for man and woman is analogous to that in Costanoan. Night-sun for moon is common in American languages. The similarity of *sky* and *sea* is curious if not fortuitous. In other languages *sky* and *earth* are sometimes from the same root.

While derivation takes place through suffixes, in composition the qualifying substantival component precedes, as is customary in American languages.

#### VOCABULARY.

Verbal stems appear to be mostly disyllabic.

al-pa	<i>speak</i>	am	<i>eat</i>
pok-o-n	<i>sleep</i>	akix, akxi	<i>get up</i>
at(s)-i-n	<i>sleep</i>	can-ca	<i>run</i>
kos-o-n	<i>sit down</i>	mepe	<i>dance</i>
ak-e-n	<i>laugh</i>	mawi	<i>sing</i>
macai	<i>hungry</i>	iyu	<i>come</i>
siawa	<i>weep</i>	tihik	<i>flirt</i>
neni	<i>go, walk</i>	tox-i	<i>give</i>
moho	<i>die</i>	es-la	<i>bring</i>
hila	<i>glad</i>	tima	<i>dizzy</i>
luku	<i>drink</i>		

To facilitate comparisons the most common nouns are added in a uniform orthography.

#### *Parts of the body:*

haka	<i>hair, fur</i>	tus-us-niya	<i>ears</i>
xisi, kata	<i>head</i>	kele	<i>foot</i>
ici, katus-nex	<i>mouth</i>	menxel	<i>body</i>
is-kotre ( <i>sic</i> )	<i>beard</i>	masia-nex	<i>heart</i>
aur ( <i>sic</i> )	<i>teeth</i>	hiskisi	<i>hip, buttock</i>
ka, axa, hikpa	<i>eye</i>	iya	<i>bone</i>
hocis	<i>nose</i>	uloxe	<i>nails</i>

*Persons:*

exi-	<i>man</i>	lalihesi	<i>old man</i>
ta-	<i>woman</i>	uyan	<i>old woman</i>
pana	<i>child</i>	efehi	<i>people</i>

*Terms of relationship:*

ahai, maatc <sup>1</sup>	<i>father</i>	atsia, matsi	<i>mother</i>
miits	<i>"brother"</i>	itei	<i>"sister"</i>
metce, metxe	<i>grandfather</i>	isikis	<i>mother-in-law</i>
ta ( <i>woman</i> )	<i>wife</i>	tutsu	<i>"niece"</i>
fe	<i>friend</i>	iwis, ienoxe	<i>friend</i> <sup>2</sup>

*Animals:*

rekis	<i>panther</i>	opopabos	<i>seal</i>
toloma	<i>wild cat</i>	tcaphis	<i>birds</i>
koltala	<i>black bear</i>	icka	<i>crow</i>
matchas	<i>coyote</i>	kumul	<i>quail</i>
hutemas, canoco	<i>dog</i>	koxlkoxl, kalul	<i>fish</i>
amisax	<i>deer</i>	talin, kiliwa	<i>salmon</i>
teici, teis	<i>cottontail rabbit</i>	tsetselkamati	<i>rattlesnake</i>
mexe	<i>ground-squirrel</i>	halakal	<i>mussels</i>
makel	<i>rat</i>	woxewawi	<i>flea</i>
tanani	<i>gopher</i>		

*Various:*

aci	<i>sun, moon</i>	maksala, matra	<i>earth</i>
x-etsa	<i>light</i>	imita	<i>sky</i>
tuma-s	<i>dark, night</i>	imila	<i>sea</i>
amutas	<i>star</i>	asanax	<i>water</i>
anix	<i>fire</i>	asum	<i>river</i>
tcaxa	<i>smoke</i>	polomo	<i>mountain</i>
ii	<i>wood</i>	ciefe	<i>stone</i>
payunax, pagunax	<i>bow</i>	pawi, lotos	<i>arrow</i>
kumel	<i>knife</i>	iwano	<i>house</i>
totsi	<i>meat</i>	amux	<i>pinole</i>
tsewin	<i>acorn-soup</i>	tsila	<i>basket</i>

<sup>1</sup> haya, ahay, aol, maaths in the original.<sup>2</sup> A number of the terms of relationship are preceded in the vocabularies by the possessive prefixes or proclitics nic-, mic-, nemic-. It is possible that where initial m- occurs in terms of relationship it is a possessive prefix also. The ending -te or -tei is found on the words for father, mother, brother, sister, grandfather, niece.

In a few words Esselen resembles other languages, especially Costanoan.

<i>English.</i>	<i>Esselen.</i>	<i>Costanoan.</i> <sup>1</sup>
<i>dog</i>	hutemas	matcan
<i>coyote</i>	matchan	
<i>cottontail rabbit</i>	teici	
<i>jack rabbit</i>		te!eis <sup>2</sup>
<i>meat</i>	totsi	
<i>deer</i>		toot <sup>3</sup>
<i>ear</i>	tus-us-niya	tuxs <sup>4</sup>
<i>nose</i>	hoc-is	wus
<i>foot</i>	kele	koro <sup>5</sup>
<i>eat</i>	am-	am-
<i>sleep</i>	atin, atsin	etn
<i>drink</i>	luku	ukis <sup>6</sup>

These similarities do not justify an assertion of relationship between Esselen and Costanoan. The roots *utc* and *am* for dog and eat are found among many unrelated families in California.<sup>6</sup> The word for ear, being found in Yokuts as well as Costanoan, also proves little. The words for rabbit seem to be susceptible to borrowing throughout this region, as Chumash and Salinan also have a word in common. The Rumsien word for deer is not found in distant Costanoan dialects, and may therefore be taken from Esselen. Finally, such important words as head, eye, mouth, bone; house; sky, sun, night, fire, water, rock, wood; man, woman; run, dance, sing, sit; as well as the numerals; are dissimilar in the two languages.

Esselen must therefore be regarded as an independent language lacking a synthetic pronominal structure, possessing case-suffixes, and of simple phonetics, and accordingly morphologically similar to the central group of Californian linguistic families.

<sup>1</sup> Rumsien dialect treated below.

<sup>2</sup> Yokuts, several dialects, *te!iu*.

<sup>3</sup> Yokuts, Tule River dialect, *tuk*.

<sup>4</sup> Moquelumnan dialect obtained at Pleasanton, Alameda county, *kolo*.

<sup>5</sup> Yokuts, Tule River dialect, *ukun*.

<sup>6</sup> Amer. Anthropologist, n.s. V, 14, 1903.

COSTANOAN.

There exists a grammar of one of the Costanoan languages, the Mutsun of the mission San Juan Bautista in the north-western part of San Benito county. This was written by Arroyo de la Cuesta early in the nineteenth century and is accompanied by a vocabulary.<sup>1</sup> If the so-called Moquelumnan languages shall prove to be related to Costanoan, as still seems possible, Gatschet's sketch of the "Chumeto language"<sup>2</sup> spoken on Merced river in Mariposa county must be regarded as a second contribution to the grammatical knowledge of this stock.

The following notes on the Rumsien language, spoken about Carmel Mission, were obtained in Monterey from three informants. The youngest of these was in his sixtieth year. Although all three informants had forgotten more or less of the language, some songs and a few broken mythological texts were obtained.

PHONETICS.

Phonetically Rumsien is an unusually regular and smooth Indian language. Consonants do not accumulate; the vowels are pure and simple; and stressed consonants and catches are wanting. The sounds of the language are:

u, o, a, e, i  
 k g x ñ  
 tc  
 t'  
 t d n r, l, s, c  
 p b m  
 w, y, h

The vowels are much more often short than long, but do not become obscure.

<sup>1</sup> Arroyo de la Cuesta, *Grammar of the Mutsun Language*, Shea's Library of American Linguistics, IV, 1861. *Ibid.*, *Vocabulary or Phrase Book of the Mutsun Language*, Shea, VIII, 1862. F. Müller has utilized this material for a sketch in *Grundriss der Sprachwissenschaft*, II, 257.

<sup>2</sup> A. S. Gatschet, *Specimen of the Chumeto Language*, *Am. Antiq.*, 1883, pp. 72, 173.



Of the consonants, *g*, *d*, and *b* are similar to *k*, *t*, and *p*, and on account of some difficulty in distinguishing the two classes they have been written with the latter characters throughout. *Ñ* occurs only before *k* and is therefore evidently only a modified *n*. *X* is comparatively smooth; the *h* that has been written in many words is probably the same sound. *S* and *c* are sometimes hard to distinguish.

Except *tc*, which is treated by the unconscious genius of almost all languages as a simple sound, only single consonants occur initially. At the end of words the following combinations of consonants have been found: *kx*, *kc*, *ks*, *kt*, *tn*, *tk*, *pc*, *ps*, *py*, *xs*, *xc*, *xt*, *ns*, *nk*, *mk*, *mp*, *rs*, *rx*, *rk*, *rks*, *rps*, *ls*, *ws*, *tes*, *st*, *ct*. It will be seen that with the exception of *rks* and *rps* all of these combinations consist of only two consonants. In the middle of words, where composition gives favorable opportunities for the accumulation of consonants, the following additional double combinations have been observed: *tw*, *nw*, *nts*, *mx*, *rte*, *rm*, *tek*, *sw*, *sm*, *sx*, *sy*. *K*, *t*, *p*, *x*, *n*, *m*, *s*, *tc*, and *w* thus occur in combinations as both first and last component, *r* and *l* as first element only, and *y* as second element only.

Two vowels rarely follow each other. Even diphthongs are uncommon; and it is likely that their *i* and *u* can be referred to a radical *y* and *w*.

#### THE PRONOUN.

It is known that in many American languages the pronominal elements exist only in composition. The verb is conjugated subjectively and often objectively by the affixion of these elements. In the noun possession is expressed by the affixion of pronominal elements which may or may not be identical with those used with the verb. These pronominal affixes are one of the chief means by which the language has structure. Without them, most sentences would fall to pieces syntactically. On the other hand independent pronouns used like nouns or in place of them are generally wanting in these languages. The words which superficially appear to correspond to Indo-European pronouns, and have generally been called such, are really demonstratives or emphatic phrases. Forms that resemble *thou*

and *we* actually mean *it is thou* or *this we*. Therefore they are not used in ordinary constructions and are always outside the essential structure of the sentence. This has been shown very clearly by Seler of Mayan and by Kleinschmidt of Eskimo. The same is true in Dakota, Arapaho, and Nahuatl.

This specialized and characteristic type of structure is found chiefly in a group of important and extensive languages occupying the eastern part of the continent. It has often been regarded, especially by theoretical writers, as representative of all American languages. On the Pacific side of the continent, however, there are languages whose pronouns are complete words corresponding in function and use to substantives. In regard to the pronoun, two types of American languages must therefore be distinguished. Chumash and Salinan have been shown to belong to the former, and Esselen probably to the latter. Costanoan, like Esselen, lacks incorporation and has independent functionally substantival pronouns.

There are two forms of the pronoun. The simpler is used as subject of the verb, whether this is transitive or intransitive, and, without any change whatever, as possessive pronoun with the noun. The second form is used as object and is derived from the first by the suffixion of *-c*.

	<i>Subjective-Possessive</i>	<i>Objective</i>
1 s.	ka	kac
2 s.	me	mec
3 s.	wa	wac
1 p.	mak	‡
2 p.	makam	mamac
3 p.	uti	utsen

Besides *makam*, *mam* and *mamakam* were also found.<sup>1</sup>

<sup>1</sup> The pronouns of San Juan Bautista and Chumeto respectively are:

	<i>San Juan Bautista</i>		<i>Chumeto</i>		
	<i>Subj. and Poss.</i>	<i>Obj.</i>	<i>Indep.</i>	<i>Subj.</i>	<i>Poss.</i>
1 s.	kan, ka	kanise	kanni	-ma	-nti
2 s.	men, me	mese	mi	-ni	-nu, -no
3 s.	wak	‡	—	—	-hu, -ha
1 p.	makse	maksene	mahi	-mahi	-mahi
2 p.	makam, maam	makanis	miko	‡	‡
3 p.	aisa	aisane	—	—	-hu, ho

The suffix forms of Chumeto are evidently not very closely joined to the verb, for the tense-suffixes interpose between the verb and them. *Uti*, *they* in Rumsien, means *many* in Chumeto.

The pronouns are placed before the verbs and nouns to which they refer. They do not appear to be prefixed but to be rather closely connected with these words, much as in French. The subject pronoun precedes the object.

ka mee xat *I thee hit*  
wa koro *his foot*

#### THE VERB.

Tenses are formed by suffixes and by preposed particles.

A very frequent suffix, added directly to the root, is -n or -in. Its meaning is not certain. In San Juan Bautista -n forms a preterite.

A preterite suffix is -ki or -aki. This is not found in San Juan Bautista, which employs -n, -s, -skun, -gte.

The particle ar or ara, placed before the pronoun, seems to mean *now* or *already* and to express a perfect tense. It is used with or without the preterite suffix -ki. In San Juan Bautista ar is one of several adverbs that give a past meaning to the verb.

The particle ku denotes a future. It is placed after the subject pronoun but before the object pronoun. Future particles in San Juan Bautista are et, iete, iti, munna, piny.

The negative of the verb is expressed by the particle kue or ku. In distinction from the future particle ku this adverb is usually placed before the subject pronoun.

Examples of tense and negative forms:

ka rite-aki	<i>I spoke</i>
ka ku rite	<i>I shall speak</i>
ara makam urs-eki	<i>have ye learned</i>
ku ka iusen	<i>not I like</i>
isku mam ku lakun	<i>that ye not die</i>
ku ka tuman xin	<i>not I can walk</i>

The imperative is the stem. Amxai, xurk, eres, lupup, nenei mean *eat! swallow! bathe! dive! search!* In San Juan Bautista the imperative is formed by a suffix -ya.

The imperative with an object of the third person is formed by the suffix -iñk.

nimiñk *kill-him!*  
cumiñk *give-him!*

In San Juan Bautista the corresponding suffix is -i, and there are other suffixes for the plural and the first person. These objective suffixes of the imperative are the only instance of pronominal incorporation found in the language.

A noun-forming suffix of verb stems is -s:

rite	<i>speak</i>	rites	<i>language</i>
xurk	<i>swallow</i>	xorks	<i>throat</i>
tep-ek	<i>shoot</i>	teps	<i>arrow</i>

Words like *purps*, *hat*, and *utes*, *lamp*, are probably derived from verbs by this suffix.

A very frequent suffix of substantival or participial force is -st. It also often occurs on adjectives. It appears that many adjectives of this language are at bottom verbs, and are rendered attributive by this suffix.

lakun	<i>die</i>	lakuct	<i>dead</i>
coxelon	<i>fear</i>	coxelost	<i>coward</i>
arteenin	<i>be jealous</i>	artcest	<i>a jealous one</i>
citim	<i>to fight</i>	citpist	<i>fighter</i>
yetcem	<i>"diablo"</i>	yetceimect	<i>bad</i>
	ixsist		<i>fool, crazy</i>
	peteuct		<i>talker, talkative</i>
	karsist		<i>black</i>
	yurtsist		<i>white</i>
	axelust		<i>alone</i>
	lokest		<i>blind</i>
	lituct		<i>toothless</i>

tsorekoi piri *dry (was the) world*  
 tsorkost piri *(the) dry world*

In the Costanoan dialects of Santa Clara, Santa Cruz, and San Juan Bautista, -min seems to take the place of this -st.

Certain stems are indifferently used as verbs or nouns without alteration.

ka ukx	<i>my friend</i>
ka mec ukx	<i>I thee befriend</i>

There appears to be a true substantive verb, a.

misix ka a	<i>well I am</i>
misix a tsorkost piri	<i>good is (the) dry world</i>
iim ka a kati	<i>ever I was thus</i>
artcest ka a	<i>jealous-one I am</i>
ka artoenin	<i>I feel-jealousy</i>

This verb to be is however not always expressed, for forms like *otckoet ka, deaf I, occur*.

To be with reference to location is expressed by *rot* or *rote*; *tcawar* was also found once with the same meaning.<sup>1</sup>

anrot	<i>where-is-it?</i>
inta rote	<i>what is-there?</i>
an ku tcawar ka iswin	<i>where will be my children?</i>
tea ku root me iswin	<i>here will be thy children</i>

#### THE NOUN.

No plural was found. In view of the fact that San Juan Bautista, a not very different dialect, has a plural both in nouns and verbs,<sup>2</sup> it is not impossible that Rumsien also possesses a plural but that defective material was obtained on this point.<sup>3</sup> Chumeto has a prominent plural in noun and verb.

*Exe, much*, is sometimes used with nouns of plural meaning.

Syntactical cases are wanting. The possessive is identical with the subjective, as in the pronoun. The possessive relation between two substantives is expressed either by juxtaposition

<sup>1</sup> In Arroyo de la Cuesta *rote* and *tsahora* are said to mean to *exist, stand*, or *be locally*, the former being used of inanimate and the latter of animate objects. No such distinction seems to exist in Rumsien. Arroyo de la Cuesta, while admitting a third verb meaning to *exist in a place*, *nua*, denies that the language possesses a true verb substantive. *Nua*, however, seems to be composed of *nu, here*, and *a, to be*. He has the following sentences:

p. 31: *nua emetscha tsares, allí hay un hombre*

p. 41: *misia imiu, todo es bonito*

Elsewhere in his examples *good* (Rumsien *misix*) is given as *miste* and *misimin*.

<sup>2</sup> Nouns in San Juan Bautista form a plural by the suffixion of *-mak* or *-kma*; verbs by the infixion of *-s-*.

*ara to give to one, to give once*

*arsa to give to several, to give several times*

<sup>3</sup> Lamanon, in *la Pérouse* (London, 1799, I, 409), says that the Acastlian (Rumsien) language has a plural.

or by aid of the pronoun. The regent follows its regimen unless the possessive pronoun is used.<sup>1</sup>

ores koro	<i>bear's foot</i>
ka ukx t'ip	<i>my friend's knife</i>
wa-ukx apc	<i>his-friend my-father</i>
wa-ruk ca latciamk	<i>her-house the woman</i>

The objective case is also not expressed. In San Juan Bautista the objective is expressed in both noun and pronoun by -se, -e, -ne.<sup>2</sup> The -c of the Rumsien objective pronoun evidently corresponds to these suffixes, but no trace of it has been found on the noun. Only the interrogative pronoun *inta*, *what*, shows this objective suffix in the phrase *inta-ci aiiwin what did-you-see?*

Local and instrumental case relations are expressed by suffixes.

Locative (in, on, at),	-ta, -tai
Introessive,	-tak
Terminalis,	-atk
Instrumental,	-eyum

San Juan Bautista among other cases has a locative and terminalis -tka and -tak, and an instrumental -um, -ium, -sum; Chumeto a locative -to, -t, and an instrumental -s.

In the texts and sentences obtained, these local case suffixes are replaced, about as often as they are used, by another construction. This consists of the simple form of the noun, with the use before it, like a preposition, of the demonstrative adverb *xuya*, *there*.

neku xop <i>xuya</i> tcipil	<i>then it-rose to the-hill</i>
wasyilum <i>xuya</i> wa koro	<i>approached to his feet</i>
<i>xuya</i> me tolc	<i>in your knee</i>
exe poor <i>xuya</i> ka ruk	<i>many fleas in my house</i>
ot' <i>xuya</i> me eten	<i>go with thy uncle</i>

The last sentence would literally mean *go there thy uncle or go where thy uncle*.

<sup>1</sup> In San Juan Bautista the possessive and subjective also coincide in form and the regimen is likewise placed before its regent.

<sup>2</sup> Chumeto forms the objective case by the ending -i.

## DEMONSTRATIVES.

The following words are demonstrative:

ne	<i>here</i>	nepe	<i>this one</i>
		nupi-akan	<i>those</i>
		pina	<i>this one, this</i>
tca, teiya	<i>here</i>		
xu, xuya	<i>there</i>		

A suffix -kai, of unknown meaning, is much used with wa, he, and pina, *this*, and occasionally with other words.

In San Juan Bautista there are the following demonstratives:

neppe,	<i>this</i> ,	pl. nepe-an
nuppi,	<i>that</i> ,	pl. nupe-an
pina,	pinasset,	<i>that (eso)</i>

A demonstrative ca, which is not far from a definite article in meaning, is frequently used before nouns.

Interrogatives are formed from the stems an- and in-.

an	<i>where?</i>
amp	<i>who?</i>
antus	<i>another</i>
inta	<i>what?</i>
inwa	<i>when?</i>
inkatce	<i>why?</i>

## NUMERALS.

The Rumsien numerals are formed on the quinary system. Two and four are from the same root.

1	imxala
2	ut'is
3	kapes
4	uut'itim
5	haleis
6	halecaken
7	utxomaicaken
8	kapxaiscak
9	pak
10	tantsa

## REDUPLICATION.

Reduplication is not a means of expressing a grammatical category. A few words occur normally duplicated or reduplicated.

porpor	<i>cottonwood-tree</i>
polpols	<i>pinto, varicolored</i>
kakaru	<i>crow</i>
tutelun	<i>buzzard</i>
yeyexem	<i>pelican</i>
nenei	<i>look, search</i>

In San Juan Bautista and Chumeto reduplication is equally restricted.

## ORDER OF WORDS.

The order of words in the sentence does not seem to be altogether fixed. The verb generally stands at the head, the nouns follow. The personal pronouns, however, always precede the verb. When an adjective takes the place of the verb as predicate, it usually also stands at the head of the sentence, but the pronouns instead of preceding it often follow.

## COMPOSITION AND RADICALS.

While there is considerable composition and derivation, the structure of words is clear. When there is sufficient comparative material, the elements of compound words can often be determined without difficulty. Many common words are composite. Thus the words for *man, woman, boy, girl* all contain the suffix -iamk. Wherever the primary elements or radicals can be obtained they are monosyllabic. For instance the essential elements of the four words just referred to are muk, latc, cin, ats. Very few if any of these radicals contain double consonants.

Of parts of the body, the following are denoted respectively by monosyllabic and disyllabic words. None of three syllables were found.



*Monosyllabic:*

xin	<i>eye</i>
wus	<i>nose</i>
sit	<i>tooth</i> <sup>1</sup>
xai	<i>mouth</i>
ut'	<i>head, hair</i>
tuxs	<i>ear</i> <sup>2</sup>
aw <sup>1</sup> c	<i>chin</i>
kat'k	<i>neck</i>
olt	<i>shoulder</i>
is	<i>arm</i>
puts	<i>finger, hand</i> <sup>3</sup>
tols	<i>knee</i>
kok	<i>tail</i>
turs	<i>nail</i>
tcate	<i>bone</i>
xurks	<i>throat</i>

*Disyllabic:*

uri	<i>forehead</i>
koro	<i>foot</i>
sire	<i>liver</i>
payan	<i>thigh</i>
patcan	<i>blood</i>
kuluc	<i>elbow</i>
pitin	<i>belly</i>
wamun	<i>feather, wing</i>
wipeur	<i>lips</i>
syimpur	<i>eyebrow</i>

Since the monosyllable *xurks, throat*, is not a radical but a derivative, meaning *swallower*, it seems probable that these disyllabic forms are composite.

Names of animals are largely composite.

Verbal roots are usually monosyllabic. While there are many verbs that appear polysyllabic, this is no doubt due to the fact that the derivational and inflectional suffixes are as yet very imperfectly known.

<sup>1</sup> Chumash, *ss'*.

<sup>2</sup> Chumash, *tu*.

<sup>3</sup> Chumash, *pu, hand*.

ka	<i>eat</i>	pexc	<i>cough</i>
mut	<i>eat</i>	xin	<i>walk</i>
xurk	<i>swallow</i>	ot'	<i>go</i>
xis	<i>make</i>	wat	<i>go</i>
oy	<i>take</i>	pox	<i>go to</i>
teik	<i>gather</i>	co	<i>ask</i>
rut	<i>pull</i>	et'n	<i>lie, sleep</i>
urs	<i>learn</i>	tate	<i>kick</i>
wal	<i>cut</i>	cum	<i>give</i>
teit	<i>dance</i>	xaw	<i>marry</i>
op	<i>pull out</i>	xop	<i>rise</i>
ma	<i>kiss</i>	ok	<i>send</i>
iws	<i>like, desire</i>	aiw	<i>look</i>
tat	<i>take, grasp</i>	cak	<i>see</i>
sat	<i>roast</i>	rite	<i>speak</i>
teic	<i>copulate</i>	kai	<i>say</i>
it'k	<i>hiccup</i>	a	<i>be</i>
pate	<i>hit with fist</i>	rot	<i>be</i>
xat	<i>hit</i>	xet	<i>flee</i>
lik	<i>hit</i>	tep	<i>shoot</i>

There are preposed particles but no prefixes in the language.

## SPECIMEN TEXT.

Nèku kài tatukima'tsan mī'six a' tso'rkost pī'ri o't'  
 Then said Coyote: "Good is dry world." "Go  
 ai'wis wa'teos-ta īnta ro'tēi wa'teuc-ta īmxala a'tsiamek  
 look river-in! What is river-in?" "One girl  
 mī'six mè ku xā'wan ca a'tsiamek ān ku rō'ot ka-ii'swin  
 pretty." "Your will-be wife this girl." "Where will be my-children?"  
 xū'ya mè dō'le wac kai'i sī'irx kū'wè kwè mī'six ku'luc-da  
 "In your knee." Him said Eagle: "No, not good." "Elbow-in."  
 kuwe mī'six syi'mpur-ta kuwe mī'six rū'usent kūe mī'six  
 "Not good." "Eyebrow-in." "Not good." "Back." "Not good."  
 nèku kai ūmun kue mī'six nè mī'six pī'tin-ta neko kai'  
 Then said Humming-bird: "Not good! Here good belly-in." Then said  
 ca a'tsiam'k īnk ku' ka anamī' īnk ku anamī' ka ī'swin  
 the girl: "How will I make! How will make my children?"  
 o't' me xā'wes mè ku xawan ca a'tsiam'k neku watin  
 "Go you marry! Your will-be wife this girl." Then went

huya ca a'tsiamEk kaīi tat'ikimatcan kas ka'xī nē'ku wac  
 with this girl. Said Coyote: "Me louse!" Then him  
 donei ba'keliw neku co'xelon neku atcip ba'keliw neku  
 found wood-tick. Then feared. Then threw wood-tick. Then  
 wac u'ru tateikimatcan ne'nei ne'nei ō'yonk ka't a'mxai ka  
 her seized Coyote. "Search! search! catch-it! eat! eat my  
 ka'x neku kac ca a'tsiam'k xurk xork neku paī'isen ca  
 louse!" Then ate the girl. "Swallow! swallow!" Then pregnant the  
 atsiamEk neku co'xelon neku ū'uwin ca a'tsiam'k neku xi's  
 girl. Then feared. Then ran the girl. Then made  
 misix i'nix ku ka i'usen ca i'nix  
 pretty road. "Not I like this road."

#### RELATIONSHIP OF ESSELEN AND COSTANOAN.

A few words similar in Esselen and Costanoan have been pointed out. They fail to prove genetic affinity. But in general phonetic system the two linguistic stocks resemble each other. Structurally they are also alike in lacking a developed pronominal incorporation, in the possession of local and instrumental case-suffixes, in the absence of all prefixes except perhaps pronominal prefixes in Esselen, in the probable derivation of attributive adjectives from verbal stems by means of suffixes, and in a quinary numeral system. In all these respects they differ from Chumash and Salinan.

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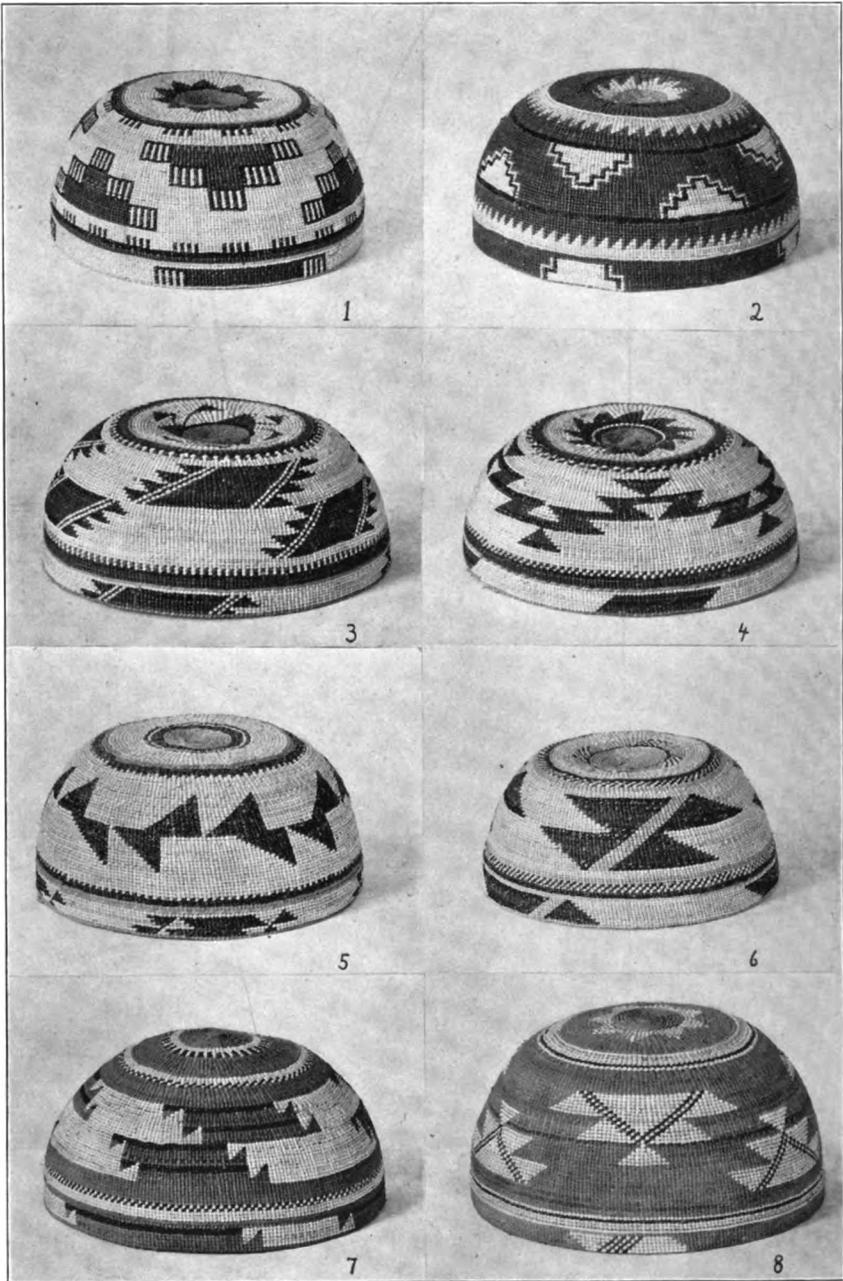
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A. L. KROEBER.

### INTRODUCTORY.

The Indians of extreme northwestern California, while showing many similarities to the other tribes of California, and some approximation to those of the north Pacific coast, are in many ways peculiar in their culture. The territory occupied by this group of tribes is very limited, comprising only Humboldt and Del Norte and small parts of Trinity and Siskiyou counties. Their specialized culture is found in its most highly developed form among the tribes of the lower Klamath and Trinity rivers: the Yurok, Karok, and Hupa. The Hupa belong to one of the California groups of the great Athabaskan linguistic stock. The Yurok and Karok are small isolated linguistic stocks. The three languages are as radically different in phonetics as they are totally unrelated in vocabulary. The three tribes live in close contact, with more or less intercourse and generally friendly relations. In their culture they are remarkably alike.

The names of the basket designs described in this paper were obtained from Indians of the three tribes during 1900, 1901, and 1902. The most extensive investigations were made among the Yurok. This accounts for the larger number of designs obtained among this tribe. The Yurok designs described are taken from nearly a hundred baskets. The majority of these are now in the Museum of the Anthropological Department of the University of California. A number of baskets, and the names of their designs, were collected in 1900 for the California Academy of Sciences. Through the courtesy of the officers of the Academy this material is used in the present paper. Information was

obtained among the Yurok as to the designs of a greater number of baskets than were actually collected, the total number reaching several hundred. The more common design names are exceedingly frequent among the northwestern tribes, and, while exact duplications of designs ordinarily do not occur, yet many of the variations are so slight that it was often thought unnecessary to insure their preservation by purchase of the specimen. All baskets having characteristic designs but uncommon design-names were secured for the Museum of the Department. This selection gives the Yurok design names described an appearance of somewhat greater variety than they actually possess. Probably the fifteen most common design names constitute all but a very few per cent of the total number. Among the Karok and Hupa all baskets were secured about which information was obtained as to the design. The number of such Karok baskets is about fifty, and of Hupa twenty-five.

It was found necessary to get the names of the designs in the native language, as many of the words are not names of animals or objects, but geometrical or descriptive terms not translatable by the Indians.<sup>1</sup>

#### KINDS OF BASKETS.

The basketry of northwestern California is characterized by circular open baskets somewhat rounded at the bottom and generally of no very great depth, and by women's caps, which are shallower than the basketry caps worn in other parts of California. Large baskets serving for the storage of food are proportionally of deeper shape than the smaller baskets used for cooking and eating. Conical baskets are used for gathering seeds, and flat circular baskets for trays, plates, and meal sifters. The acorn mortar consists of a basket hopper of the type used by the Pomo. Conical carrying baskets, baby baskets, plates, and some trinket baskets are made in open work. The various kinds and

<sup>1</sup>The following characters have been used: c = sh, x = spirant of k = kh, q = velar k, l = palatal or lateral l, fi = ng; a = a as in father; ä = a as in bad; ä = English aw; è and ò = long open e and o; A, E, I, O, U, = obscure vowels. Yurok r has the peculiar quality of American r in an exaggerated degree. Karok r is clear and trilled. Yurok v is bilabial, having nearly the the sound of w, and its g is always a spirant = g' = gh.

shapes of baskets can be seen in the accompanying plates 15 to 21, and in plates 20 to 27 published in the first volume of the present series of University of California publications.

→ Yurok names for baskets are: *wâxpeya*, cap, if brown (Plate 15, figures 7, 8); *äqa'*, cap, if the ground is covered with overlaying (Plate 15, figures 1 to 6); *hè'kwuts*, small basket for acorn mush, especially for eating (Plate 16, figure 3, and figure 6, unfinished); *muri'p*, large basket for acorn mush, used for cooking (Plate 16, figures 4, 5; *hè'kwuts* and *muri'p* are called by the Karok *asip*: Plate 20, figures 4, 5, 6, 8); *perxtse'kuc*, a basket higher than *hè'kwuts*, used for keeping small objects (Plate 17, figures 4, 5, 6; Karok *cipnuk*, Plate 20, figure 3); *rumi'tsek*, an openwork trinket basket (Plate 19, figure 5, usual form; figure 6, unusual); *qèwâ'i*, conical burden basket of openwork (see P. E. Goddard, *Life and Culture of the Hupa*, University of California Publications, *American Archaeology and Ethnology*, I, Plate 22, figure 1); *terre'ks*, conical basket for gathering seeds (Goddard, *op. cit.*, Plate 22, figure 2, of Yurok provenience); *paaxte'kwc*, basket for storing food, especially acorns, much like *perxtse'kuc* but much larger (Goddard, Plate 23, figure 1, a Yurok specimen); *meixtso'*, storage basket similar in shape, but made altogether of hazel, without overlaying or patterns; *poixko'*, large flat tray for acorn meal (Goddard, Plate 24, figure 2); *pointse'kuc*, small tray for seeds used as food (Plate 19, figures 1, 2), also small, flat, conical dipper for acorn mush (Plate 19, figure 3, a Karok specimen); *wetsanê'p*, meal sifter, flat without appreciable curvature (Plate 18, figure 2); *laxp'ceu*, openwork plates for eating salmon (Plate 18, figures 1, 3; Goddard, Plate 21, figure 2, a Yurok specimen); *meco'lil*, larger openwork plates on which salmon is laid; *upè'kwanu*, mortar hopper (Goddard, Plate 24, figure 1, Yurok); *qème'u*, also called *hâxku'm uperxtse'kuc*, "tobacco its storage-basket," tobacco basket, often with a lid, and similar to the *perxtse'kuc*, though generally smaller (Plate 17, figures 1, 3, 5, 7, Plate 19, figure 4); *uqèm'tè'm*, said to have been a large form of *perxtse'kuc* with a small opening and a lid, used for storage of valuable property; *ego'or*, an approximately cylindrical basket used in the jumping dance, made of a rectangular sheet bent into shape of a cylinder slit

along the top (Plate 18, figure 4). A Hupa baby basket and seedbeater are shown in Goddard's Plate 21, figure 1, and Plate 23, figure 2. The äqa', perxtse'kuc, terre'ks, paaxte'kwc, poixko', pointse'kuc, wetsanè'p, qème'u, uqèm'tè'm, and ego'or are generally overlaid with white; the wâxpeya, hè'kwuts, muri'p, upè'-kwanu, and sometimes the pointse'kuc, are mostly in unoverlaid brown, but usually with a pattern in overlaying; the rumi'tsek, qèwâ'i, laxp'ceu, meco'lil are in openwork.

#### MATERIALS.

The basket materials of this region and their employment have recently been given full treatment in Dr. P. E. Goddard's *Life and Culture of the Hupa*,<sup>1</sup> and on a less localized basis by F. V. Coville in Professor O. T. Mason's *Aboriginal American Basketry*.<sup>2</sup>

According to information obtained from the Yurok, the warp of their basketry regularly consists of hazel twigs. The woof is made of strands from roots of sugar pine and near the coast of spruce. Redwood and willow roots are inferior but used. Willow seems to be usual for the woof in beginning a basket.

While these root fibres give a colorless gray, deepening with age to a not unpleasant brown, designs and sometimes the entire ground color are produced by overlaying in other materials. The most important of these is the widely used and well known lustrous whitish grass *xerophyllum tenax*. In baskets for ordinary use the designs are worked in this white on the darker ground of root-fibre woof. In ornamental baskets the ground is overlaid with this material, and the patterns are black, red, and occasionally yellow. For black the outside of stems of a species of maidenhair fern, *adiantum*, are used; for red, alder-dyed fibres of a large *woodwardia* fern. The stems of this fern are bruised by beating, and two flat fibres extracted from each. These are usually dyed by being passed through the mouth after alder bark has been chewed. Yellow is produced by dyeing with

<sup>1</sup> Univ. Cal. Publ., Am. Arch. Ethn., I, 38 seq., 1903.

<sup>2</sup> Rep. U. S. Nat. Mus. 1902, 199 seq., 1904.

a lichen, the widely used *evernia vulpina*. Porcupine quills dyed yellow are rarely used.<sup>1</sup>

Besides red and yellow, black dyeing is occasionally practiced by burial of materials in mud. Part of the hazel twigs for the warp of openwork plate baskets are sometimes treated in this way; and rarely the *woodwardia* fibre for the woof of other baskets.

{ Of the three colors used on a white ground, black most frequently stands alone. Red is usually accompanied by at least a certain amount of black ornamentation, such as lines or edging. Yellow does not seem to be used without accompanying red or black, usually the latter. \ Occasionally the three colors are used in combination on a white ground, but although pleasing if skilfully carried out this is uncommon. Sometimes areas of overlaid brown are left in colored baskets and employed in design effects. The only baskets with overlaid ground whose patterns sometimes contain black or red in addition to white, are hats, even the plainest of which, as is only natural, show more ornamentation than is usual in baskets for household purposes.

A somewhat greater proportion of red to black designs is found among the Karok than among the Yurok or Hupa, due possibly to greater scarcity of the maidenhair fern furnishing black.

#### TECHNIQUE.

In regard to technique, the fundamental feature of the basketry of northwestern California is that twining is the only method followed. Coiled weaves of any kind, except as a border finish, are unknown. This statement can be made without qualification, and all coiled baskets attributed to this region are of erroneous provenience or obtained by the northwestern Indians from more southerly tribes.

To all intents these Indians practice only one weave, the simple twining with two strands. This is used for the finest hats, for the largest and coarsest storage baskets, for cooking baskets, and for openwork plates, cradles, and carrying baskets.

<sup>1</sup> Yurok names of basket materials and dyes: *hâli't*, hazel; *paikwo'*, willow; *waxpe'u*, sugar pine; *qil*, redwood; *teiwolite'po*, spruce; *häämo'*, *xerophyllum tenax*; *rego'o*, maidenhair fern; *paap*, *woodwardia* fern; *were'regets*, alder; *mece'n*, *evernia* lichen.

Though two-strand twining is very close to wickerwork, differing from it only in that the two strands cross after each warp is passed, instead of continuing parallel, these tribes do not seem to practice wickerwork.

Three-strand twining is well known in this region and frequent in use, but apparently no baskets are made completely in this weave. Almost all baskets begin in this weave; the majority have one or more courses of it where the bottom begins to turn, and again near the top; and occasionally a basket is finished in it. The specific technique seems to be simple three-strand twining, not three-strand braiding. Each wool strand passes over two warp rods on the outer or pattern side of the basket, over one on the inside.

There is one basket in the collections of the Department of Anthropology from this region in which the two strands of the wool cover two rods of the warp at a time, while in the following course they take these rods so as to alternate with the previous one. This is the weave that has been called diagonal twining. The basket is shown in Plate 17. At its origin it shows the usual three-strand twining. While the alternate or diagonal weave has been praised by Mason and Purdy as more susceptible of developed decoration than ordinary twining, this basket is unornamented except by two plain bands. This poverty of decoration is perhaps due to the fact that the ornamentation is produced by covering of the wool instead of by the wool itself. One or two other baskets found are made in this weave for a number of courses near their origin.

In two-strand twining the wool strands are usually more or less flat, and are not twisted, the same side being turned toward the outside of the basket continuously, whether overlaid or not.

The only usual modification of two strand twined weaving is a multiple warp. This is common for the bottom of large storage baskets, and is usually accompanied by a certain degree of openness of wool. After the turn from the horizontal bottom has been made and the sides of the basket started on their upward course, the additional warp sticks taper out and are dropped and the weave is continued on the main stick of each group. Sometimes a group is so divided as to result in two single warp sticks.

Crossing of the warp sometimes occurs in openwork, most often for one course just below the border, occasionally near the origin.

Strengthening by means of a rod enclosed in the twining is common. This forms the first step toward lattice twining or the ti weave, a superimposition of coiling on twining. Mortar baskets are strengthened by several stout rods; storage baskets frequently show one or two near top or bottom; and occasionally a rod is used as a finish. The great majority of cooking baskets have two strands, apparently of root, laid around the outside near the top of the basket in the region of the typical design zone, which they serve markedly to define, limit, or divide. It is probable that their decorative effect is their chief purpose; being pliable, they do not stiffen the basket appreciably, and being held only by the twining of the overlaying material—the body of the woof being usually completely lacking in the two courses on which the strands are laid—they can scarcely be a source of strength.

Ornamentation almost without exception is produced by overlaying or false embroidery, and not by the use of colored or dyed woof materials. The method of overlaying differs from that of the Tlinkit and Thompson Indians, two strands being employed instead of one. Among the Tlinkit "the decorative element, instead of taking its turn to pass behind the warp, remains on the outside and makes a wrap about the strand that happens to be there." The Thompson Indians follow a method of "passing a strip of . . . material entirely around the twining each time, showing the figure on the inside."<sup>1</sup> In northwestern California each of the two woof strands is faced as it were, in the process of weaving, with a strand of overlaying material toward the outside of the basket. This facing follows the woof-strand behind the warp, and together with it twines with the other woof-strand and its facing. As the overlaying always faces the outside of the basket, and not the outside of the twining, each strand of it is half the time between warp and woof and invisible, and the decoration does not show on the inside of the basket except casually between turns and plies especially in coarser baskets.

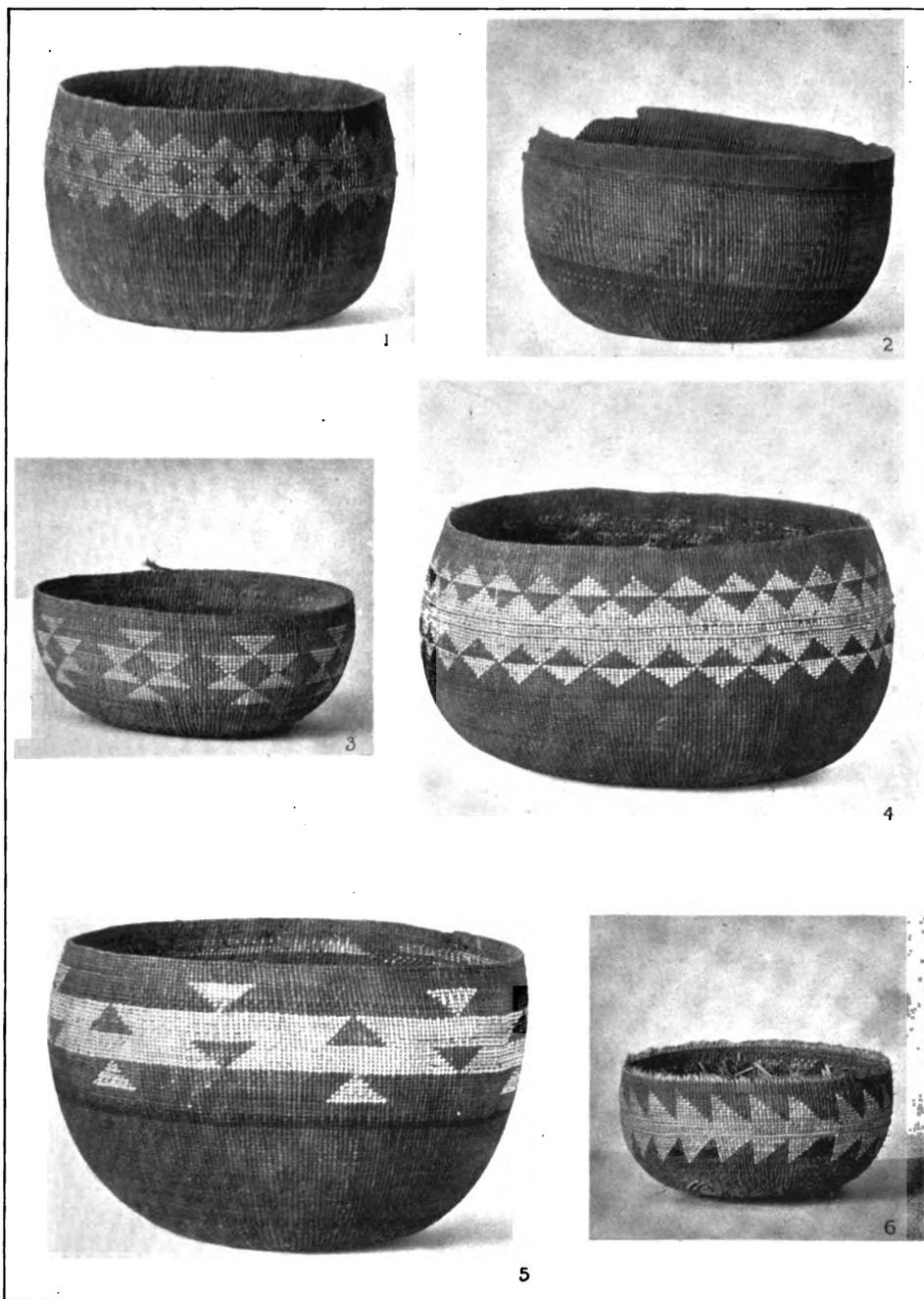
<sup>1</sup> Mason, *Aborig. Amer. Basketry*, Rep. U. S. Nat. Mus. 1902, 309.



Fine hats are nearly as completely free from trace of overlaying inside as is Tlinkit work. The two overlaying strands follow the woof strands to the edge of the design-figure, where they are broken off on the inside of the basket, and the woof continues on its course alone, or overlaid by strands of a different color, until the next figure is reached. Occasionally, where this intervening space between designs is not great, especially where there is a small recurrent design, the overlaying is not broken off, but brought to the rear of the woof, so as to be invisible from the front, and carried along to the next figure, when it reappears. Of course it then shows inside the basket while it is invisible on the outside, but this occasional result seems to be produced among the northwestern tribes not for its effect but because in such cases it is preferable to carry on the overlaying material rather than cut the strands to reinsert them a few turns, sometimes only two or three, farther on.

It will be seen that this method of overlaying cannot be "classed technically with three strand twined weaving," as Professor Mason says of the Tlinkit process, not only because there is a total of four strands in the woof, but because the operation is essentially one of two-strand twining with double strands.

In northeastern California, among the northeasternmost Wintun tribes, on the McCloud river, still another process of overlaying is practiced. Like the northwestern overlaying, this is done with two strands, but the overlays form a separate twining around both warp and woof, which latter they entirely enclose, never being within its plies as in the northwestern process. The design thus shows inside the basket as well as outside. That the difference in this respect from the northwestern basket is fundamental, is evidenced by the fact that in the cases when the design appears on the inside of a northwestern basket it does so in the intervals of its disappearance from the outside, the inside and outside figures being the reverse of each other; whereas in these North Wintun baskets the regular overlaying appears inside in the same places as outside and forms identical figures. In the northeastern weaving each strand of overlay is evidently carried and treated as part of one of the woof strands, as in the northwestern process, but in passing around each warp



Figs. 1, 2, 3, 5, 6. Cooking baskets. Yurok. 1.

Fig. 4. Cooking basket. Karok. 1.



rod it is either given a half-twist to the other side of the strand that it accompanies, or much more probably the combined woof and overlay strand is thus half twisted.

This northern Wintun method of overlaying is used also by the Lutuami or Klamath Lake and Modoc Indians, and perhaps by the Achomawi, the Pit River Indians.

The overlaying materials in northwestern basketry are never used without an underlying woof to serve them as body; but sometimes this woof is itself of the overlaying material, either with or without another overlay of the same or another material. Where a pattern is worked consisting of alternate stitches of overlaid and of undecorated woof, the whole design being merely one of regularly disposed dots, the woof strand on which the white overlay is carried is usually if not always itself of this material, and sometimes of double thickness, in this case making a woof of three flat white strands twining alternately with one of a single strand of brown root fibre. The same process is followed to produce a design of vertical bars only one stitch wide and one stitch apart. It is easy to see why the single overlay in these cases is carried on continuously with its supporting woof; but the only explanation that seems to account for the underlying woof itself being of overlay material is a desire to preserve the two woof strands of the same total thickness, which, as only one of them is overlaid, would be very difficult if the same body material were used for both of them. The white xerophyllum is flat and thin, so that two or three strands of it about equal in thickness one of the more rounded root fibres usually forming the woof.

In some baskets almost completely covered with overlay, portions are sometimes entirely without woof except of overlaying materials. The motive is apparently the desire to avoid additional strands in the twining, which would detract from fineness of stitch; but as different parts of a basket are sometimes inconsistently treated, it is difficult in all cases to follow the weaver's purpose. A Karok basket covered with a solid pattern of contiguous red and white isosceles triangles alternately pointing up and down, lacks for the major part the usual root woof. Where the pattern in this basket is white, the red material serves as under-

lay, and consequently appears on the inside of the basket in an identical red figure; and vice versa. The purpose of this device is explicable; owing to a desire to continue the strands of overlay unbroken, the usual colorless wool was sacrificed to avoid carrying a total of six threads, and its place taken by the overlay temporarily not appearing in the design. The triangles in this basket are however separated into several bands by horizontal lines consisting of a single course of black overlaying. In two of these courses the wool under the black material consists of red overlay; but in several other courses the wool is the usual colorless root fibre; and this material is used also for the wool of one of the adjacent courses forming part of the triangle design.

An unfinished Karok hat, the outside only of which is shown in Plate 20, figure 7, has a red ground-surface. On this are horizontal black courses and a certain zone, not reaching the top or bottom of the basket, in which there is a recurrent white design. Through the greater part of this zone the usual wool material does not occur, its place being taken by the white of the exterior design, and, in the design, by the red of the ground. Two horizontal courses of black run around this zone; for the upper one, the red overlaying serves as underlay; for the lower there is the usual root fibre wool; and this is also the wool, with some irregularities, for one or two of the adjacent courses forming part of the red ground.

The only production of ornamentation other than by overlaying in this region is in openwork plates. Hazel twigs are dyed black by being buried in mud. They are then grouped so as to form four or five narrow black sectors or rays in the circular basket, the majority of the warp rods in the tray being the undyed white hazel shoots (Plate 18, figures 1 and 3). This process is stamped as exceptional by the fact that the coloring is in the warp instead of the wool. For this reason scarcely any other pattern could be produced in it, and it is obviously applicable only to openwork. This method of ornamentation has been found among the Yurok, though black dyed plates are much less common than unornamented ones. The Karok say that they do not employ it. The Athabascans of Eel River use it fre-

quently for openwork conical carrying baskets as well as for plates.

The ends of the woof, and occasionally the beginnings of introduced warp rods, are left projecting on the inside of the basket until it is finished. They are then broken off, after the basket has been dried by being set before a fire, by scraping; at the present time, with the edge of a tin spoon. To even the shape of a new basket it is sometimes set filled with damp sand.

There is usually no distinct finish for the edge, the ordinary two-ply twining merely coming to an end. The warp ends are cut off flush with the top of the last course of the woof. Usually there is no projection of the warp above this. In this respect the northwestern baskets differ from the twined Pomo baskets, which are, in process, finished similarly, but usually have the warp ends projecting regularly a short distance. The northern Wintun baskets also usually do not show quite so close a cutting off of the warp, though there is scarcely a well calculated intentional effect as among the Pomo. Plate 16, figure 6, shows a basket before the superfluous warp and woof ends have been respectively cut and rubbed off.

A minority of baskets are finished in one or more courses of three strand twining.

Large conical openwork carrying baskets and mortar baskets usually have the edge braided or interlaced. Openwork plates usually show only simple twining at the finish. A few baskets, especially small openwork household and trinket baskets, have a coiled edge, the warp sticks being bent at right angles and then carried horizontally around the top of the basket and wrapped.<sup>1</sup> Cradles are similarly finished along the oval edge in front, but more by means of rods specially employed for the multiple foundation than by a continuation of warp sticks from the twined body of the basket.

Professor Mason's statement<sup>2</sup> that "the McCloud Indians in Shasta county, California, cut off the warp flush and finish the border with what looks like plain twined weaving on the

<sup>1</sup> Professor Mason has illustrated this border on page 265 of his *Aboriginal American Basketry*, op. cit.

<sup>2</sup> *Aborig. Amer. Basketry*, op. cit., 266.

edge, but a regular half knot is tied between each pair of warp stems," is inapplicable to the McCloud Wintun baskets in the Department's Museum, none of which appear to show anything that could be interpreted as a half knot. The only departure from the simple twining of the northwestern region is that those of the baskets that are overlaid to the edge show a half-twisting on itself of each warp strand, independently of the other, at each stitch, due to the northeastern method of causing the overlaying to come to the surface both inside and out; but the unoverlaid baskets go right on to the end in undisturbed and untwisted two-ply twining.

#### ORNAMENTAL DESIGNS.

The general character of the ornamental designs on the baskets of this region can be seen in the accompanying plates, and their typical arrangement has been admirably described by Dr. Goddard in the paper referred to.<sup>1</sup> It will be noted that the majority of baskets have the decorative pattern confined to a comparatively narrow region extending around the basket not far below its rim. Caps are more fully covered by ornamentation, but even in these the characteristic arrangement is to some extent observed. An arrangement of the design in several distinct parallel bands, such as is common on Pomo and Yokuts baskets, is not found among the northwestern tribes.

Property marks are occasionally introduced in the weaving, certain small areas being covered with overlaying. The irregular designs on the basket shown in Plate 16, figure 6, were said to be property marks.

There is apparently no habit among the northwestern tribes of leaving a break in the design encircling a basket, the opening or interruption being conceived as a passage. Occasional irregularities producing this effect in continuous designs seem to be due to technical inability.

#### TRIBAL DIFFERENCES.

The basketry of the Yurok, Karok, and Hupa is virtually identical. No given basket could be identified with certainty as from a particular one of the three tribes. When a large

<sup>1</sup> *Life and Culture of the Hupa*, op. cit., 44.

number of baskets from one tribe are brought together, slight differentiating tendencies are discernible. Thus the Karok are more inclined than the other tribes to use red. They seem also more inclined to use patterns containing vertical outlines instead of the more usual oblique. On the whole the finest work is done by the Yurok, the Karok and Hupa baskets being generally less smooth and even. But these differences hold only as averages. Some of the Hupa baskets are far above the ordinary Yurok in quality.

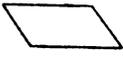
#### YUROK DESIGNS.

One of the commonest of Yurok designs is the flint or *venii-gemaa*<sup>1</sup> design. Its fundamental shape is that of a parallelogram, generally with sides slanting downward to the right. Sometimes, however, the slant of the sides of the parallelogram is toward the left. In all the typical forms the base is considerably greater than the altitude. This figure occurs singly, but more frequently in diagonal rows. Sometimes the bases of successive parallelograms are partially superimposed; sometimes the parallelograms merely touch at their corners. The direction of the slant of the row of figures is always opposite to the direction of the slant of the sides of each individual figure. Not infrequently subsidiary designs, especially rows of triangles, are combined with the flint design. Figure 11 shows a design the elements of which consist of two triangles close together. They are so placed that they may be interpreted as a parallelogram that has been bisected. It was for this reason no doubt that the name flint was given to the design. Sometimes rectangles take the place of the oblique-angled parallelograms, though this is uncommon (figure 12). Various forms of the flint design are shown in figures 1 to 12 and in figures 118 to 120, where they occur in combination with other designs.

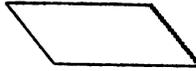
<sup>1</sup> Yurok design names are mostly formed by the addition of the prefix *ve-*, (which, as the vowel is obscure, sometimes becomes *va-*, *vu-*, *u-*, *o-*), and of the suffix *-aa*. Thus *niigem*, flint, *ve-niigem-aa*, flint design; *tsépkw*, mesh-stick, *ve-tsépkw-aa*, mesh-stick design.

*Niigem* in Yurok means flint or obsidian. It does not mean arrow-point, which is one of the commonest basket design names elsewhere in California. Flint knives, and especially the long knife or spearpoint-shaped objects of obsidian used in the deer skin dance, and regarded as extremely valuable, are called *niigem*.

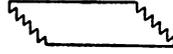




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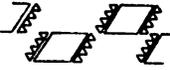
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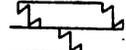
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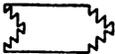
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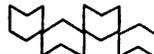
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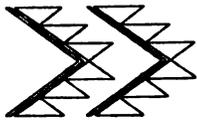
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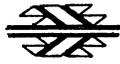
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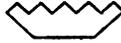
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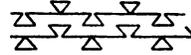
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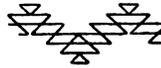
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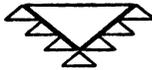
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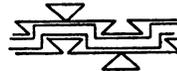
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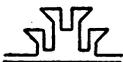
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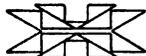
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The sharp-tooth design or *veniirpelaa*<sup>1</sup> consists of right angled triangles, either singly or in combination, more usually the latter. The essential feature of this design is however not the right angle but the *acute* angle of the triangle. Figures 13 to 23 show the different forms. In figure 22 it is the two small triangles at the ends of the Z-shaped figure which give the name to the design. In the design shown in figure 23 the name could have been applied only on account of the acute angles. Figure 115 shows a similarly shaped design-element used as a pattern within larger obtuse triangles.

The *verèq len* or sitting design is another of the very common Yurok designs. Its various forms are shown in figures 24 to 34 and in figure 115. It will be seen that all these designs contain as element an oblique isosceles triangle. The reason of the application of the name "sitting" to these designs is not clear. It seems however that we have to deal with a spatial or verbal conception, not with the representation of any object.

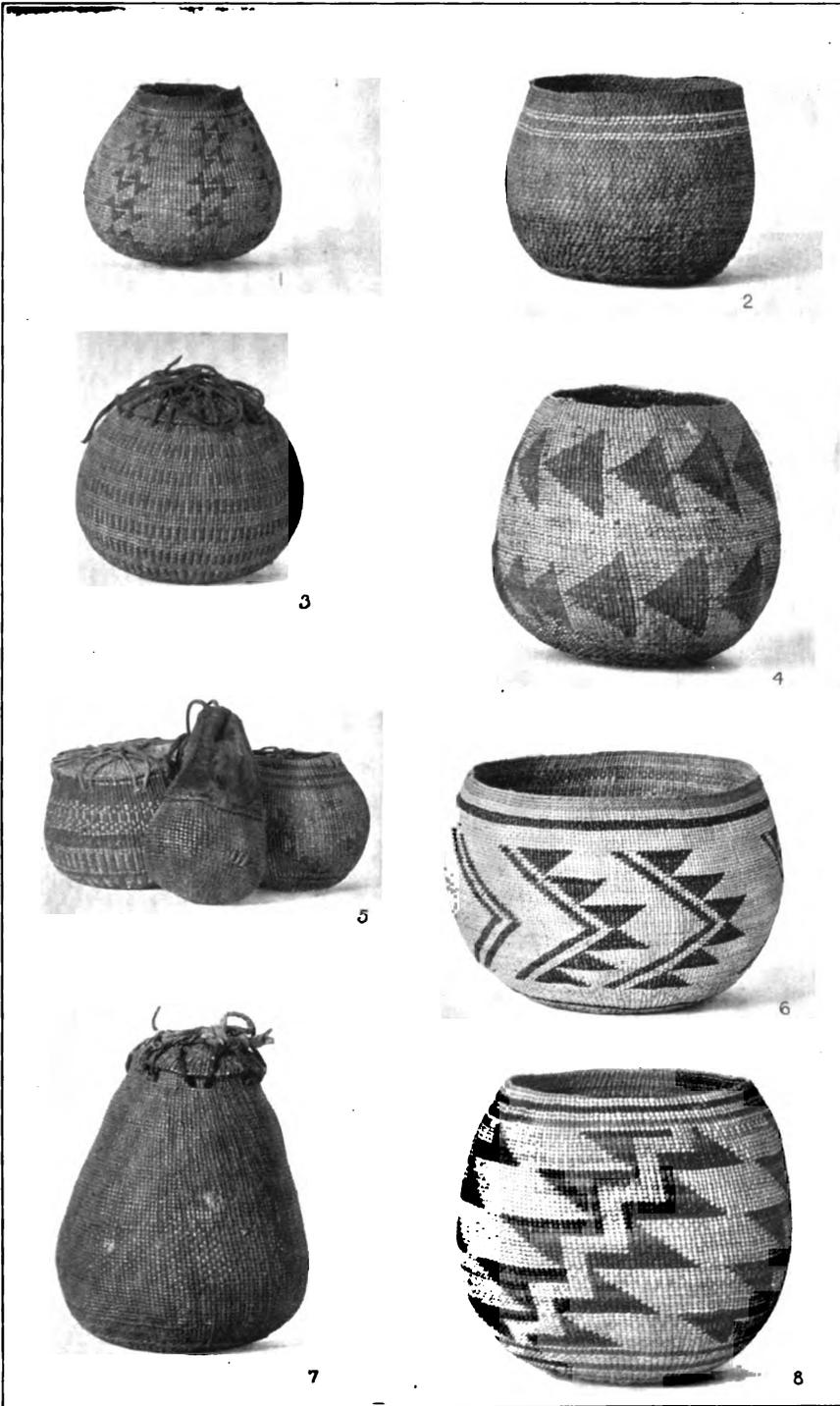
Figures 33 and 34 show two designs which are probably modern but to which the name sitting was given.

The snake-nose design (*veleiâlèkcoopern*) is identical with the last. It is mentioned very much less frequently. Inasmuch as the ordinary name for the obtuse isosceles triangle among the Karok is snake-nose and among the Hupa rattlesnake-nose, it seems that the occasional occurrence of this design name among the Yurok must be attributed to the influence of these tribes. A case of this design is shown in figure 35.

The waxpoo<sup>2</sup> design is shown in figures 36 to 44. The typical element of this design may be described as a trapezoid the longer upper base of which is bisected by the apex of an inverted isosceles triangle. This design element, however, does not appear to be used in its isolated form, but always occurs either in combinations as in figures 36 to 39, or in distortions as in figures 40 to 44. The meaning of the name has not been ascertained; it seems however to have some reference to "the middle," presumably the bisection of the base of the trapezoid by the

<sup>1</sup> Occasionally called *veniir*.

<sup>2</sup> Also called *haxpoo*.



Tobacco and other baskets. Yurok. ↓.



apex of the triangle. This is also a very frequent characteristic design. Figures 40 to 44 would seem to show that the trapezoid is not an essential element of the design and that any obtuse isosceles triangle whose apex is in contact with a horizontal line may be given this name. The design shown in figure 44 was called sitting as well as waxpoo. The waxpoo design is also shown in figures 116 and 117 in combination with other designs.

The snake design (*v̄leiâlèkcaa*) consists of a progressive zigzag of alternately horizontal and vertical stripes. In accordance with the general trend of Yurok patterns, the horizontally extending portions of this zigzag are usually considerably longer than the vertical ones. In most cases the snake design is combined with the flint design in the manner shown in figure 119. Figure 45 shows it occurring independently. The design in figure 46 was also given the name snake. It might equally well have received one or two other names. In figure 47 the right angled zigzag stripe does not ascend but is alternately directed upward and downward, thus forming a band through the zone of ornamentation on the basket instead of rising diagonally from the base to the rim of the basket. The triangles adjacent to this design do not form part of it. They were given the name sitting.

The spread-hand or spread-finger design (*okwègètsip*) is shown in figures 48 to 50. Its most usual form is the one it has in figure 48. It will be noted that all the figures contain a common element: the paired acute angles with vertical sides parallel.

The foot design (*umètsqaa*), figures 51 to 57, has for its element a right angled triangle at the end of a bar or stem. Being a small design, it is rarely found singly, but its application in patterns varies considerably. Figure 52 is not uncommon. The form shown in 53 is also not rare. The form shown in figure 57 is fairly common and suggests a design found among the Maidu, Achomawi, and other tribes. Figure 116 shows the foot design in combination with waxpoo and ladder.

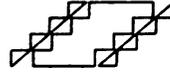
The ladder design (*vilqèmvilqèmaa*, also *vilqèma*) is shown in figures 58 to 63. In figure 58 the small squares were called ladder. This occurrence and that shown in figure 63 demonstrate that



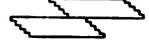
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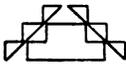
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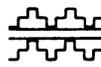
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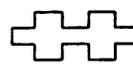
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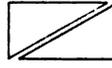
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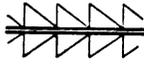
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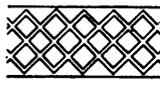
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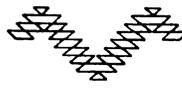
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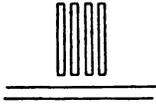
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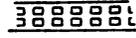
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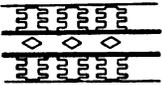
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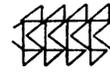
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the elemental idea of this design name is the square or rectangle. In by far the greater number of cases, however, this element occurs only in combination. In these cases the characteristic feature is the step-like effect which gives the design its name. The Yurok ladder which leads into the pit of the house consists of a large slab or a log into which several steps have been cut. It is interesting to note that while this design obviously takes its name from a combination of elements in a pattern, the same name is also used for the elements occurring singly, when realistically the name is inappropriate.

Not uncommon is the elk design (*umevilkaa*), cases of which are shown in figures 64 to 70. These designs may in general be described as consisting of a rectangle placed on the middle of another about twice its length. Essentially therefore this design is very like the preceding ladder design, and to many designs either name might properly be applied. It may be noted that among the Karok and Hupa there is only one name corresponding to these two Yurok designs. It has not been possible to obtain an explanation of the reason for the use of this name. In figure 64 the rows of vertical bars are strictly only an adjunct to the design. The same may be said of the triangles in figures 65. Figure 68 might quite correctly have been named either sitting or waxpoo by other individuals. For figure 69 the name elk would hardly have been expected. This design would usually receive the name flint, snake, or possibly ladder. There is also no apparent reason why the design shown in figure 70 should have been called elk, as it bears no relation to any of the other forms of the design.

The sturgeon-back design (*qâxkwilee*), representing the plates of the sturgeon, is shown in figures 71 to 75. Figure 71 shows what may be regarded as the most typical form. Whether the parallelograms in figure 75, which would ordinarily be called flint, are correctly named sturgeon-back, seems doubtful. Parallelograms painted on the back of a bow, though arranged somewhat differently, have however also been called sturgeon-back.

The *okrekruyaa* design, which may be translated crooked or zigzag, is rather common. A variety of its forms are shown in

figures 76 to 83. It will be seen that its essential constituent is an angle. As in the case of most other Yurok designs this usually occurs in repetition or combination, though not necessarily so. Figure 83 shows a pattern to which in most cases the name *flint* or *waxpoo* would be given. The name *crooked* was here no doubt applied to it on account of its zigzag outline. Figure 80 was called both *crooked* and *sturgeon-back*.

A very common design is called by the Yurok *vʷtsəq !səq !oaa*. The translation of this word is uncertain. It seems to be about equivalent to *striped*. The design consists of vertical bars or stripes. These may be attenuated to mere lines or shortened until they become small rectangles. Figures 84 to 90 show the different forms of this design. The grate-like lines of figure 64 were also given this name. Figure 90 is virtually the same design as figure 57, but occurs on another basket and was interpreted by another woman. Figures 117 and 118 also show this design. In both these cases there is only a single stripe and it is not vertical.

Somewhat less common is the design called *vanaanak*. This also consists of parallel stripes or bars but their direction is diagonal instead of vertical. The meaning of this name is also not clear. This design sometimes constitutes a small patch at the bottom of a basket. Some of these occurrences may be property marks, irregularities in design being occasionally explained in this way. The *vanaanak* design is shown in figures 91 to 94.

The meaning of the design called by the Yurok *vʷtsierau* can also not be given. It consists simply of a narrow line. Sometimes the name is given to the ridge, one or two courses wide, of a strand laid on horizontally outside and encircling the basket. Such a case is shown in figure 95. While this pattern is very common, it is hardly a true design, and it is not impossible that the name may refer only to the technique of its production.

A design called by the Indians *vʷtergerpuraa* is shown in figures 96 and 97. The meaning of this name has not been ascertained. It is however evidently of spatial or geometrical significance, perhaps having reference to the joined apices of

triangles or angles.<sup>1</sup> Another instance in which this design was found was on a basket showing a pattern identical with the abnormal snake design of figure 46.

A design that is not uncommon, but is very limited in the scope of its employment, is the tattoo (opegoixket) design. This represents the tattooing on the chin of the women. It is found only on openwork basketry trays used as plates for dried salmon and similar food. Many of these trays are plain, but some contain four or five figures like that shown in figure 98, radiating from the center to the edge of the plate and produced by the use of black-dyed warp stems.

All the remaining Yurok designs have been found only once and must therefore be regarded as much less typical than those that have been described.

A band consisting of a double row of rectangles (figure 99) was given the name flying geese (q!eilekvelèt) by an old woman.

Figure 100 shows a design called owatsela, the small skunk or polecat. It probably represents the markings of the animal.

A crab or crayfish design (qerlqer) is shown in figure 101.

Figure 102 is a design called maggots (viekwèlkwaa). Probably the small white rectangles are to be interpreted as the maggots.

Boxes of an approximately cylindrical shape are made by the Yurok from elk antlers for holding dentalium money, and of wood for larger objects. Such boxes are represented in a design called vètekwanekwaa. It is shown in figure 103; the rectangles represent the boxes.

Figure 104 shows the elbow design, uperxkricenaa.

Figure 105 shows another geometrical non-realistic design. It was called tsèxtselaa, spreading apart. This design was also given the name foot.

A design known as vètsèpkwaa or mesh-stick, being a representation of the approximately rectangular flat pieces of elk antler used for measuring net meshes, was found only once as a basket design. It is shown in figure 106. The same name was however found applied once or twice to carved rectangular figures on the wooden paddles used for stirring acorn soup.

<sup>1</sup>The design shown in figure 97 was called vètiigerpèkwaa, "small in the middle."

A series of rhombi, which would ordinarily be called sturgeon-back, was once given the name *kwerermetsaa*, a chiton mollusk. This design is shown in figure 107.

What was called a star design, *hââgetsaa*, is represented in figure 108.

A design called swallow is shown in figure 109. It is supposed to represent the tail. This name has been also found applied to a decorative figure carved as part of an acorn-soup paddle.

A design representing the markings of a small red snake is shown in number 110. In this case part of the design was executed in red.

The design shown in figure 111 was called *orawoi*, dove. Ordinarily such a design would be named *waxpoo* and *v̄ts̄eq!-ts̄eq!oaa*. It is possible that the information supplied in regard to this design and the two preceding may not be correct.

The following names that were each found once, seem either to denote geometrical ideas or to be modifications of common designs. They are:

A design called *verèt!*, shown in figure 112.

A design called *verèt!korem*, consisting of the horizontal bar in the middle of figure 54.

A design called *veniirpela* *upâpelek*, large (?) sharp-teeth, shown in figure 113.

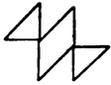
The same design executed in smaller size on the same basket was called *okegotir*, crossed.

A design, shown in figure 120, consisting of two right triangles in contact at their acutest angles, was called *krwâgik v̄lerèq!en*, sitting in the middle.

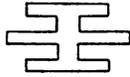
The term *veniir okegaama*, "sharp different" or "sharp varying," was applied to the sharp-tooth design shown in figure 18, and the term *venègètsiq!*, interpreted as sleeping together, to the ladder design of figure 63.

A modern design, to which no name was given because it was of recent invention, is shown in figure 114, in order to illustrate its difference in character from the older designs.

Figures 115 to 120 show patterns consisting in each case of two or more design elements. These are:



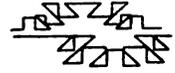
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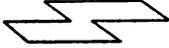
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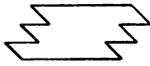
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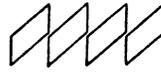
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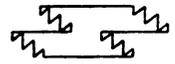
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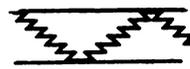
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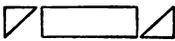
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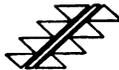
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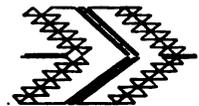
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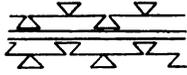
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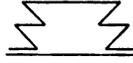
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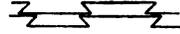
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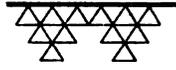
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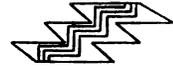
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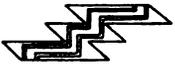
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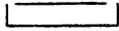
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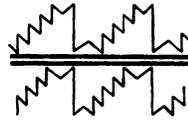
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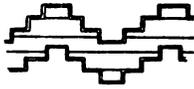
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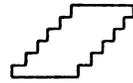
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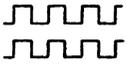
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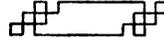
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Figure 115, sharp-tooth and sitting.

Figure 116, waxpoo and foot and ladder.

Figure 117, waxpoo and vɛtsɛp !tsɛq !oaa.

Figure 118, flint and vɛtsɛq !tsɛq !oaa.

Figure 119, flint and snake.

Figure 120, flint and kiwâgik vɛlerɛq !en.

Basket design names are the only names applied by the Yurok to the carved, engraved, or painted figures, predominatingly of triangles, on wooden acorn-soup paddles, elkhorn spoons and purses, and network and skins. This decoration, which is never realistic, is not made with any purpose of signification and usually is nameless; but when a name is applied to it, it is either descriptive, such as "scratched," or a name familiar from baskets, such as sitting, sharp-teeth, sturgeon-back, crooked, or mesh-stick.

#### KAROK DESIGNS.

The Karok designs are very similar to those of the Yurok, although their names sometimes do not correspond equally. They will be taken up in the order of the Yurok designs.<sup>1</sup>

The Karok oteha'hits or flint-like design has for its element the parallelogram. It is identical with the Yurok flint design. Figures 121 to 124 show different forms. The design shown in figure 124 was called oteha'hits tunueits, small flint. The oblique parallelogram is replaced by a rectangle more often among the Karok than among the Yurok.

The tata'ktak design among the Karok corresponds to the Yurok sharp-tooth. The etymology of this word is not known; it seems to be derived from an adjectival or verbal root. Objects with a row of notches are so called. A variety of the forms assumed by the tata'ktak design may be seen in figures 125 to 133, as well as in figures 185 to 187 where this design occurs in combination with others. A design like that shown in figure 151, which is ordinarily called spread-finger, was once named tata'ktak. This interpretation is very natural, as the elements of the spread-finger design always constitute the tata'ktak figure.

<sup>1</sup> Karok names of baskets: cooking or eating basket, large or small, asip; higher basket for trinkets, cipunk; hat, apxan. Karok names of basket materials; hazel, asis; pine roots, carum; xerophyllum, panyura; adiantum, yumarekiritap; woodwardia, tiptip.

The apcuniu'fi or snake-nose design corresponds to the Yurok sitting design. A number of forms are shown in figures 134 to 141, and in figure 184. The species of snake denoted by apcun is not known.

The apxanko'ikoi design corresponds to the Yurok waxpoo. The typical form is seen in figure 142. Figures 143 to 145 show forms that are unusual among the Yurok. It will be seen that figures 143 and 144 lack the isosceles triangle, the bisection by whose apex of the longer base of the trapezoid appears to give the Yurok design its name. The Karok name for the design contains the word for basketry cap, apxan. Koikoi, the second part of the word, is said to mean up and down, or progressively back and forth, or the successive placing of one thing against another. Figures 146 and 147 show forms of this design to which the Yurok would in most cases apply the name of the elements constituting them, sitting. The relation of these patterns to the typical forms of the design is however obvious. Figure 185 shows the apxanko'ikoi design in combination with the tata'ktak.

These four designs—flint, tata'ktak, snake-nose, and apxanko'ikoi—are among the commonest of Karok designs, as their equivalents are among the Yurok.

The design called vakaixara, long worm, shown in figures 148 and 149, corresponds exactly to the Yurok snake, even to its usual association with the flint design. An entirely different form is shown in figure 150. This appears to be equivalent to the rare Yurok maggot design.

The kixtapis or kixtapis design of the Karok corresponds in shape to the Yurok spread-finger or hand design. A similar significance has been obtained for the Karok word, but others say that the fingers are used only in illustration, the meaning being long and pointed, though not necessarily sharp. It is possible that the Yurok word okwægètsip also refers to the fingers only by implication. This design is shown in figures 151 and 152.

The crow-foot design, anatefis, corresponds to the Yurok foot design, especially to that variety of it shown in figure 53.

A common Karok design is the cut-wood, èn i'kiviti. This is the equivalent of the Yurok elk and ladder designs and there-



fore needs no further characterization. It is shown in figures 153 to 160, and again in figure 184.

The ikurukur design is the equivalent of the Yurok *okrekruyaa*; apparently the name is to be translated stirred, which may be a way of expressing the spatial idea zigzag. It is shown in figures 161 to 163. Another form is like the Yurok variety in figure 79.

The Karok *xurip* or striped design is the equivalent of the Yurok *vetsèq'lsèq'loaa*. It is shown in figures 164 to 166 and 186 to 187.

The design corresponding to the Yurok *vanaanak* seems to be called among the Karok *kutsisiva'c*, spotted.<sup>1</sup> An instance of this design is shown in figure 167. Another form is identical with the Yurok form shown in figure 93.

A single line or ridge encircling a basket, called among the Yurok *vutsierau*, is called by the Karok *uc-acip-rövahit*. This is said to mean to put something long around, and in basketry may refer to the technique rather than to the design. A portion of a design given this name is shown in figure 168.

A design similar to the ikurukur design was a number of times given the name *xasi'ree*. The meaning of this term could not be obtained, which is evidence that the word is descriptive and not the metaphorical application of the name of an object. This design seems to differ from the ordinary zigzag or crooked design in that when it constitutes a separate zigzag band it appears to be composed of broken lines, and that when it follows an outline of triangles, it is detached from them a little distance. In all the cases obtained there is thus a broken or openwork effect.<sup>2</sup> (Figures 169 to 172.) There seems to be nothing among the Yurok corresponding to this design name.

The *èsvaci* or snail-back design, said also to mean to carry, is another that is not found among the Yurok. Its element seems to be an acute or right angled triangle. It is shown in figures 173 and 174. The two designs in figure 174 were found on the same basket and were called by the owner of the basket both *tata'ktak* and snail-back.

<sup>1</sup> The last part of this word has a resemblance to the name of the snail-back design, *èsvaci*.

<sup>2</sup> That this is the essential feature of the design is made almost certain by the fact that *xas* has recently been found to mean separated.

The deer-excrement design, ip'af, is also not found among the Yurok, but occurs among the Achomawi and Wintun. Its element is a small rectangle used in combination. It is shown in figures 175-177. The design in figure 177 was also called rabbit-excrement, niv'af.

A design found only once is shown in figure 178. It was called iyu'uphit, eyes, strictly, like eyes.

A modification of the snake-nose design consists of two horizontal rows of the isosceles triangular elements. The design is then called apcuniu'fi upcantu'nvahit, snake-noses on top of each other, or snake-noses together. Once the form apcuniu'fi upsantunvaramu was given. Figures 179 to 181 show the modified snake-nose design. It will be seen that the isosceles triangles may be put simply above one another or joined at their apices or along their bases. In the latter case a diamond or rhombus results. It is in this way that the diamonds in figure 184 are to be interpreted as snake-noses.

Figure 182, which is the same design as 181, was called by an old woman tata'ktak teivi'tahits. Teivi'tahits is said to be used of small objects in a row.

A pattern like the eye pattern of figure 178, ascending diagonally through two flint-parallelograms, was once called snake-nose ikurukur. This name shows that each of the rectangles in the design was in this case considered as consisting of two triangles joined at the bases.

Figure 183 shows a design called tata'ktak èviyi'hura, tatak-tak ascending, or thrown or moved up.

Figures 184 to 187 show combinations of designs. These are:

Figure 184, èn i'kiviti and apcuniu'fi.

Figure 185, apxanko'ikoi and tata'ktak.

Figure 186, xu'rip and tata'ktak.

Figure 187, xurip and tata'ktak.

#### HUPA DESIGNS.

Since the drawings for this paper were made, Dr. P. E. Goddard has published a description of Hupa basket making, including an account of the designs and their names, in his general paper on the Life and Culture of the Hupa referred to. His



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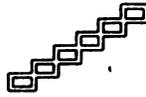
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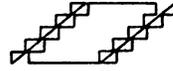
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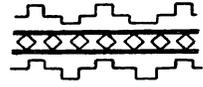
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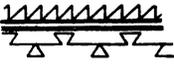
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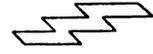
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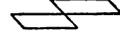
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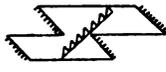
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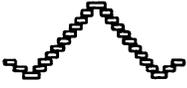
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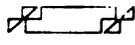
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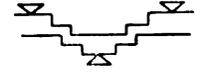
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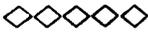
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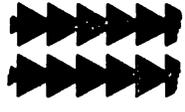
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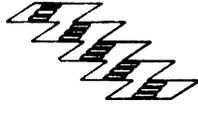
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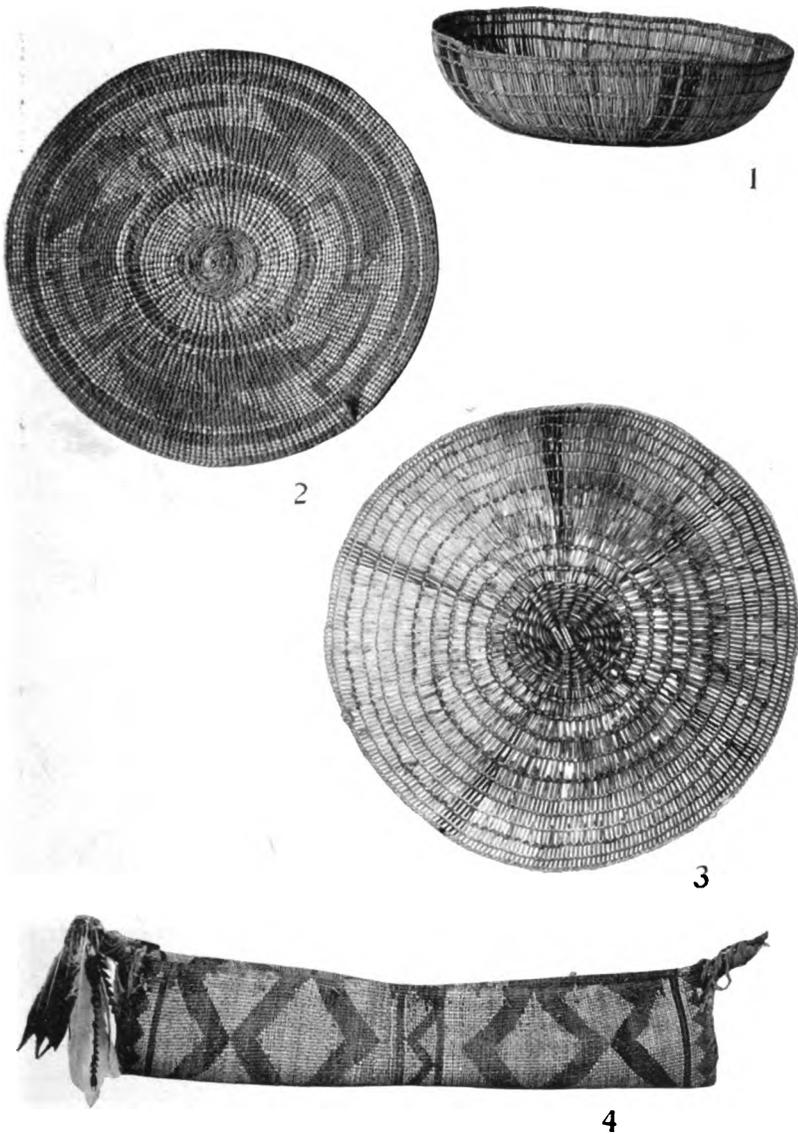
illustrated description of the various classes of baskets and of the arrangement of their decoration shows the practical identity of Hupa and Yurok basketry, several of the pieces he figures being in fact of Yurok origin, and has rendered any lengthy treatment of the same subject unnecessary in the present paper. His account of the use and treatment of materials is particularly full, and the material previously presented in this connection must be regarded as merely supplementary of his more exact observations. Dr. Goddard names and figures a number of Hupa designs, some of which were not obtained by the author. In the cases where the same names were secured, Dr. Goddard's orthographical rendering has been adopted, except that his close o and u are represented without diacritical marks. Where he does not give a design name, it has been rendered according to the phonetic system employed for native names in this paper.

So far as the Hupa designs can be paralleled with Yurok designs they will be taken up in the same order.

The common design whose elements are parallelograms is called by the Hupa *nirkûtdasaan*, on top of each other. While this design itself is generally identical in shape with the corresponding Yurok and Karok flint designs, its name is altogether different. Several forms are shown in figures 188 to 191. Inasmuch as the name has reference only to the relative position of the component elements, and not to their shape, it is perfectly applicable to the pattern shown in figure 191, though this design corresponds much rather to the Yurok elk or ladder than to the flint design.

In one case a design consisting of two oblique parallelograms was called by a Hupa woman *nesetaxkyuulon*, long mark. According to Dr. Goddard the second part of this word means weave or woven. This design is shown in figure 192.

The Yurok sharp-tooth and Karok *tata'ktak* designs are called by the Hupa *tcaxtceûñeL*. Occurrences are shown in figures 193 to 196. According to Dr. Goddard this word means points sticking up and is applicable to a series of projecting angles. The name was obtained, however, for the design reproduced in figure 194, which consists of an isolated triangle. Dr. Goddard gives as the name of the single right triangle *teesliñalwiltewel*,



Figs. 1, 2, 3. Openwork and sifting trays. Yurok.  $\frac{1}{3}$ .

Fig. 4. Dance basket. Yurok.  $\frac{3}{26}$ .



said to mean sharp and slanting. The design shown in figure 195 was called *miskaxe tcaxtceũñeL* with *niLkũtdasaan*.

A design identical with that of figure 196 is shown in figures 200 and 202, which were called swallow-tail. While this is perhaps the more characteristic name, the acute angles in the figure make *tcaxtceũñeL* also applicable to it. Dr. Goddard notes the use of both names for this design.

The obtuse isosceles triangle is called by the Hupa nearly as by the Karok, rattlesnake-nose, *Luwmintcwuw*. Two patterns are shown in figures 197, 198. Dr. Goddard mentions also *Luwmintcwuw niLkũtdasaan*, rattlesnake noses on top of each other, as the name of a pattern of isosceles triangles, which corresponds with the Karok name *apcuniu'fi upcantu'nvahit*, snake noses on top of each other.

The Yurok *waxpoo*, the Karok *apxanko'ikoi* design is called by the Hupa *tea*, or *tcax-hultewe* (= *tea-wiltewel?*). An instance is shown in figure 199. The meaning is unknown. *Tea* and the first part of *tcax-hultewe* appear to occur also in *tcaxtceũñeL*; *hultewe* in *mi-kinily-ultewe* and perhaps in *tcesũñal-wiltewel*.

According to Dr. Goddard the *tea* design is usually so arranged that a series of figures encircles the basket, when the name *lenaldauw* is given it, signifying "it encircles."

The swallow-tail design, *testcetemikye* in Hupa, has not been found among the Karok and only once or twice among the Yurok. It appears to be not uncommon among the Hupa. A typical form is shown in figure 200. The pattern shown in figure 201 is from the same basket and was given the same name, but is so unrelated in form that a mistake seems likely. Figure 202 shows the elements found in figure 200 arranged in a continuous zigzag pattern.

The design shown in figure 53 as a Yurok foot design is usually called by the Hupa frog hand, *tcwal mila*. This name was also found applied to the design shown in figure 204, but the connection between this form and the usual one is not clear. The typical form of the frog hand design is again shown in figure 203, though in this case it was given the name spread-hand, *mila analeli*. It thus appears that the Yurok foot design



corresponds to both the Hupa frog hand and spread-hand designs, while the Yurok spread-hand design is the equivalent of the Hupa swallow-tail.

The Yurok elk and ladder, and the Karok cut-wood designs, are found among the Hupa in the forms shown in figures 205 to 208. To the first two of these, which were obtained from one individual, the name *LENOUN* was given. To the two others, which were obtained from two different individuals, the name *Lenoikyuulon* was applied. According to Dr. Goddard *Le-*, the first element of these names, means joined or tied together, and is no doubt used because the design extends in a continuous pattern around the basket; while *-kyuulon* means, as stated before, weave or woven.

The sturgeon-back design, *Lokyomenkonte*, was found once among the Hupa and shows in this case the same shape as the typical form of the Yurok design of the same name. It is reproduced in figure 209.

The equivalent of the Yurok crooked or zigzag design is called by the Hupa *naikyexoloxats*. A form is given in figure 210. The design shown in figure 81 was also called by this name.

The Yurok *vetsèq!sèq!oaa*, the design of vertical bars, is called by the Hupa *kinesni*. It is shown in figures 211 and 212. Presumably the meaning of this design name is, as among the Yurok and Karok, striped.

The design of slanting stripes called by the Yurok *vansanak* is called by the Hupa *kinilyu*. This was translated spotted, but this rendering may be inexact. An instance is shown in figure 213. In figure 189 the diagonal stripes were called *mikinilyultewe*.

In addition to the designs here figured, Dr. Goddard gives the following.

*Mikyowe mila*, grizzly bear hand, a parallelogram with projecting acute angles along the oblique sides.

"They come together," *Lekyuwifiel*, seems to be trapezoids superimposed.

*Qowitselminat*, worm goes round or worm's stairway, is a series of rectangular parallelograms superimposed so that each higher one projects to the right of the one below it, the whole being bordered by a double line conforming to the outline.

Oblique lines running through oblique angled parallelograms are called *nilkútdasaan*, one on the other its scratches.

#### COMPARISON OF YUROK, KAROK, AND HUPA DESIGNS.

On the whole the designs of the Yurok, Karok, and Hupa correspond rather closely. Still there are a number of discrepancies in design names. The Yurok and Karok flint design, which takes its name from the individual parallelogram, is called in Hupa on top of each other, the name being given not on account of the shape of the elements but on account of their combination into a pattern. The difference between Yurok snake and Karok long worm is of course slight. The same may be said of Yurok ladder and Karok cut-wood, since the ladder consists of a log or slab into which steps are cut. It should be noted however that the Karok cut-wood and the corresponding Hupa design have two equivalents in Yurok: ladder and elk.

The design consisting of four or more triangles at the end of vertical stalks, those in the middle being higher than those at the two sides, is called among the Yurok foot, after the individual elements composing the design; among the Karok and Wishok crow-foot, after the design as a whole; and among the Hupa frog-foot. The Hupa however, apply to the design a second name, namely spread-hand. This name is found also among both Yurok and Karok, but applied to a design consisting of four or six vertically projecting acute angles. This design in turn is found also among the Hupa, who have given it the name swallow-tail. This name, finally, has not been found among the other tribes, except for a few cases among the Yurok. This is a characteristic instance of the degree of variability of design names among the northwestern tribes.

All the designs so far found among the Yurok, Karok, and Hupa are given in Table I, which is arranged so as to show the design names that correspond among the three tribes. It will be seen that the greater number of names found in one tribe but missing in another, are names that are rare even where they do occur. Some discrepancies, however, will be noted also among the more common names, although, as previously stated, all the designs themselves are common to the three tribes. Of

the Yurok designs found more than once, Karok lacks five: sturgeon-back, tattoo, *vetergerpuraa*, elk, and sitting; but of these the first three are not very common even among the Yurok, while the elk and sitting are both second names for designs whose other names, snake-nose and ladder, have Karok equivalents. Of Karok designs found more than once, the Yurok lacks only deer-excrement, snail-back and *xasiree*. Hupa, so far as now known, lacks nearly the same Yurok design names as Karok: snake, sturgeon-back, *vetergerpuraa*, elk, and sitting.

The difference in the number of design names among the three tribes is probably only apparent and owing to the fact that inquiry has been fuller among the Yurok than among the other tribes. Omitting the names found only once, and the variations of the common names, there were found among the Yurok sixteen, among the Karok fourteen, and among the Hupa, including the designs given by Dr. Goddard, about an equal number of characteristic common tribal design names.

TABLE I.—EQUIVALENT DESIGN NAMES.

The corresponding Yurok, Karok, and Hupa names of the same figure are on the same line.

YUROK	KAROK	HUPA.
flint	flint-like	on top of each other; long woven <sup>1</sup>
sharp-tooth	tataktak	points sticking up
sitting; snake-nose	snake-nose	rattlesnake-nose
waxpoo	apxankolkoi	teaxhultwe, tea <sup>1</sup>
snake	long worm	
spread-hand	spread-hand (?)	swallow-tail
foot	crow-foot	frog hand; spread-hand <sup>1</sup>
ladder; elk	cut-wood	LenouLon, LenoikyuuLon
sturgeon-back		sturgeon-back <sup>1</sup>
okrekruyaa	ikurukur	naikyexoloxats
v̄ts̄əq̄   ts̄əq̄   oaa	xurip	kineani <sup>1</sup>
v̄anaanak	kutainivac	kinilyu <sup>2</sup>
v̄uts̄ierau	ucacipr̄ovahit <sup>1</sup>	
v̄tergerpuraa		
tattoo	xasiree	
	snail-back	
	deer-excrement	
	rabbit-excrement <sup>1</sup>	
	eye-like <sup>1, 2</sup>	
flying geese <sup>1</sup>		
dove <sup>1</sup>		
crab <sup>1</sup>		
maggots <sup>1</sup>		
box <sup>1</sup>		
elbow <sup>1</sup>		
spreading <sup>1</sup>		
meah measure <sup>1</sup>		
chiton mollusc <sup>1</sup>		
star <sup>1</sup>		
swallow		
red snake <sup>1</sup>		
skunk <sup>1, 2</sup>		

## WISHOSK DESIGNS.

The names of the designs on a few Wishosk baskets seen were obtained, as well as the Wishosk names of a few sketches of Yurok designs. Most of the names are untranslatable. Some may be descriptive terms instead of standard design names. They are given for what they are worth. They are:

<sup>1</sup> Found once.

<sup>2</sup> A few variations of standard designs, such as ascending tataktak and snake-noses on top of each other, are not included.

Yurok foot, as in figure 53, but larger, with six to eight stalks on each side: Wishosk gatsirewelile or sigoptele welilel, crow foot.

Yurok sharp-tooth: Wishosk laget.

Yurok sitting, as in figures 27, 135: Wishosk dutematho.

Yurok *v̄tsèq !tsèq !oaa*: Wishosk *tcirurategat*.

Yurok sturgeon-back or Karok flint, as in figures 72, 123: Wishosk *gavoyahati*.

Yurok flint, as in figure 6: Wishosk *wa'sat*, put on top, or *ritve wa'sat*, two put on top.

Yurok elk, as in figure 66: Wishosk *ritvelet*, two —?

Yurok waxpoo, like the elements in figures 36, 142, but in three tiers like figure 146 except that the trapezoids are solid: Wishosk *rikweritcag' atgat*, three —?

Yurok waxpoo, like figure 37: Wishosk *gidacedaril* or *gidacedaril dudematho*, said to mean grown up or full blown.

Long horizontal trapezoids on top of each other: Wishosk *datherowalet*, said to mean straight across horizontally.

Short vertical bars at the ends of these trapezoids: Wishosk *rakdathaligwalat*, said to mean beginning to grow.

#### NORTHEASTERN WINTUN DESIGNS.

The following information as to the baskets and design names of the Wintun of the McCloud river at the extreme northeastern end of the territory of the stock and in contact with the Achomawi or Pit River Indians, was obtained, together with the specimens to which it relates, by Professor John C. Merriam and is presented through his courtesy.

Typical baskets of this branch of the Wintun are shown in Plate 21. In general they are of the northwestern type. The weaves are the same except for the different method of overlaying described, the shapes and patterns not very different, and the materials are largely identical. The warp is of willow in place of the northwestern hazel.<sup>1</sup> For conical carrying baskets poison oak, *rhus diversiloba*, is also used. The wool is of roots of yellow pine, *pinus ponderosa*. The overlaying materials

<sup>1</sup> McCloud river Wintun names of baskets: *puluk*, large cooking basket; *dausep*, small shallow cooking and drinking basket; *kolom*, small deeper basket; *kawi*, mortar basket; *an'kapis*, conical openwork carrying basket; *an*, seed-beater; *tekes*, flat tray-shaped basket.

are the same as in the northwest, xerophyllum, adiantum, and alder-dyed woodwardia. It is possible that additional materials may be used to produce patterns. The hat shown in Plate 21, figure 3, resembles a Modoc more than a Yurok hat in shape, pattern, and softness. The warp appears to be of roots instead of twigs; it is said to be grass, admitted to be an unusual material. The woof at the center or origin of this hat is of twine, as in Modoc hats.

In part the design names collected by Professor Merriam corroborate those given by Dr. R. B. Dixon from the upper Sacramento river Wintun;<sup>1</sup> others are new.

The water-snake design, shown in figure 214, agrees with the form given by Dr. Dixon. The diamond-shaped rattlesnake-

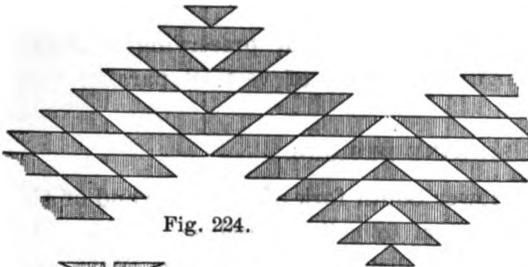


Fig. 224.

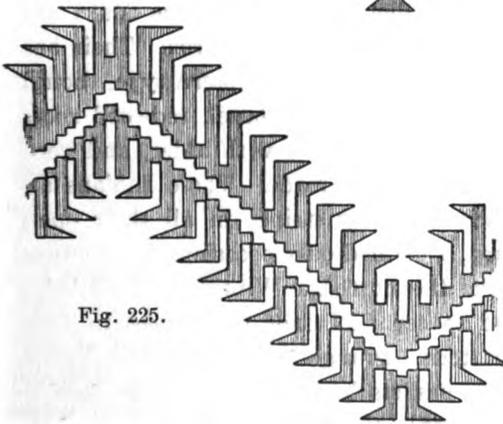


Fig. 225.

head design shown in figure 215 in continuous pattern is also given by Dr. Dixon. Figure 216, a row of triangles, middle of base on apex, called sucker-tail, is also practically identical with the Dixon sucker-tail design. The flying geese, figures 217 and 224, are somewhat different from the Dixon design, but there is an underlying similarity in pattern effect. Fig-

ure 218 shows leaves. A more typical form is said to consist of obtuse isosceles triangles with their bases in a row. Dr. Dixon shows rows of triangles on each side of a diagonal, which he calls "leaves strung along."

<sup>1</sup> *Basketry Designs of the Indians of Northern California*, Bull. Am. Mus. Nat. Hist., XVII, I, 17, 1902.

A bird's breast design is shown in figure 219. It consists of a band of diagonal stripes. Both in form and name this suggests the Pit River meadowlark neck design.<sup>1</sup>

Figure 225 shows a design that is called lizard foot or track. A different combination of the elements constituting this design was found by Dr. Dixon called bear-foot.<sup>2</sup>

Figure 220 shows what was called a tribal design, taken from the woman's cap mentioned.

Figure 221 shows the arrow point design.

Figure 222 is the quail-crest design.

Figure 223 represents a form of what is called the zigzag design.

A raft design, not figured, is square or oblong, containing about two horizontal dividing lines.

A navel-string design on a basket for preserving a child's navel-string, also not figured, consists of vertical parallel bars or stripes.

#### SINKINE DESIGNS.

The Athabascans of lower South fork of Eel river and of the neighboring coast region seem to call themselves Sinkine. In the totality of their culture they are as near the Yuki and northern Pomo as they are to the Hupa and Yurok. Their basketry, however, is distinctively of the northwestern type, though very poorly made. The materials include hazel, redwood roots, maidenhair fern, woodwardia fibres dyed with alder, and xerophyllum; and coiled baskets are not made. These Indians are fond of introducing black radiating stripes in all their openwork by coloring the warp, a method only occasionally practiced by the Yurok. Much like the northern Wintun and probably Shasta, the Sinkine tend to certain minor differences in form of their baskets and pattern arrangements from the Yurok, Karok, and Hupa. Large baskets have somewhat more continuous curve and flare in profile than among the tribes of the north, and the edge is more often strengthened by a thick rod. The acorn meal sifter is shallowly concave in place of flat as with the Yurok and Karok or somewhat conical as with the

<sup>1</sup> Dixon, *op. cit.*, p. 15.

<sup>2</sup> *Ibid.*, p. 18.



Various baskets. Figs. 1, 2, 4, 5, 6, Yurok. Fig. 3, Karok. 176.





Hupa. Openwork trays are slightly deeper than among these tribes. The patterns are inclined to run in a large horizontal zigzag.

A design of a continuous series of angles, either acute or oblique, is called *nalgös*.

A pattern of alternately black and white small rectangles is called *tees'an* or *tes'an*, which is translated patch.

Vertical stripes or bars have the name *teinisnoi*, which is dialectically equivalent to the Hupa name of this design, *kinesni*.

#### COMPARISON OF BASKET DESIGNS IN NORTHERN CALIFORNIA.

Before proceeding to a comparison of the basket design names of California, so far as they are known, it is desirable to discuss briefly the geographical relations of techniques and of pattern arrangements.

As between the two chief modes of weaving that are customarily distinguished in western North America, the twined and the coiled, twined weaving has perhaps a wider distribution in California, but coiled weaving is the principal and more characteristic technique of the greater number of groups.

The tribes of northernmost California, both east and west, practice only twined weaving. South of the Yurok, Karok, and Hupa the Wailaki are the first group that make coiled baskets. The Indians who adjoin them on the north class them as coiled basketry makers, while at Round Valley, where they now live in contact with Yuki, Pomo, Maidu, and other stocks that chiefly make coiled baskets, they are looked upon as workers in twined weaving. The Wailaki baskets in the Museum of the Department of Anthropology are divided between the two techniques; and of two in the American Museum of Natural History one is coiled and one twined. The baskets of the Shasta and Chimariko were undoubtedly twined. The northern Wintun of the upper Sacramento and McCloud rivers make twined baskets exclusively, as those of Trinity river almost certainly did. This however must not be supposed to apply to the entire Wintun stock. The southern Wintun east of the Pomo make coiled baskets. How far north in the territory of this family the practice of making coiled baskets extends is not certain. Coiled baskets were made on Stony creek. The Achomawi, the Pit river basin

Indians, according to Dixon made only twined baskets. The Yana work is twined. The Klamath Lake and Modoc Indians of the head waters of the Klamath river also use the twined technique exclusively.

South of these tribes coiled work was found and everywhere predominated except for larger and more specialized baskets. Among the Pomo twined weaving was relatively more important than among other tribes that employed the coiled style; but even here the smaller and more characteristic baskets are coiled.

In regard to the grouping of designs in patterns on California baskets the following arrangements must be distinguished:

First, horizontal, either in continuous bands or in rows of figures.

Second, vertical or radiating.

Third, diagonal or spiral, according as the basket is deep or flat.

Fourth, zigzag, or diagonal alternately to the right and left.

Fifth, in blocks, where a compact cluster of designs or a single figure occupies the greater part of the basket visible in one view.

These terms have reference to the appearance of the ordinary basket seen from the side. In the case of a flat, tray-like basket, a horizontal arrangement would consist of circular bands, a vertical pattern would be radiating, a diagonal one spiral, and a zigzag one star or net-shaped.

In the baskets from the northwestern region the preponderating tendency is a horizontal one. The ordinary baskets for purposes of cooking or eating, and the hats, show in most cases a single decorated strip extending around the basket a short distance below its rim. In the case of caps there is generally an additional simple subsidiary design at the center. This horizontal decorative area may consist of the same figure or group of figures three or four times repeated in the circuit of the basket, or of a more simple and more continuous pattern. The figures may be repeated in part above or below the main design zone. Ordinarily the zone does not take the form of a distinct band of the sort that is so common on the Yokuts and larger

Pomo baskets. Within this horizontal zone of decoration the lines of the pattern sometimes run vertically, but more usually, in connection with the common parallelograms and triangles, diagonally.

A secondary tendency in the general pattern disposition of northwestern baskets is a diagonal arrangement. This is found chiefly in trinket and storage baskets. These are about equal in height and diameter, so that in their case the style of decoration which is confined to a zone near the rim would leave the greater portion of the surface of the basket unornamented. The diagonal arrangement allows the design to be carried without difficulty from the bottom to the top of the basket. The cooking baskets and hats are considerably lower than they are wide, so that a single horizontal zone of decoration sufficiently occupies the visible surface.

Other methods of distributing the pattern are rare in baskets of northwestern California. A vertical ornamentation is occasionally found in small baskets and a zigzag arrangement on large ones.

The Achomawi baskets are made in the same general style as those of the Yurok and Hupa. The unadorned brown, the natural color of the roots employed for the woof in most northwestern baskets not intended for purposes of display, is however apparently not used among the Achomawi. The characteristic Achomawi basket, even when intended for carrying or cooking, has its entire surface overlaid with xerophyllum grass, which by the northwestern tribes is used to such an extent only for caps, trinket baskets, and others in which the ornamental purpose is at least equal to the useful one. The alder-dyed red of the northwestern region is also absent from baskets of the Pit river region. A black, apparently the same as the maiden-hair fern fibre of northwestern California, is used by the Achomawi for making their designs on the white ground color. Sometimes a dyed black is used. The bottom of some Achomawi baskets is left in a natural brown without xerophyllum overlaying, but this is not always done.

The baskets from this region are generally somewhat higher in proportion to the diameter than the comparatively shallow

baskets characteristic of the northwestern region. The bottom of the baskets is also squarer, the sides meeting the flat bottom more nearly at an angle with a very short curvature, while in the northwestern baskets the curving bottom runs very gradually into the sides. Nevertheless on the whole Pit river baskets and those from the lower Klamath region belong to the same type.

In the arrangement of designs, however, the Pit river and northwestern baskets differ fundamentally. The most common arrangement in the Pit river region is the spiral one. Zigzag patterns are also common. Block patterns, or single figures, which are nearly wanting in the northwest, also occur. On the other hand the horizontally arranged patterns of northwestern California occur rarely.

The basketry of the Yana, who are almost extinct, is very little known. Dr. Dixon has however described two pieces. They seem not very different from Achomawi baskets, being twined and overlaid with xerophyllum. Their designs also suggest the Pit river designs.<sup>1</sup>

The baskets of the Modoc, and of the Indians often loosely called Klamath Indians, the two tribes who constitute the Lutuami stock, resemble in many ways the northwestern and Achomawi baskets, belonging to the same twined overlaid type.

Both warp and woof of the Lutuami baskets are however of tule in place of tree twigs and roots, resulting in a more flexible basket. The basketry hats are also higher and flatter than those of the northwestern Indians besides being begun with woof of string.

The pattern arrangement on the Modoc-Klamath baskets is different from the characteristic northwestern arrangement. While frequently horizontal, there is a distinct tendency to defined bands. The pattern arrangement of hats resembles that of Achomawi baskets, being usually zigzag or diagonal.

The northern Wintun baskets described by Dr. Dixon and in this paper stand nearly as close to the Achomawi and Lutuami baskets as to the Yurok-Karok-Hupa. They resemble the Achomawi baskets in being less flat than the northwestern bas-

<sup>1</sup> B. B. Dixon, *op. cit.*, p. 19.

kets and in that their ground color is more often in overlaid white than in the natural color of the root fibres of the wool. They also lack the characteristic horizontal design-zone of the northwestern baskets, but agree with them in showing in the great majority of cases either a diagonal or a horizontal arrangement, although the vertical, the zigzag, and the block arrangements are also found. The elements of the designs are for the most part equivalent to northwestern design elements.

The Shasta seem to have made comparatively few baskets and these resembled the Yurok and Karok baskets of poorer finish. Most of the few baskets that can be regarded as typically Shastan show a simple pattern of a band of vertical bars.

Among the few surviving Sinkine, the Athabascans of South fork of Eel river, north and west of the Wailaki, baskets are altogether northwestern in type, though crudely made. It is noteworthy, however, that in the patterns there is a distinct tendency toward a zigzag arrangement.

In the region where coiled basketry predominates, comprising the remainder and by far the greater part of the state, three main types of pattern arrangement may be distinguished, which may be called the Maidu, the Southern, and the Pomo. It is hardly necessary to say once more that this classification has nothing to do with materials, technique, or texture.

The Maidu baskets illustrated and described by Dr. Dixon show most commonly a zigzag arrangement. Second in importance is a diagonal arrangement. Horizontal distribution of designs is very rare and the vertical or block arrangement still more so.

The northern Moquelumnan or Miwok baskets in the American Museum illustrated by Dr. Dixon, show a preponderating horizontal arrangement, and secondary to this is a vertical arrangement of designs. The characteristic Maidu diagonal and zigzag arrangements seem to be rare. This fact is noteworthy because the Moquelumnan arrangement is that of the southern basketry, so that the Maidu type of pattern arrangement would seem not to extend southward beyond the limits of the stock, and altogether to be limited to the Maidu themselves and perhaps some of the adjacent Wintun.

The Yokuts makers of the Tulare baskets prevailingly use horizontal and secondarily vertical patterns, thus agreeing with their northern neighbors the Moquelumnan Indians. Especially among the southern Yokuts the continuous horizontal band is however more in use than in Moquelumnan territory. A diagonal arrangement is not rare in these regions, but usually has the form of a series of rectangular steps, so that the horizontal-vertical tendency still finds expression. The Shoshonean tribes adjacent to the Yokuts follow the same pattern arrangements.

Baskets from the coast region west and southwest of the San Joaquin valley are very scarce. The few that are undoubtedly from this region, almost all from Chumash territory, show a combination of horizontal and vertical designs.

The baskets of the Shoshonean and Yuman Mission Indians of Southern California, while different from the Yokuts types of baskets in many ways, like them generally show horizontal and vertical arrangements. Tray-shaped baskets frequently show a star-shaped pattern, which should be classed as a form of zigzag arrangement. The tribes of the desert farther east, such as the Chemehuevi, seem to use the same types of design arrangement.

The entire part of California south of the latitude of San Francisco, the larger half of the state, must accordingly be considered a unit in the matter of basket-design arrangement, the patterns being prevailingly horizontal or vertical instead of diagonal or zigzag.

The third region in which coiled basketry predominates is that of the coast region immediately north of San Francisco, extending along the coast to the northwestern region. The Pomo are the largest group in this area.

Twined weaving is of relatively greater importance among the Pomo than among either the Maidu or the Indians south of the latitude of San Francisco. Besides having twined and coiled basketry, the Pomo possess the ti weave, a superimposition of coiling on twining. Including the minor variations, the total number of weaves practiced by the Pomo may not be as large as can be found among some other California groups; but whereas other groups limit the use of their less characteristic

weaves to parts of baskets or to certain classes or shapes of baskets having special purposes, among the Pomo the employment of the several techniques is not confined nearly as rigorously to narrow types of ware. Besides the variety of techniques there exists much latitude of shapes, there being flat bowl-shaped baskets, others whose opening is about equal in diameter to their bases, and still others which curve inward to the top considerably; besides of course conical carrying baskets and the flat tray baskets found all over California. The Pomo have also developed the canoe shaped or oval basket which is scarcely aboriginal in any other region in California or at least is not usual anywhere else. They also use the greatest variety of external ornament. Beads, shell ornaments, quail plumes, and feathering are employed to a far greater extent than elsewhere. Among the northern tribes using only the twined technique such external decoration is altogether wanting. The total covering of baskets with feathers is also not found outside of the Pomo region, though this area must probably be made to include some of the southern Wintun, southern Yuki, and perhaps northwestern Moquelumnan, as well as the Pomo. Complete feathering is said not to have been practiced formerly even by the Yuki proper, who in their general culture and their basket technique belong to the Pomo type.

As in shape and technique, Pomo baskets show the greatest variety of design arrangements in California. The horizontal and diagonal arrangements apparently predominate. Single figures of such size that one fills the entire visible surface of a basket, or of such size that several are visible at one time, are also considerably used, especially on the smaller coiled baskets. Very often these figures are fairly elaborate, consisting of a group of figures rather than of a design or pattern. Zigzag and vertical patterns are also both found on Pomo baskets, and a net-like arrangement which might be described as a combination of two diagonal patterns slanting in opposite directions is not uncommon.

In regard to decorative scheme and pattern arrangements California baskets may therefore be classified as follows:



A. Northwestern type, twined. Designs arranged horizontally in a single pattern-zone or diagonally.

B. Northeastern or Achomawi type, twined. Arrangement of patterns diagonal or zigzag, not horizontal.

C. Maidu type, chiefly coiled. Pattern arrangement zigzag or diagonal.

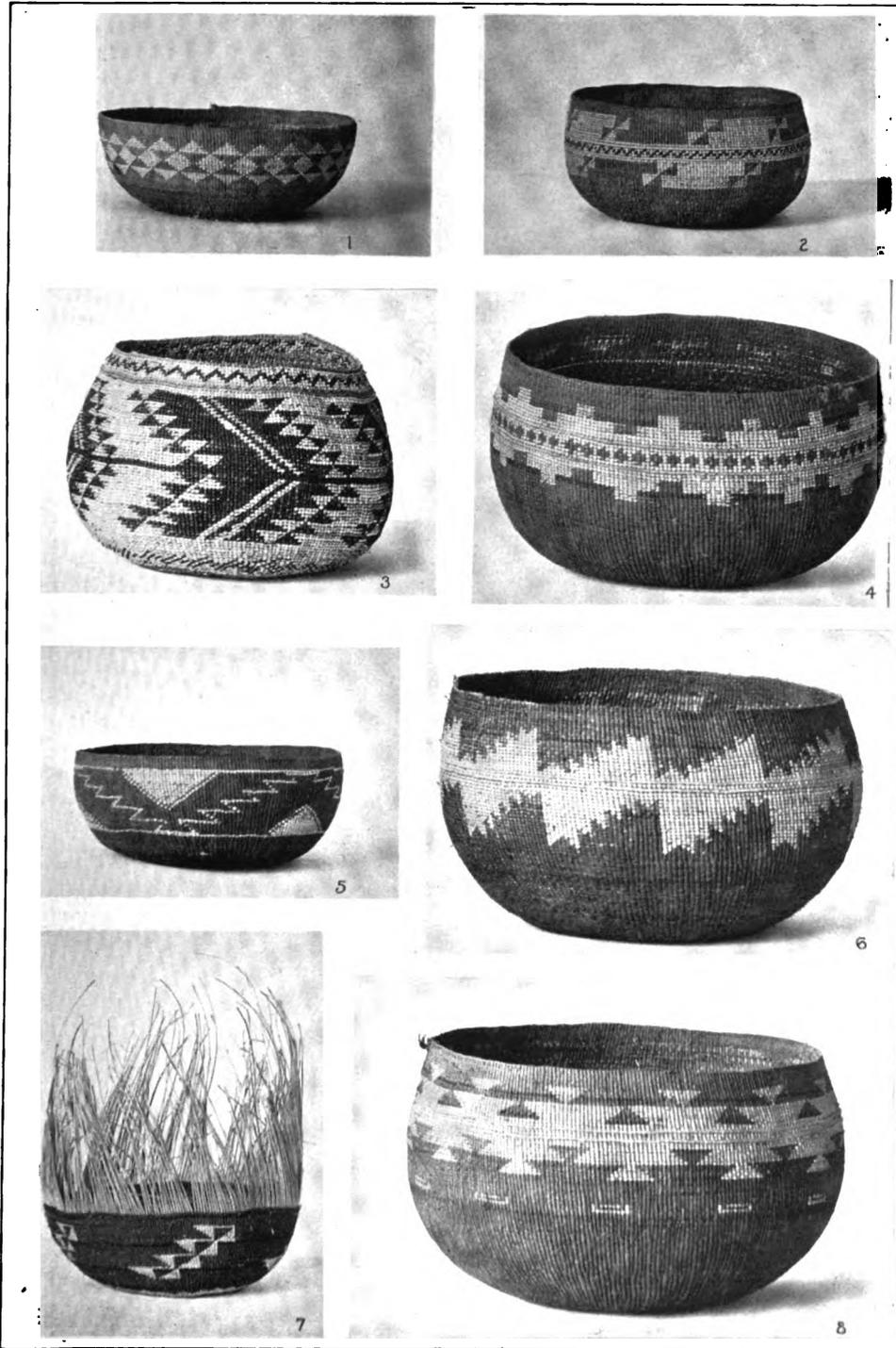
D. Southern type, chiefly coiled. Pattern arrangement horizontal (often in continuous bands) or vertical.

E. Pomo type, coiled and twined. Variety of design arrangements, horizontal bands and diagonal patterns being most frequent.

In this classification the Yana belong to the Northeastern type, the Lutuami and northern Wintun are intermediate between the Northeastern and the Northwestern types, the affinities of the southern Wintun are either with the Pomo or Maidu, the Yuki probably belong to the Pomo class, and the Southern type covers the larger half of the state.

It will be seen that while the Northwestern and Northeastern types resemble each other in technique, materials, and general effect, the Northwestern and Pomo types are most similar in pattern arrangement, whereas the Northeastern is similar in pattern arrangement to the Maidu. The Maidu and the Northwestern types differ most in pattern arrangement.

The considerable similarity in materials, methods of manufacture, and general appearance between the basketry of the Indians of northwestern and of northeastern California must not be interpreted as evidence of general cultural similarity. The culture of the two groups of tribes is quite distinct. The Lutuami and Achomawi in general resemble the tribes of the Sacramento valley or of the great interior basin much more than they do the Karok, Yurok, and Hupa. It is in northernmost California that the deep and sharp difference between the culture of the immediate Pacific coast and that of the interior, which is so marked everywhere farther north, finds its most southerly occurrence. South of Mount Shasta the line of ethnographical division is transferred from the Coast Range eastward to the Sierra Nevada; and the differences across this line become of a different nature.



Figs. 1-2. Small cooking baskets. Hupa.  $\frac{1}{2}$ .

Figs. 3-8. Cooking and other baskets. Karok.  $\frac{1}{2}$ .



The artistic poverty said by Dr. Dixon to characterize Pomo basketry work must from what has been said be understood to be only paucity of design names. That it does not extend further even to the designs themselves, much less to the general decorative and technical style, is sufficiently evident from the series of Pomo baskets illustrated by Dr. Dixon himself. Of patterns the Pomo have as great wealth and variety as any other Californian group. Apart from all question of whether their work shows a more refined taste and artistic feeling and execution than that of other Indians, it can scarcely be disputed that they evince freer imagination and wider range of treatment in the decoration of their basketry than other tribes.

A classification according to meaning of Californian basket design names among the tribes from which adequate material is at present available is shown in Table II. It will be seen that names of animals, of parts of animals, and of parts of the body are very frequent, constituting everywhere a majority of the total number of design names. The only exception is among the Maidu, where the proportion of animal designs sinks to about one-half. Instead, there is an unusually large proportion of names of plants and parts of plants among the Maidu, these constituting nearly a third of the designs. Elsewhere plant designs are few, and among the Yurok and Karok are altogether lacking. Names of natural or artificial objects are found in about the same proportion among all the tribes. A fourth class of design names are spatial or dynamic; these might also be called geometrical or abstractly descriptive. Names of this sort are lacking among the Maidu and are few among the Achomawi. Among the Yurok and Karok they are important, constituting more than a fourth of all the design names; and the same is true of the northern Wintun. Among the Hupa names of this class are more numerous than all others.

In regard to range of representation of design names, accordingly, the northwestern tribes and the Maidu stand farthest apart in that the northwestern tribes have numerous geometrical designs and none representing plants, the reverse being the case with the Maidu; while the northwestern group is intermediate.

TABLE II.

	Animals and parts of the body.	Plants.	Objects.	Spatial and dynamical ideas.
Yurok .....	17	..	5	9
Karok .....	8	..	2	4
Hupa .....	7	..	..	12
Wintun .....	12	1	1	4
Achomawi .....	13	2	2	1
Maidu .....	18	11	7	..

In the descriptions of Yurok designs previously given it will have been noted that almost all the names applied rather to the simple element of design than to the pattern as a whole. The figure which receives the Yurok name flint is the parallelogram. This name is applied to the design whether it consists of the simple parallelogram standing alone or of a pattern of such parallelograms, although the latter is more frequently the case. Among the Hupa the same design is named on top of each other. This name is obviously applicable only to a pattern consisting of two or more such parallelograms. We have here a difference between a design-element name and a pattern name. Again, there is a widespread design which may be described as consisting of four or more triangles, or horizontal bars, at the ends of vertical stalks arising from a horizontal base, the stalks in the middle being longer than those at the two ends. This design has various names, such as crow-foot among the Karok and Wishosk, frog-foot among the Hupa, lizard-foot among the Achomawi, and pine-cone among the Maidu. All of these names are applicable only to the design as a whole. Among the Yurok the design is called simply foot, and the application of this term to certain other patterns shows that the name refers not to the pattern as a whole but to the single elements constituting the pattern, the small triangles at the ends of stalks.

The relative frequency of design names applying to design-elements, and of those applying to composite patterns, is shown in Table III.<sup>1</sup>

It will be seen that among the Yurok and Karok designs named for constituent elements are in the majority. Among the

<sup>1</sup> The numbers given in Table III are fewer than the total number of designs, owing to the difficulty of classifying certain designs.

Maidu the opposite is the case. The northern Wintun agree with the Yurok and Karok, but the Hupa form an exception among the northwestern tribes. The Achomawi show an approximate balance, but the difference is slightly in the direction of the Maidu tendency.

TABLE III.

	Designs named after their elements.	Designs named after the whole pattern.
Yurok .....	13	8
Karok .....	9	4
Hupa .....	5	12
Wintun .....	10	6
Achomawi .....	8	9
Maidu .....	8	19

A summary of the Yurok, Karok, Hupa, and northern Wintun design names presented in this paper, and those of the Maidu, Achomawi, and Wintun described by Dr. Dixon, together with a few other names obtained by the author, is given in Table IV. Only translatable design names have been included. The Wishosk are from Humboldt Bay, the Sinkine are Athabascans from southernmost Humboldt county, the Yuki are from Round Valley, the northern Yokuts are the Chuckchansi of Madera county, the southern Yokuts the Tule river Indians of Tulare county.

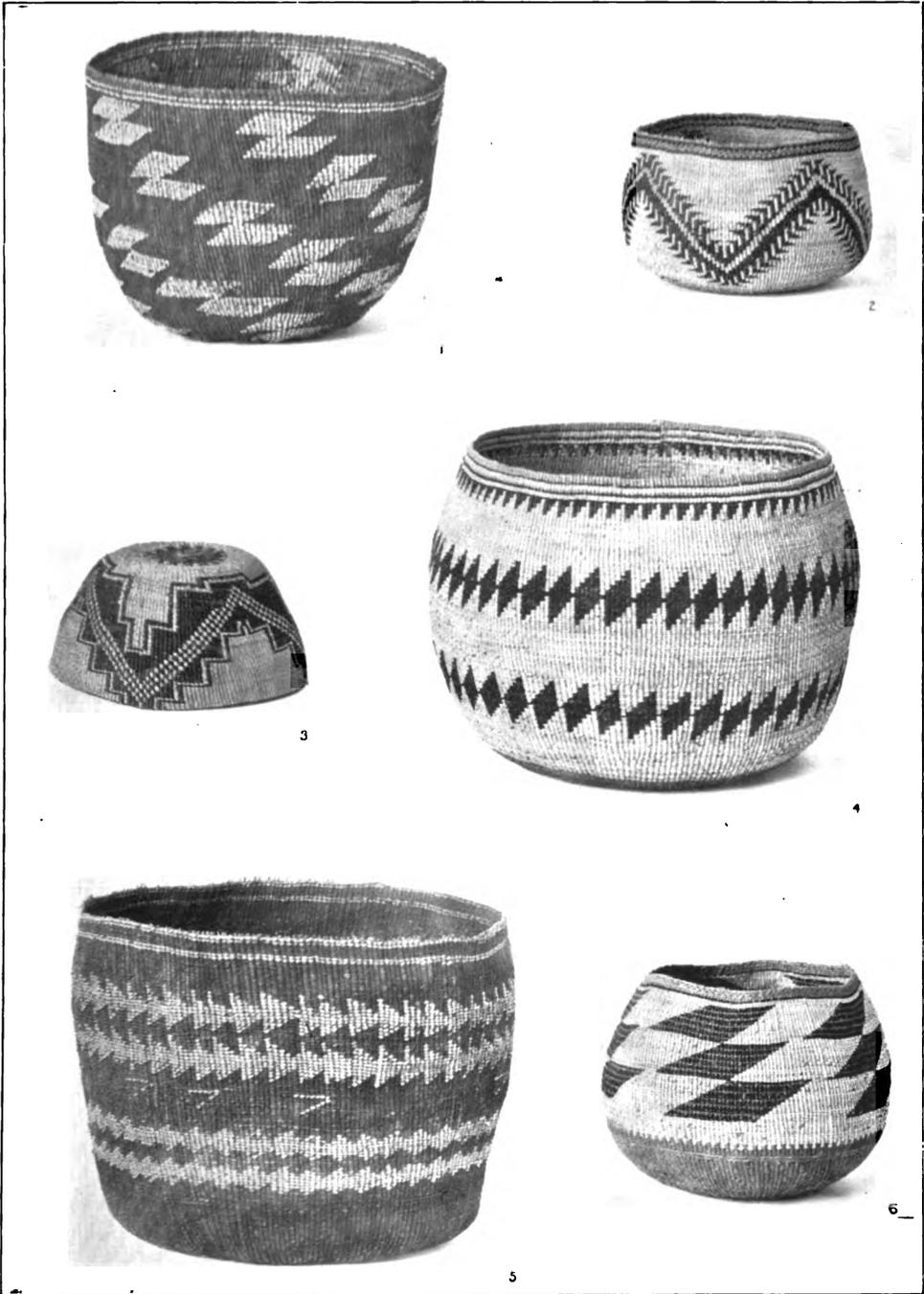


"snake" red-snake		water-snake	N. Yokuts, water-snake S. Yokuts, "snake" S. Yokuts, red-snake- markings N. Yokuts, snake, a banded species
	frog-hand	lizard-foot	lizard-foot
sturgeon-back	sturgeon-back	fish-tail	fish-teeth
erab	snail-back	sucker-tail	butterfly moth fly millipede grasshopper leg hornet?
chiton			S. Yokuts, butterfly S. Yokuts, fly N. Yokuts, millipede
maggot	long-worm		grasshopper leg hornet?
	worm goes round		mussel-tongue
			"big tongue" earth worm
			plant vine fern flower bushes tree?
		leaves	sugar-pine yellow-pine pine-cone black-oak white-oak
			bushes
			pine-cone



TABLE IV.—Continued.

YUROK	KABOK	HUPA	WINTUN	ACHOMAWI	MAIDU	MISCELLANEOUS
star				mountain	mountain mountains and clouds	Yuki, fir-branch
flint	flint-like		arrowpoint	arrow point	arrowpoint notched-feather wood-billets	S. Yokuts, rainbow N. and S. Yokuts, arrowpoint
ladder boxes mesh-stick	out-wood					Yana, house S. Yokuts, crook-stick
crooked	spotted	spotted?	raft		tongs beads	Yuki, hide-wrench-out
crossed	zigzag, stirred	encircles	zigzag "crossways"	crooked, rough		S. Yokuts, crooked N. Yokuts, zigzag
striped	encircles	come together tied, joined striped	"pulled around"		turning-around	Wishok, grown-up f Sinkine, striped Sinkine, "patch"
spreading sitting in middle?	striped	on top of each other long sharp slanting points sticking up scratches				Wishok, on top of



Figs. 1, 2, 4, 5, 6. Baskets. Northern Wintun.  $\frac{16}{100}$ .  
Fig. 3. Cap, Modoc type. Northern Wintun.  $\frac{1}{3}$ .



It will be seen that although this summary covers only half a dozen tribes or groups, occupying much the smaller part of the state, there yet is no design name which is found in all of them. Patterns having some reference to snakes or parts of snakes are found among all the tribes included except the Achomawi. The rattlesnake is of course especially prominent. Among the Yokuts and Maidu its marking is represented; among the Wintun its head; among the Hupa its nose. It is evident that there is a tendency to use the rattlesnake for design names but that the parts of the snake selected are as diverse as the figures to which they are applied. There is a similar tendency in regard to the deer. The Achomawi have the deer rib, deer gut, and deer excrement designs. The Wintun have the deer excrement. The Maidu lack deer designs. The northwestern tribes also have no deer design names excepting that among the Karok the deer excrement design is found and among the Yurok an elk design. The arrow-point and flint designs, assuming that they may be taken as equivalents, are of the commonest the state over. So far however neither has yet been found among the Hupa. The quail-plume design, which among some tribes is very common, seems to occur chiefly on coiled basketry, to which the use of the feather itself as an ornament is also confined. The Achomawi have the design name but the northern Wintun and all the northwestern tribes lack it.

Little of a general nature as to the relative amount of similarity of design names among different tribes can be deduced from the table. On count, the greater part of the total number of design names of any group appears not to be found in any other group. As far as the material goes, the northern Wintun and Achomawi, who are territorially in contact, show the greatest number of design names held in common.

If the designs themselves to which the names that are given in this table are attached are compared, it will be seen that the designs corresponding to identical names among several tribes are in many cases very different. In the northwestern region for instance the flint design is always a slanting parallelogram. Among all the other tribes from which material is available the equally common arrow-point design is always a triangle. Con-

versely, the same pattern or design-element has among different tribes often radically different names. To take again the parallelogram, its name among the Yurok and Karok, whether used singly or in combination, is flint; the Hupa call it long mark, or more frequently on top of each other; the Wintun, rattlesnake head. The Achomawi and Maidu do not seem to use it as an isolated figure but always in pairs or diagonal rows. Among the Achomawi these rows are frequently divided by a transverse diagonal stripe or other pattern, the parallelograms thus being cut into triangles. The pattern running through the rows of parallelograms is the deer rib or deer gut design and the triangles resulting from the divided parallelograms are called arrow-points. The undivided rows of parallelograms are called by the Achomawi flying geese. The Maidu call such rows vines, or, if triangles are combined with the parallelograms, flying geese. When the rows of parallelograms are divided by a line or pattern the design is called fern or notched feather.

Another instance of diversity of names for an identical pattern is the design in which the point of a triangle rests on the middle of the longer base of a trapezoid. In the northwestern region the meaning of the names for this design are not altogether certain, but among the Yurok the name appears to have reference to the middle, among the Karok to basketry-hat, and among the Hupa to sharp or point. Dr. Dixon gives the same figure from the Achomawi, but the name attributed to it by these Indians is bushes.

Again the obtuse isosceles or equilateral triangle has, in different arrangements, the meaning among the Maidu of moth, quail-tip, flower, and notched feather, among the Achomawi of arrow-point, among the Wintun of fish-tail, flying geese, and leaves, among the Yurok of sitting.

It is not necessary to give further illustrations. The cases cited show that there is no deep or inherent relationship between the designs of California basketry and their names. Of course some names are from their nature applicable only to certain designs and must be applied either to these or drop out of use. Most names, however, owing to the simplicity of technical representation, are applicable to several designs and are often found

attached to different designs among different groups or even in the same tribe, just as the same designs very frequently have different names among different groups. It must be concluded that the basket-design names of at least the greater part of California are little more than conventional names of conventional designs.

Symbolism, in the usual and historic sense of the word, does not therefore exist in California basketry. The designs and design names given by Dixon from the northeastern tribes and those from the northwestern part of the state here presented, make this fact very clear. Recent investigations on behalf of the University by Mr. S. A. Barrett among the Pomo have brought out the same result. The various information thus obtained covers northern California fairly completely. As to the rest of the state less is known at present, but there are no indications that conditions are different. The design names of the Yokuts at the southern end of the San Joaquin basin are certainly of the same general character as those found in the north of the state. The names of the designs painted by the Mohave, still farther south, on pottery and sometimes on wood, refer in large part to objects that do not occur among the design names of the basket making tribes, but are as free as these of religious or any but a conventional significance. Lack of connection between basket design names and religious thought can therefore be absolutely asserted for the greater part of California and can safely be accepted as extremely probable for all the remainder of the state. Certainly there is as yet no trustworthy evidence of anything to the contrary. This condition is in entire accordance with the almost utter lack of pictographic or realistic representation in the art of these Indians. Symbolic expression in actions or ritual is almost equally absent. When the general fundamental difference in character of the California Indians from those of the southwest and of the Mississippi valley, and in a measure from those of the north Pacific coast, is once clearly realized, the conventionality of their basket design names seems entirely natural. Of course it is needless to say that no California basket designs express modern poetical sentiments. The California Indian calls a triangular ornament in basketry

an arrow-point, not because this figure expresses a wish or prayer for success in the hunt, but because it is a simple and fitting name for a simple design. The significance of the decoration of California basketry is therefore of an entirely different nature from the symbolism of a Navaho sand-painting, a Pueblo altar, a Plains shield, or a Haida totem pole. The designs are primarily decorative, no doubt conditioned in part, but only in part, by technique; and they have convenient names. These names of course are as appropriate as possible. This simple naming of decorative figures appears to be the analogue or representative in California of a more prevalent tendency in mankind to embody a deeper significance in ornaments. But in the form in which these design names exist among the California Indians they are free from attempts at picture writing or the expression of religious ideas.

KEY TO FIGURES OF DESIGNS SHOWN ALSO IN THE PHOTOGRAPHICALLY  
REPRODUCED PLATES.

Figure.	Plate.	Figure.	Figure.	Plate.	Figure.
4 .....	15	3	140 .....	20	3
5 .....	18	1	142 .....	20	8
9 .....	15	3	150 .....	20	8
14 .....	15	5	152 .....	20	6
15 .....	17	4	172 .....	20	3
17 .....	15	4	179 .....	16	4
20 .....	15	7	184 .....	20	4
29 .....	17	6	192 .....	18	2
38 .....	15	4	197 .....	20	1
64 .....	15	1	199 .....	15	8
71 .....	16	1	206 .....	20	2
74 .....	16	6	209 .....	20	1
81 .....	18	4	215 .....	21	5
84 .....	15	7	216 .....	21	5
90 .....	16	2	217 .....	21	6
93 .....	15	4	218 .....	21	4
96 .....	16	3	219 .....	21	2
98 .....	18	1	220 .....	21	3
104 .....	17	1	221 .....	21	4
118 .....	15	6	222 .....	21	5
132 .....	20	7	225 .....	21	2

MUSEUM CATALOGUE NUMBERS OF BASKETS ILLUSTRATED IN THE PLATES.

Numbers with numerator 1 refer to specimens in the Museum of the Anthropological Department of the University of California.

Numbers with numerator 40 refer to specimens in the California Academy of Sciences.

Plate 15, figure 1	40-1675	2	1-2234	
	2	1-1591	3	1-2016
	3	40-1663	4	1-1461
	4	40-1661	Plate 19, figure 1	1-1588
	5	40-1653	2	1-1877
	6	1-1609	3	1-1798
	7	40-1708	4	1-1594
	8	1-1496	5	1-1847
Plate 16, figure 1	1-1579	6	1-1608	
	2	1-1870	Plate 20, figure 1	1-1493
	3	1-1472	2	1-1517
	4	1-1761	3	1-1807
	5	40-1683	4	1-1763
	6	1-1481	5	1-1772
Plate 17, figure 1	1-1661	6	1-1762	
	2	1-1507	7	1-1778
	3	1-1888	8	1-1764
	4	1-1571	Plate 21, figure 1	1-2307
	5	1-1599-1601	2	1-2300
	6	40-1655	3	1-2305
	7	1-1817	4	1-2310
	8	40-1659	5	1-2308
Plate 18, figure 1	40-1711	6	1-2303	



## MUSEUM CATALOGUE NUMBERS OF BASKETS FROM WHICH DESIGNS ARE FIGURED.

Fig.	Cat. No.	Fig.	Cat. No.	Fig.	Cat. No.	Fig.	Cat. No.	Fig.	Cat. No.
1	40-1652	46	40-1724, 1720	135	1-1586	136	1-1794	181	
2	40-1720	47	1-1473	91	40-1658	137	1-1587	182	
3	40-1654	48	40-1664	92	40-1709	138	1-1782	183	1-1783
4	40-1663	49	40-1694	93	40-1661	139	1-1806	184	1-1763
5	40-1711	50	1-1831	94		140	1-1807	185	1-1787
6	40-1720	51		95		141	1-1801	186	1-1774
7	40-1721	52	40-1727	96	1-1472	142	1-1764	187	1-1781
8	40-1659	53	40-1607	97	1-1829	143	1-1598	188	1-1463
9	40-1663	54	1-1698	98	40-1711	144	1-1585	189	1-1502
10		55	1-1577	99	1-1857	145	1-1583	190	1-1494
11	1-1434	56	1-1672	100	1-1474	146	1-1788	191	1-2235
12	1-1438	57	1-1880	101		147	1-1790	192	1-2234
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15	1-1571	60	40-1695	104	1-1661	150	1-1764	195	1-1501
16	40-1707	61	1-1672	105	1-1590	151	1-1767	196	1-1518
17	40-1661	62	1-1483	106	1-1476	152	1-1762	197	1-1493
18	40-1697	63	40-1725	107	40-1665	153	1-1789	198	1-1509
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No. 5

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THE YOKUTS LANGUAGE OF SOUTH  
CENTRAL CALIFORNIA

BY

A. L. KROEBER

BERKELEY  
THE UNIVERSITY PRESS  
JANUARY, 1907

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# THE YOKUTS LANGUAGE OF SOUTH CENTRAL CALIFORNIA.

BY

A. L. KROEBER.

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## THE YOKUTS LANGUAGE OF SOUTH CENTRAL CALIFORNIA.

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The Indians of the Yokuts linguistic family, sometimes also called Mariposan, inhabited the southern end of the San Joaquin basin in California. Roughly, their territory extended from the Sierra Nevada to the Coast Range, and from the Tehachapi mountains which shut off the San Joaquin basin on the south from the desert, to the Fresno and Chowchilla rivers in the north. The higher Sierras all along this territory, and certain foothill regions in the south, were occupied by Indians belonging to the Shoshonean family. The great level stretch of valley throughout, and in most cases the foothills also, were occupied by the Yokuts. A detached branch of the family, known as the Cholvone, inhabited a small area on the east bank of the San Joaquin, in the vicinity of Stockton, considerably nearer the mouth of this river than the remainder of the stock. The Cholvone are perhaps entirely extinct and are certainly practically so. Their language is unknown except from one published vocabulary, which shows it to have been a Yokuts dialect not very different from the remainder of the family.

The Yokuts were divided into a large number of groups somewhat resembling small tribes. As is not uncommon in California, each of these groups had a dialect, but, what is unusual in California, each had a distinct tribal name as well. The various dialects are on the whole closely related. Their general structure and their phonetic system are virtually identical. There is also considerable similarity in vocabulary. It is probable that Indians from Kern river and from Fresno river could have conversed,

and that they could have learned to understand each other perfectly in a short time. The greatest divergences in vocabulary were seemingly shown by small groups geographically or otherwise more or less isolated from the others, the speech of the more important tribes through the whole range of territory of the family differing only dialectically. From many tribes vocabularies have never been obtained. For this reason the grouping of the dialects can only be determined approximately. The available evidence on this point is summed up at the end of the paper. For the present it is enough to state that there were two main branches of the family, which include the more divergent dialects peculiar to small groups such as the Paleuyami of Poso Creek. The two branches have been here called the Valley division and the Foot-hill division, from the fact that the former includes nearly all the valley tribes while the latter consists principally of the hill tribes on Tule river, Kaweah river, Kings river, and Dry creek.

The differences between the vocabularies of the many dialects consist both of phonetic variations of words and of radical differences. Prominent among the variations are vocalic mutations. These seem to be similar to a scheme of vowel changes which constitutes one of the most important means in the language of expressing structure. The radical differences in words between dialects that on the whole are closely related are sometimes surprising, occurring frequently in the most common words, such as man, woman, person, house, stone, eat, and sleep. A similar tendency toward as marked a prevalence of radical as of phonetic differences exists in the dialects of other linguistic stocks in California. At least one cause of this feature is certainly the universal tabu of the names of the dead; but it is scarcely possible that this cause alone is sufficient to explain the extent of the phenomenon. Among the Yokuts the people speaking one dialect generally understand and often know the radically different words of other dialects though they do not use them.

We owe the name Yokuts to Stephen Powers. It is the word denoting person or people in the majority of the dialects of this linguistic family, but in the usage of the Indians its application is not confined to individuals of their own linguistic family.

For this family there is, as might be expected, no native name. The exact form of the word is usually *yokote*, sometimes *yokots*. *Yokoch* would therefore be the most accurate general orthography, provided the vowels were given the quality of continental open *o* and spoken short with the accent on the first syllable. *Yokut* is of course only a false English singular.

As to the name *Mariposan*, it is sufficient to say that its sole claim to acceptance rests on the employment of a rule of priority borrowed from the system of modern biological technical nomenclature, never formally or generally accepted by anthropologists, and as undesirable to attempt to introduce into ethnology as it will be impossible to enforce in the end. It is derived from *Mariposa*, meaning butterfly in Spanish, the name of a California county which was not organized until after the American settlement. This county may once have contained some *Yokuts* Indians; but in its present smaller extent it does not cover one square mile of what is known to have been *Yokuts* territory.

The dialect specially investigated is that of the people calling themselves *Yaudanchi*, plural *Yowechani*, who inhabited the foothill region of Tule river. By most of their neighbors they are called *Yaulanchi*. At present they constitute a small fraction of the one hundred and fifty Indians on Tule river reservation, the majority being *Yauelmani*, a tribe originally farther south. It has seemed best to avoid confusion by first treating this dialect alone without reference to other dialects in regard to which less complete information was obtained, and then to follow with comparative notes on such material as was obtained from these other dialects, thus avoiding duplication of presentation as much as possible. The first part of this paper, therefore, consists of a discussion of the phonetics and grammar of *Yaudanchi*, followed by a vocabulary and interlinear texts in the same dialect. In part second are given comparative grammatical notes on the *Yauelmani* dialect of Kern river. A third part of the paper deals more briefly with various other dialects, and includes a number of short texts, as well as comparisons and summaries. A comparative *Yokuts* vocabulary, covering all the dialects from which there is material, has been reserved for inclusion in a subsequent publication.

The investigations on which this paper is based were begun in 1900 for the California Academy of Sciences, but were mainly made in 1902, 1903, and 1904 in connection with the Ethnological and Archaeological Survey of California carried on through the liberal support of Mrs. Phoebe A. Hearst by the Department of Anthropology of the University of California.

UNIVERSITY OF CALIFORNIA,  
May, 1905.

## I. THE YAUDANCHI DIALECT.

Study of the Yaudanchi dialect was begun with a young man named Bob, a Wükchamni on Tule river reservation. The Wükchamni dialect is almost identical with the Yaudanchi. Most of the material obtained, including all the texts, is from Peter Christman, a man about sixty, who, both as a boy and as a man, has lived for years with the whites, and speaks English fluently.

## PHONETIC SYSTEM.

u, o, a, e, i;	u, o, a, ö, ü.
ū, ò, ā, è, ì;	ū, ò, ā, ò̄, ū.
k	k' g x g' ŋ
tc	tc' dj
t·	t·' d·
t	t' d n
p	p' b m
c,s	j,z
	w, y, h.

## VOWELS AND VOCALIC MUTATIONS.

The Yaudanchi vowels are of two classes, pure and impure. The pure are the five vowels ordinarily distinguished, spoken clearly. E and o are open whether long or short. A with the quality of American a in bad is not found. The impure vowels will be familiar to any one acquainted with the neighboring Shoshonean family of languages. They are perhaps due to rounding of the lips. Though they have a certain uniform quality, due to their similar method of production, which makes them less easily distinguishable one from the other than are the pure vowels, they are very different from the merely obscure brief vowels in words like our better, cotton, madam, pencil, which almost lack quality.

Of the impure vowels, ö and ü correspond to e and i as u, o, a, do to u, o, a. This is true with a reservation. It is part of the

system of vocalic harmony permeating the language that an impure vowel tends to cause other vowels of the word to become impure. While this tendency is not a universal law, yet it is so far operative that there are few polysyllabic words containing only one impure vowel. The impure vowels may accordingly be either induced or radical. *U* and *o* are frequently induced; *a* possibly always. *Ū* and *ö* are more often radical than induced. *I* and *e* are also more resistant to being made impure by the proximity of an impure vowel than are *u* and *o*. Finally *ü* and *ö* appear to differ more in quality from *i* and *e* than do *u* and *o* from *u* and *o*. Even though they lack the fullness of quality found in French and German closed *ü* and *ö*, yet they are distinctly *ü* and *ö* rather than *i* and *e* sounds.

Omitting *a*, which is uncommon and whose relationships are not quite clear, the nine vowels of Yaudanchi show certain groupings and affinities with one another. These relationships are not always consistent, but it is according to them that the sympathetic vowel changes in which the language abounds take place.

In verb-stems the vowels besides *a* fall into four pairs, each pair consisting of the two pure or of the two impure vowels respectively higher and lower in pitch than *a*: *u* and *o*, *u* and *o*, *ü* and *ö*, and *i* and *e*. Upon the addition to the verb-stem of a modal-temporal suffix containing an *a*, a vocalic alteration occurs in the first and sometimes in the second syllable of the stem. The vowel of this syllable is changed to the other vowel of the same pair. *U* becomes *o*, and *o* *u*; and similarly in the other three pairs, as: *k'uik-un*, *k'oik-ad*; *k'on-ji*, *k'un-e-ad*; *höñ-ji*, *hüñ-ad*; *ep-ji*, *ip-ac*. Radical *a* does not change and may be regarded as constituting a fifth set of verb-stem vowels.<sup>1</sup>

The same vocalic alternation occurs in numerals on addition of the suffix *-in* as in verbs before an *a*-suffix.

In the noun this vocalic law is, at least practically, not operative. There is observable in nouns the general tendency, already mentioned, and not confined to this class of words, for impure vowels to induce impurity in subsequent vowels in the same

<sup>1</sup> In some respects *a* balances with *i* (just as the verb-suffixes are either *a* or *i*); the second syllable of certain *a*-stems varies between *i* and *a*, agreeing with the suffix: *amid-ji*, *amad-ac*.

word; and there is a still less rigorous tendency for the second vowel of the stem to agree with the first.

In certain ways the language seems to feel *u* and *o*, and again *i* and *e*, to be identical. Thus there are no suffixes containing *e* and *o*, but many with *i* and some with *u*; evidently *u* and *o*, and *i* and *e*, are regarded as one in this respect. A change of the possessive case-suffix *-in* to *-un* occurs as well on nouns whose last stem vowel is *u*, as on those that have *o* preceded by *u*. An occasional objective case-suffix *-i* takes the place of more usual *-a* most frequently when the stem contains either an *o* or *u* followed by either an *e* or *i*.

There are a few special relationships of vowels. For instance, almost all suffixes have either *a* or *i* as their vowel.<sup>1</sup> Under certain circumstances *a* and *i* also show a further correspondence. The usual objective and plural suffixes are *-a* and *-i*; but in a number of cases these suffixes become respectively *-i* and *-a*. A phonetic law obtaining in the plural is that the last vowel of the noun stem becomes either *i* or *a* according as the plural suffix is respectively *-a* or *-i*. When the plural suffix is *-i*, this induced ultimate *a* of the stem may be replaced by *e*; but this substitution of *e* can occur only when the unaffected ultimate vowel of the stem is *a* or *i*. Finally, disyllabic triconsonantal verb stems in *a* have their second vowel *a* when the stem is followed by an *a* suffix and *i* when followed by an *i* suffix.

There is some differentiation of *o* and *u* as regards their influence on case and tense suffixes. *U* in the stem, or *o* followed by *u*, cause the possessive *-in* and the past *-ji* to become *-un* and *-ju*. *U* and *ü* in the stem also seem to produce respectively *-un*, *-ju*, and *-ün*, *-jü*. *O*, however, and probably *o* and *ö* as well, provided they are the only vowels of the stem, do not alter these suffixes. On the other hand *o* in the stem, if unaccompanied by other vowels, causes the objective suffix *-a* to become *-o*, while *u* fails to produce any corresponding effect.

Vocalic changes, though most frequently induced in the stem by suffixion, occur also in the suffix through the influence of the

<sup>1</sup> Besides *a* and *i*, only *u* occurs in suffixes. *E* and *o* and all the impure vowels do not occur in suffixes except as directly induced from *a*, *i*, or *u* by stem vowels.



stem vowels. As just mentioned, the possessive case suffix *-in* and the verbal past suffix *-ji* regularly become *-un* and *-ju* after *u* stems or *u-o* stems. The objective suffix *-a* becomes *-o* after *o* stems; the instrumental *-iñ* or *-ñi* in the same circumstances changes to *-oñ*. The future and participial ending *-in* is subjected to the variations *-en*, *-on*, *-un*. Monosyllabic verb stems in *u* that changes to *o* in this tense, take *-en*; so do *i* stems, and, for unexplained reasons, a few *a* stems. Monosyllabic *o* stems take *-un*; monosyllabic *u* stems, *-on*; disyllabic *u* stems, *-un*; but disyllabic *o* stems, and some monosyllabic ones, retain *-in* unchanged. It is evident that the mutation of this verbal suffix takes place under rules resembling those applying to the verb stem itself when *i* and *a* suffixes respectively are added, since *u* stems are followed by *o* or *e* in the suffix, *o* stems by *u* or *i*, *i* stems by *e*, *e* stems by *i*, and *a* stems generally by what must be regarded as the normal or unmodified vowel, *i*; so that, excepting *a*, the vowel of the suffix tends to be opposed to the vowel of the stem. The more derivational intransitive suffix *-in-* is also subject to modification by the stem, being sometimes subjected to the tendency of contrast and in other cases assimilated to the stem-vowel.

Laws of vocalic harmony are thus not only operative from stem to suffix but also from suffix to stem.

The vocalic changes in suffixes are undoubtedly connected, either as cause or as effect, with the fact that with two exceptions, the locative and the reflexive, all suffixes that are in any way formal or grammatical contain only *a* or *i* as vowel. Of these two vowels, *i* is susceptible to considerable change, being especially liable to assimilation by *u* in the stem and, where what may be called the law of vocalic contrast in balanced pairs obtains, changing to *e*, *o*, *u*, *u*, and *ü*. *A* on the other hand is much more stable as a suffix vowel, being practically unmodified except for some assimilation by stem *o*.

The different harmonic laws of Yokuts are, each by itself, simple rather than intricate and observed with considerable regularity; their complexity is due to their number. The rules for the change of the verb-stem do not apply at all to the noun. The addition, to certain stems, of one and the same suffix to indi-

cate both the objective and the plural has quite different effects on the stem-vowel according to the significance of the suffix. Nibete becomes nibète-i and nèbate-i; napac, napac-a and napica-a; mukac, moka-i and mukèe-i. Similarly -i added to onmid to denote the plural, forms onèmad-i; when added to designate the death of the connecting relative, it makes onimid-i.<sup>1</sup> The vocalic changes occurring in suffixes show the same degree of variability. The possessive noun-suffix -in is changeable only to -un, and that only by u in the stem. The verbal future-suffix -in is changed to -en by u and i, to -on by u, to -un by o. The numeral suffix -in is never changed. The verbal temporal-modal i suffixes -in, -ji, -ite, change their vowels differently; for instance, buk-en, bok-ji; t-uñ-on, t-oñ-ju; k'am-en, k'am-ji, k'am-âte. The change to the opposite stem-vowel within the balanced pair occurs in verbs before a-suffixes; in the numeral before -in. The vocalic mutations in the language can therefore not be regarded as due to a single complex system of harmony which is always equally operative and differs in its results only through dissimilarity of circumstances. It is evident that there exists a general tendency toward vocalic harmony which takes form differently not only according to phonetic influences but in accord with logical differences, such as the grammatical categories and the distinction of the parts of speech. The Yokuts vocalic system thus is arbitrary rather than phonetically automatic, and appears to be influenced as much by impulses to express linguistic forms as by purely physiological habits.

The chief vocalic changes in the stem may be summarized as follows:

In the verb the vowels are grouped in pairs, with the same respective relation existing between the members of each pair; and, most regularly in monosyllables, each vowel changes to the opposite one of its pair according as suffixes containing a or i are added; as, ep-ji, ip-âc; hõñ-ji, hũñ-âc; uk-un-ji, ok-n-âc; hõpud-ji, hũpod-at; yom-un( for yom-in), yum-âd.

In the numeral an identical change accompanies the suffixion of animate -in: cõpi-n, cupè-in; teudip-i, teodep-in.

In the noun this form of harmony does not seem to exist. On

<sup>1</sup> See p. 201.

the suffixion of -i or -a to indicate the plural, the last vowel of the stem turns respectively to -a or -i, accompanied by opposite tendencies affecting the quantity and accent of the preceding part of the stem: ne'ec, nèa'c-i; o'nmid, onè'mad-i; na'at, na'it-a; napā'tum, na'ptim-a.

In terms of relationship, the suffixion of -i to indicate that the person through whom the relationship or connection exists is no longer living, turns the two last vowels of the stem, whatever they are, to i: onmid, onimid-i; napatum, napitim-i; onpoi, unipiy-i.

Without the stimulus of suffixion, and accompanied by no other change, vocalic mutations occur between the forms of verbs and nouns derived from the same radical: cokud, pierce; cikid, arrow; muyuk, whirl; moyak, whirlwind.

Finally, vowel mutations are often the only changes occurring between dialects in certain words: hitec, hütac, wood.

Accompanying the vocalic mutations and allied to them is a frequent metathesis of vowels as regards consonants, and an appearance and disappearance of them between consonants. Hat'pa-ñi, four, on the suffixion of -in becomes hat'öp-in; the verb root pitid with suffix -ac becomes pètd-ac; hiwet, heut-ad; the verb stem tcadix with the intransitive derivative -in takes in different tenses the forms tcadax-n-ad and tcadx-in-ji. The noun-stem onmid becomes in the objective and other cases unimd-, in the plural onèmad-; axid becomes respectively axd- and axèd-. The stem eñt-im, sleep, as in eñt-im-ji, becomes iñet-m-ac, and analogy with other verb stems makes it possible that even the apparent stem eñt-im is transposed from a radical ñet-im. One form of verbal reduplication, or rather monosyllabic stem-duplication, consists of a doubling of the syllable with a transposition of the vowel of the second syllable between the two stems: ka'm, ka'm-ji, ka'm-a-k'm-ac; t'uy, t'ui-ju, t'ui-t'ui, and t'uy-u-t'y-uwuc; day, dai-ji, dai-dai, and day-a-dy-ac.

On the other hand metathesis, induction, and suppression of consonants are as rare as they are common in vowels.

Doubling of vowels as an accompaniment of length is not infrequently discernible, but is less marked than for instance in Yuki and some other American languages.

Diphthongs may be said scarcely to occur in the language. Ai, au, oi, ui, eu, iu occur, but almost invariably either finally, where they may be the natural result of original y or w; or before vowels, where their second elements almost certainly represent y or w; or, if before consonants, it is in cases in which the second element of the diphthong can be shown to be the remnant of a stem y or w intermediate between two vowels; as in *heut* from the stem *hiwet*. Two verb-stems, *waik* to lose and *waid* to breakfast, apparently contain radical diphthongs. *Gūiha* and *koiwoe* are more doubtful cases in nouns. As *waid* forms *waid-ji* but *waad-ad*, it may be that it stands for disyllabic *wayid*, which should according to rule become *wayid-ji* and *wayad-ad*; so that even if this diphthong is radical it is treated in the application of the system of vocalic harmony as if it were a disyllable. Certainly the majority of the not very abundant diphthongs in the language are resolvable into a simple vowel plus y or w.

#### CONSONANTS.

Surds, sonants, and aspirates are found in all the five series of sounds that will be described. Nasals occur corresponding to k, t, and p; spirants exist, other than sibilants, only in the k series. The k spirants however are both surd and sonant. W, y, and h are the only other consonants in the language, the *Yaudanchi* dialect having lost an l existing in most other *Yokuts* dialects. The aspirates are not violently stressed, but are nevertheless easily distinguishable from the unaspirated surds. The sonants differ less from the surds than in English but more than in some Indian languages. They are distinguished from the surds with less difficulty than is the case in *Costanoan*, *Washo*, and certain *Shoshonean* dialects.

The gutturals are formed far back. Unfamiliar combinations of sounds pronounced with English k were reproduced by an Indian fluently familiar with English by *te* and even palatal *t*. There is a possibility than in certain words velar k (q) sounds occur; the difference between these and the more anterior gutturals is however in any case slight, and only one k has been written.

The palatal compound consonants *tc*, *tc'* and *dj* have been here included among simple sounds because the language, like most languages that possess these sounds, regards and treats them as simple.

Two classes of *t* sounds exist, the tongue contact in one being below and the other above that in English *t*. *T* is interdental. *T* is postalveolar or more probably even palatal, the tip of the tongue however appearing to be bent down towards the lower teeth. In quality this sound is quite close to *tc*. Very often, as in *t-e*, *house*, *t* has an *r*-like quality, which has caused it to be written *tr* in many Yokuts vocabularies. It is not certain whether this *r*-like *t* represents a sound distinct from the ordinary *t*. Only one *t* has therefore been written. It is not certain whether *n*, *c*, and *j* belong to the interdental or palatal class. In a few cases *c* has something the quality of *r*-like *t*, as in *c'òopin*, *three*, which may perhaps be *c-opin*, with *c* corresponding to *t* as *c* to *t*.

The sibilants are surd *c* and sonant *j*. It seems that these represent sounds intermediate respectively between English *sh* and *s* and *zh* and *z*; though nearer *sh* and *zh* than *s* and *z*. Both *c* and *s* have actually been written in recording the language.

Most Yokuts dialects possess an *l*, which in Yaudanchi has become uniformly *d*. *L* is pronounced without difficulty by the Yaudanchi and a few words containing *l*, mostly nouns, such as *limik*, the prairie falcon, occur in the Yaudanchi texts obtained. These words have entered the dialect through the interchange of songs and traditions, and through intercourse between the small tribal groups. This intercourse has of course been increased since Indians of several dialects have lived together on a small reservation. There is not a Yaudanchi verb, pronoun, or adverbial particle containing an *l*. Even the nouns usually pronounced with *l* are accepted as correct when spoken with *d*; as *dimik*, prairie falcon.

Probably all the sounds of the language can appear initially, finally, or medially. A few of the less common consonants such as *g* and *j* have not been found finally or initially, no doubt through incompleteness of material. *W*, *y*, and *h* when final become *u*, *i*, or *'*; they occur finally on stems.

Just as actual diphthongs are uncommon and radical ones probably entirely absent, so, while combinations of consonants are moderately frequent, there is no evidence of their occurrence in stems. Combinations of consonants never exist initially and scarcely ever finally; and there does not seem to be a case of their occurrence medially which cannot be either positively laid to suffixion or which is not subject to suffering the appearance of a vowel between the two consonants in certain grammatical forms of the stem. As unmodifiable particles also show no double consonants, and as no words ever possess combinations of three consonants, it is clear that radically the language is without combinations of consonants and that actual occurrences of such are due either to composition or to the laws of vocalic interinfluence and change.

Consonantal changes are as rare as vocalic mutations are frequent. There are no consonantal harmonies or assimilations. N becomes d in the objective of *tacin*, those: *tacd-i*; as is proved by the dual *tacik*, *tack-i*. Instances such as this are however almost without parallels. If *teox*, *skunk* and *teukit*, *stink*, are from the same radical, there is an instance of mutation between spirant and surd; but the derivation is uncertain.

#### STRUCTURE OF THE SYLLABLE.

Stems and words occasionally begin with vowels, and not infrequently end in them. A few common suffixes such as *-a*, *-i*, *-u*, *-ji*, considerably increase the number of vocalic endings. The typical syllable however consists of consonant, vowel, and consonant. This is the form of the majority of verb stems: *t'uy*, *duy*, *toj*, *t'ie*, *t-uñ*, *teup*, *ka'm*, *xate*, *xot*, *wot*, *ñaw*, *dox*, *pite'*, *hõñ*. Of the disyllabic verb stems the majority show the form: consonant, vowel, consonant, vowel, consonant; as: *t-añit*, *kuyuk*, *xapit*, *hutok*, *nokum*, *dapay*, *tañay*, *teadix*, *dadik*, *dixid*. Many nouns can be derived from stems of similar construction, mainly disyllabic and triconsonantal: *t-üññük*, *muk'ac*, *wit'ep*, *nibete*, *butcoñ*, *wutoñ*, *natet*, *t-uñot*, *teayax*, *napaj*, *ontip*, *podut*, *yawud*, *cokod*, *detcip*. It would be unfounded to say that these forms are more original, that is earlier in time, than such less symmetrical forms of the same stems as *-ut'y-*, *t-añit-* and

*t-üñk*. But it is clear that the unconscious feeling of the language is that *t'uy*, *t-añit*, *t-üñük* are the normal or characteristic forms of these stems, whatever the frequency of occurrence of modifications. And such unconscious linguistic feeling, as revealed in phonetic and structural treatment, is all the basis of existence that roots have and on which it is justifiable to try to determine them.

#### ACCENT AND ENCLITICS.

Stress accent of separate words is not very marked. It is partly dependent on quantity of vowels. Nearly every vowel that has been written long in the ultimate, penult, or antepenult carries what appears to be the word accent. There are a few exceptions such as *pa't-ūjac*. Unaffixed words without long vowels most frequently are accented on the penult, sometimes on the antepenult. Suffixes, reduplication, and the appearances and disappearances of stem vowels contingent upon suffixes, affect the accent considerably. From *tan* are formed *ta'n-ji* and *tan-ā'c*; from *t'uy*, *t'u'i-ju*, *t'uy-u'-t'y-uwue*, and *t'oy-a'-t'y-ac*; from *ō'ka*, *ō'kaj* and *ükā'c*; from *wi't'ep*, *wit'ē'p-in* and *wit'i'p-hate*; from *napā'tum*, *na'patm-a* and *napti'm-a*; from *o'ntip*, *uni'tpa*, *onē'tapi*, *uni'tipi*; from *a'ñt-u*, *añu't-wa*; from *in'jij*, *inē'jaji* and *ine'cnad*. The system of vocalic mutations characterizing the dialect is more or less connected with the accent of words, and may be causally dependent upon it.

Certain pronouns and monosyllabic particles are accentless and more or less enclitic. They tend to draw the accent of preceding words toward themselves. Several enclitics together form a group, the first member of which derives an accent from the fact that it is followed by the others. Among the words that show most tendency toward enclitism are: the personal pronouns, which, if both subjective and objective are present, regularly join into a group with one accent; the possessive pronouns, which, if postposed, are clearly joined to the preceding word; and the negative, interrogative, and future particles *am*, *hin*, and *hi*. Examples are: *a'm-na-mam-hi duyò'n*, not-I-thee-will eat; *duyò'n na-mam-hi*, eat I-thee-will; *yi'una-an*, wife-his; *li'mik-na*, *li'mik-na*, I am limik, I am limik. In these phrases

only the marked syllables are stressed, so that a'm-na-mam-hi duyò'n has the phonetic character of two words instead of five. The influence of these enclitics on the accent of words ordinarily independently accented is shown in: xi' nim amā'dite, he is my helper, as compared with taxnā'd-na amādi'te-mam, come-I (to) help-thee. On the whole the accent of the isolated word tends to disappear in connected speech as against the accent of the phrase or sentence.

#### SUMMARY.

Altogether the Yaudanchi phonetic system is regular and simple in content. It contains no difficult or violent sounds, and besides the impure vowels and the palatal *t*-consonants none that are uncommon in other languages. It is free from accumulation of either vowels or consonants and tends to a simple alternation of consonant and vowel. The consonants are unusually permanent and unaffected by each other or vowels. In vowels well developed and important harmonies obtain; but these are not so much results of meaningless phonetic interaction as means of grammatical form.

#### STRUCTURE.

Structurally Yokuts is very simple. Composition exists to an insignificant extent. A few derivational non-formal suffixes occur sporadically, but no precise meaning can be determined for most of them. There is not a prefix in the language. Such affixes to the verb as express instrument, position, motion, and even the object in certain American languages, are entirely lacking. There is no incorporation of pronouns in verb or noun. The appositional type of structure in which pronominal affixes hold together the sentence, or the more extreme one in which practically every word capable of grammatical form exists only with a pronominal affix, is almost without even reminiscences in Yokuts. For an American language it shows little verbal subordination, the sentence structure being quite simple. Altogether the highly complex and synthetical structure found in some American languages, and often thought to be characteristic of



them as a group, is absent, and although certain ideas are expressed by formal means which our own languages would not thus express, the Yokuts language on the broad lines of its structure, as compared with some of the more widely-spoken American languages such as Eskimo, Athabaskan, Algonkin, Iroquois, and Maya, is superficially not very different in type from the Indo-European languages.

#### MEANS OF EXPRESSION OF GRAMMATICAL STRUCTURE.

Three means are employed for the expression of form. First, reduplication, which is relatively unimportant. Second suffixation, which though not very extensively developed is the most used means of structural expression; and third, vocalic mutation. In the derivation of stems or words vocalic mutation sometimes occurs without any further change; but as a means of grammatical form it exists only in conjunction with reduplication or suffixation, of which, strictly, it appears to be an induced accompaniment, though actually, in certain cases, it produces more striking changes in words than either of these processes alone.

#### A. *Reduplication.*

Reduplication is both material or derivational and formal or grammatical in its function. Some nouns are already duplicated or finally reduplicated in their ordinary form: pon-pon, snow, ca-ca, eye, hoñ-hoñ, heart, te'im-te'im, bat, xam-am, ribs, naj-oj, mother, nat-et, father. Some verbs are also reduplicated, usually finally, in their simplest form: tom-om, lie. Others are reduplications of a shorter base with some change of meaning: dañ-añ, listen, from dañ, hear; g'o-g'o-c, was, lived, from g'o-ji, sat. There are similar adjectives: inj-ij, good, is shown by its objective case inj-ya, for inj-a, to be a final reduplication of a stem inj. All these forms, being ungrammatical, will not be further considered except in the vocabulary.

Grammatical reduplication of fixed stems, to express not another meaning but a different aspect or relation of the meaning of the word, occurs in verbs and numerals. It is absent from nouns. In verbs it expresses iteration or repetition; in numerals distribution.

Verbal reduplication occurs most commonly in monosyllabic stems. As the entire stem syllable, with or without mutation or metathesis of the vowel, is repeated, the process is strictly one of duplication rather than of reduplication. This duplication takes two forms. In the imperative, which is the stem, and before modal and temporal suffixes containing *i*, the stem is duplicated without change or sometimes with a lightening of the second vowel to *i*: *am dai-dai min napatma*, don't kick your brother-in-law; *duc-duc-wi nan*, rub me; *t'uy-t'uy-ut*, was shot many times; *na max-max-ci*, I gathered constantly; *cap-cap-it na*, I was whipped; *aj-ij nan*, bite me several times. On the other hand, before the temporal suffixes *-ac* and *-ad*, and before the various forms of the reflexive suffix excepting the imperative reflexive, only the first of the pair of reduplicated syllables is identical with the normal stem syllable. This is followed by its vowel, or sometimes, apparently through influence of the *a* of the suffix, by *a*. Upon this in turn follow the consonants of the reduplicated syllable, either without any vowel or with only light short *i* between them. Thus: *kac-a-ke-ad na*, I am whispering; *doy-a-dy-ac ma*, you ate; *hiãmu na t'ec-a-t'c-ac*, long ago I came out. Contrasting with *t'uy-t'uy-ut* are *t'uy-u-t'y-uwuc* and *t'oy-a-t'y-ac*; with *cap-cap-it*, *cap-i-ep-ũwic*; with *dem-dim-ji*, *dim-ẽ-dm-ac*; with *dai-dai*, *day-a-dy-ac*.

A third, somewhat intermediate form of reduplication, occurs on unsuffixed stems other than imperatives. A stressed vowel appears between the two reduplicated syllables, but the second of these is not deprived of its vowel, which at most is weakened to *i*. Thus *bok-ò'-bik*, *tud-ò'-tud*, *pũd-ò'-pud* from the stems *bok*, *tud*, and *pod*. *Cap-ã'-cap namamhi*, I will whip you repeatedly, shows this form as contrasting with *cap-cap-it na* and *cap-i-ep-ũwic*.

Reduplication in numerals affects only the first syllable of the stem. This is entirely duplicated, with weakening of the vowel in the second syllable to *i*. *Po'ñ-oi*, *cò'p-in*, *hat'-pa'-ñi*, two, three, four, form *poñ-pi'ñ-i*, *cop-ci'p-i*, *hat'-hũ't'-up*, two each, three each, four each. The loss or modifications of the syllables following the reduplicated one are not caused by the reduplication; for the same modifications take place upon the

addition of certain suffixes,—another instance of the domination in the language of structural motives over phonetic ones.

There is an apparent objective case reduplication in personal pronouns, nan from na and mam from ma, which is really due to suffixation or analogy.

### *B and C. Suffixion and Vocalic Mutation.*

As the grammatical use of reduplication is confined, it follows that nearly all formal expression in the language is due to suffixion, extended and aided somewhat by vocalic mutation. In view of the large part left to this process to fill, it is surprising that altogether scarcely thirty formal suffixes have been found in the language. As this number includes case and number suffixes as well as modal and temporal ones, it is evident that the economy which the language exercises in its means of expressing form extends also to the grammatical ideas expressed. The structure of the language is therefore necessarily simple.

### *List of Suffixes Occurring in the Language.*

Including for the sake of completeness a few purely derivational suffixes, we have the following as the total of known Yau-danchi suffixes.

#### *Non-grammatical suffixes:*

- oc, forming a few nouns, such as t'uy-oc, arrow, from t'uy shoot.
- ud, probably forming a few nouns, such as t-uñ-oc-ud, gate, from t-uñ, close.
- it, probably meaning place of, as in iñet-m-it sleeping place.
- i or -ui, perhaps forming nouns from verbs, as padu-i, pestle, from padu-, enter, and teuduk-ui, index finger, from teuduk, point, select.
- i, on certain terms of relationship, indicating that the person through whom the relationship existed is dead.
- in-in, on terms of direction and other words, meaning people of: xomot, south, xomt-in-in, southerners.
- am, on numerals, meaning ten and, -teen.

*Semi-formative verb suffixes:*

- da-, causative.
- ta-, frequentative.
- tcin-, -a-tcin, desiderative.
- cit-, benefactive, expressing that the verbal action is done for the object.
- in-, intransitive.
- wic- and modifications of it, such as -wid and -umdu-wic, reflexive.

*Modal-temporal verb suffixes:*

- ji, preterite.
- ac, preterite.
- in, future or present; also participle.
- ad, continuative.
- it, passive.
- ñite, -añite, future passive, and active verbal object-noun.
- ite, noun agent; purposive.
- ana, participle.

*Suffixes of number:*

- i (-a), plural in nouns.
  - n, -in, plural in pronouns.<sup>1</sup>
  - k, -ik, dual in pronouns.
  - c-, occurring before dual and plural suffixes of demonstrative pronouns.
  - ate, -hate, diminutive, plural in adjectives.
- An occasional plural ending -awayi is perhaps material rather than grammatical in meaning. Similar is -wadi, on plurals of tribal names.
- hin, collective of inanimate nouns.

*Case suffixes:*

- a (-i), objective on nouns, verbs, and adjectives.
- ñ, objective on demonstrative pronouns.
- wa, perhaps identical with -a, found only as the objective ending of plural personal pronouns.

<sup>1</sup> The plural -in of pronouns and the plural or collective animate -in of numerals may be identical.

- in, possessive.
- ñ, -ñi, instrumental.
- u, locative.
- nit, ablative.

*Suffixes of numerals and interrogative pronouns:*

- in, used for animate subjective substantival numerals, possibly collective.
- id, adverbial, signifying the number of times.
- ak, makes interrogative and indefinite pronouns more indefinite.
- tci, the same; suffixed to -ak.

It is a curious fact which has already been discussed that all the formal suffixes of the language except the locative and reflexive contain only the vowels a and i. That such of the suffixes as change i to u after u stems, as the past -ji and the possessive -in, are really i suffixes and not of indeterminate vocalic content becoming i or u according to the vocalic constitution of the stem to which they are attached, is made probable by the fact that o stems are followed by the normal i forms of these suffixes. Analogous facts make the intransitive -in or the objective -a, which appear under circumstances as -un, -on, -o, seem to be true normal forms subject to vocalic modification rather than one of several equally undetermined alternative forms. This view of course applies not to the origin and history of these suffixes—of which nothing is known—but only to the feeling evinced by the language for their vocalic content in its treatment of them.

CATEGORIES OF GRAMMATICAL FORM EXPRESSED.

As the means of expressing grammatical form are limited, so the morphological categories expressed in Yokuts are comparatively few in number. The range of these grammatical ideas has been given by the preceding list of suffixes. It may be summarized as follows. The categories finding expression to a greater or less degree are: the plural in animate nouns and in pronouns;

duality in the pronoun; cases, including an objective, a possessive, an instrumental, a locative, and an ablative; distribution in the numeral, and distribution or repetition in the verb; the distinction between the combination of the first and second and of the first and third persons in the pronoun; animation, and the number of events, in the numeral; and a causative, frequentative, desiderative, benefactive, intransitive, reflexive, continuative, purposive, preterite, future, passive, noun-agent, and participle in the verb. There is no indication of gender other than the distinction between animate and inanimate under certain circumstances in the numeral, and no expression of person other than by differences of stems in personal pronouns. All the grammatical categories enumerated are expressed by suffixes accompanied in most cases by vocalic mutation, except the category of distribution or repetition, which is indicated by reduplication.

## THE NOUN.

### PLURAL.

All nouns that refer to persons, and only such, have a plural. Names of animals seem to be used in the plural in certain special circumstances. For instance the plural of *ñohoo*, grizzly bear, is the same, *ñohoo*. But when bear-doctors, called simply grizzly bears, are spoken of, the plural form is *ñoh'ica* or *ñohoica*. Several such plurals of names of animals have been included in the consideration of the methods of formation of the plural, though they are not in ordinary use. The only inanimate plural that has been found is *t-e-awayi*, houses, from *t-e*. The suffix *-awayi* occurs also in *nutc-āwayi*, easterners, mountaineers, from the singular *nut'a*, but its true meaning is unknown. Generally speaking, the plural in Yokuts may be said to be confined to words designating persons of various ages, sexes, and conditions, to terms of relationship, to tribal names, and to noun agents derived from verbs by the suffix *-ite*.

A dual found in the pronoun is without an equivalent in the noun. To designate two persons the plural is used.

The normal plural seems to be formed by the suffix *-i*. About one noun out of three however has the ending *-a*. What deter-

mines the choice of these two vowels in each case is not very clear. Stems with all classes of vowel-combinations occur proportionately about equally in the i-plural group and in the a-plural group. The final sound of the stem may be of more influence. All stems found ending in an -i or -u which appears to represent a radical -y or -w take the ending -i. Outside of this one group, however, there is again no regularity in the constitution of either the -i or the -a class. The majority of stems in -t, -d, -tc, -n, and vowels are followed by -i, the majority in -c and -m by -a, but there are a number of cases contrary to both these tendencies. As the number of available instances of the plural is small on account of its restricted use, the possibility of a determination of the rules governing the point in question seems problematical.

A number of stems ending in a vowel appear to offer difficulty to the addition of the vocalic suffix, especially as the language will not allow the plural -i suffix to become -y but insists on treating it as a full syllable. In the majority of such cases of vocalic stem endings not reducible to -y or -w, a c or tc is introduced before the plural suffix whether this is -i or -a.

Besides suffixion, stem-changes mark the plural. These follow definite courses quite different from the phonetic changes occurring in the expression of other formal categories, and must be regarded as latent in the stem for use in the plural and induced by the stimulus of the suffix, rather than as the direct purely phonetic consequence of the addition of the suffix. On the suffixion of -i, the last vowel of the stem—whatever it is—turns to a; on the addition of -a, the vowel becomes i. Accompanying the change of the last stem-vowel to a is a tendency to lengthen the latter part of the stem, wherever possible by the introduction of a vowel between two consonants, and to a shifting of accent toward the suffix. Accompanying the contrasting stem-change to i there is an opposite tendency to shorten the latter part of the stem, the accent advancing toward the head of the word, and a combination of consonants being frequently formed by the dropping out of the middle vowel in trivocalic stems. These two opposite changes occur quite regularly without exception or noteworthy modification, except that before the -i suffix the final stem-syllable, if a or i, may become è in place of a. The change

of accent occurs with less regularity than that of the quality of the final stem-vowel; in some words the accent even appears to alter in a manner the opposite of the usual one.

There is, especially before the *-i* suffix, a secondary and less regular tendency toward vocalic change in the first syllable of the stem, resembling the vowel-mutation occurring in the stem syllable of verbs, whereby *u* becomes *o* and *o* becomes *u*, with corresponding equivalences in other pairs of vowels. In trivocalic noun-stems this mutation accompanying the plural may extend to the second syllable.<sup>1</sup> *Nòno*, plural *nunè-i*; *nip'èi*, *nèp'ay-i*; *tcunut*, *tcunot-a-tc-i*. It is not unlikely that this mutation in the first syllable of the stem is a secondary effect of the suffix, that is to say, the direct result not of the addition of the suffix but of the alteration of the vowel of the final stem-syllable produced by the suffix.

In tribal names metathesis of a vowel in reference to its consonants is common. *Bañka-* becomes *bañek-*; *-tc-i-*, *-atc-*; *-mni-*, *-man-*; *bokni-*, *buken-*.

Besides the changes enumerated there are a number of more sporadic ones in the formation of the plural, such as the loss of final consonants (*kou'tcu-n*), of vowels (*hit-wai-u*), and the insertion of *d* (*waksätci*, *wake'sdatci*, unless *waksätci* represents *waksädteci*).

The various modifications of the stem in the plural are shown in the following list. In this list all vowels marked long bear the word-accent. In words containing no vowel marked long, the accent is on the penultimate vowel or diphthong unless specially indicated.

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<sup>1</sup> If stems are omitted from consideration whose first vowel is *a*, which is not susceptible of this change, and if monosyllabic and biconsonantal stems are also excluded because their vowels on account of their proximity to the suffix are primarily affected by the law of *i-a* balance which most fundamentally characterizes the plural, it may be said that the majority of stems taking the *-i* suffix, and part of those with the *-a* suffix, undergo this mutation of the first or second stem vowel to its opposite within its vowel-pair.



## I-Plurals.

man	kou'teun	kou'tca-i
woman	muk'ac	muk'èc-i
young man	nòteo	nuteè-i
chief	dīya'	dè'a-c-i
medicine man	aft-u	aft-aw-i
widower	hupana	hopna-te-i
older brother	nibete	nebate-i
younger brother	nèec	nèac-i
younger sister	nòot	nòat-i
son	butcoñ	botcafi-i
daughter, child	axid	axèd-i
father's sister	gūiha	guyò'a-c-i
bear	dūurun	dūwāxan-i
panther	wōhōcit	wōhōcat-i
wild cat	t'ufiōd	t'ufiōad-i
mother's brother	āgac	agèc-i
woman's sister's child	āxi	axēy-i
maternal grandmother	t'ut'a	t'ut'òa-c-i
paternal grandmother	bap'	bap'è-i
great grandfather	hit-wāiu	hit-èway-i
daughter-in-law	onmid	onèmad-i
mother-in-law	ontip	onètap-i
parent of child-in-law	makei	makèc-i
man's wife's brother	nip'ei	nèp'ay-i
friend	nòtci	nuètc-i
deer	xoi	xuyèa-c-i
watcher (teid, guard)	tied-ite	teid-atc-i
tribal name	yaudantci	yowedtcan-i
tribal name	bañkalātci	bañe'klate-i
tribal name	teoinok	tcuyènak-i
tribal name	yokod	yuwèkad-i
tribal name	gāwia	gawèyay-i
tribal name	wetcig'it	witecèg'at-i
tribal name	wimiltci	wimèlate-i
tribal name	yauðimni	yowe'dman-i
tribal name	teoinimni	tcuyenman-i
tribal name	bokni'nuwad	bukènwad-i
tribal name	wòwod	wowòwad-i <sup>1</sup>
tribal name	kawāija	kaweije-te-i
tribal name	tcunnt	tcunòta-te-i
tribal name	tadji	tadjè-te-ay-i
tribal name	waksatci	wake'sdate-i <sup>2</sup>
tribal name	tedamni	tièdam-i
tribal name	badwica	baddòwac-i

<sup>1</sup> Wowud means stand, from the radical wud. Wowòwadi is perhaps not reduplicated but formed by development of -ò- into -owò-, as in y-uwè-kadi.

<sup>2</sup> Or, wake's-wadi, resembling the plurals kuma'tc-wadi and kuyèt-wadi of the tribal names kumatcesi and koyèti.

*A-Plurals.*

girl	guyòdum	gòyum-a
old person	moxodo	moxdi-tc-a
older sister	naat	nait-a
mother	najoj	nājuj-a
father	natet	natit-a
father's brother	komo'yic	ko'myic-a
mother's sister	mo'koi	moko'i-o
grandfather	ènac	inac-a
son-in-law	napātum	napti'm-a
dog	tcè'jej	tcijā'j-a
grizzly bear	fiohoo	fioho'i-c-a <sup>1</sup>
man's sister's child	tea'yax	teayi'x-a
woman's brother's child	napac	napic-a
father-in-law	naxa'mic	na'xmic-a
dancer (ka'm, dance)	ka'm-ätc	ka'm-itc-ha
tribal name	wükteamni	wüka'temin-a
tribal name	xocòm-o	xòcim-a
tribal name	monadji	monadji-c-a
tribal name	tulamni	tula'l-min-a
Shoshonean	malta	malāta-tc-a

A collective *-hin*, on inanimate nouns, occurs several times in a text given in Part III.

bokdo-hin	where many springs
yapkan-hin	many trees
doxmad-hin	rock-pile
tcodwon-hin	plains

## CASES.

Nouns are used with five case suffixes, an objective *-a*, a possessive *-in*, an instrumental *-ñ*, a locative *-u*, and an ablative *-nit*, making with the unaffixed subjective a total of six cases. The same suffixes are attachable to verb stems used as nouns, to verbal derivatives, and to verbal forms used participially. That these verb forms with case suffixes are no longer verbs but nouns is shown by the fact that their logical subject is in the possessive case. Adjectives take at least the objective, personal pronouns the locative, and demonstratives and interrogatives all the suffixes except the objective, for which they substitute a suffix peculiar to themselves.

<sup>1</sup> Or fioh'i-c-a.

The employment of these cases is on the whole indicated by their names, there being few special idiomatic uses.

The objective seems to be used with prepositional words: *atc'e-u yapikn-a*, close to the tree, *padu-unun nim podt-a* inside my body, *pèna-u idk-a*, near the water. The true nature of these prepositional words is however not clear; *padu-unun* is evidently the intransitive participle of the stem *padu* to enter; *atc'e-u* and *pèna-u* seem to be locatives of unknown stems.

The possessive gives the appearance of being used as subject in certain clauses where it is really the grammatical regimen of a verbal noun. Thus *ōkac na kou'teun-un duy-a*, I saw the man eat, is really: saw I man's eating. It appears that after a passive the instrumental is expressed by the possessive: *aj-it na tcejej-in*, I was bitten by a dog, and *waki-t yet tañ watak-in*, he was presented with one pine-nut. The possessive pronoun of the third person may or may not be used in addition to the possessive case to express possessive relation between nouns: *yiuna an limk-in*, wife his prairie-falcon's; but the possessive suffix is never omitted.

The instrumental is used in two special constructions. What we should consider the direct object of a verb, is, when this verb contains the suffix *-cit*, for the benefit of, put in the instrumental, the person benefited being treated as the object of the verb: *max-cit-ji nan duy-añi*, he-got me with-food, he got food for me; *cuina-cti nan xè-ñi*, buy me with-this, buy this for me. After *waki*, give, the person which we treat as dative is in Yokuts objective, our object in the instrumental; so that *waki* can be more literally rendered by our "present" than "give": *waki-ji tañ (obj.) ta-ñi tipdi-ñ*, he-presented her with-that mountain-quail. No instrumental of personal pronouns has yet been found, and it is possible that the present two constructions are merely due to a tendency of the language to avoid the use of the instrumental in personal pronouns.

The locative covers a wide range of meaning—at, in, to, on, in fact all locative ideas except the ablative—and refers to time as well as space: *copin-au opodo*, in three days; *ñauuji wit'ep-au*, he came to the boy. It also has the meaning for, on account of: *muke-iu xe-u tööcnad doowac*, on account of this woman is being

made a battle (woman-at this-at is-making battle); *ukn-au* *nim* *t-okit*, I was hit for drinking (drink-at I my hit-was); *wi cox-ji vaka*, *ta-u tin tañ taudjata*, he-killed cattle, for-that they him killed. The construction by which the addition of the locative suffix to the *-ji* past-suffix of the verb makes a dependent temporal clause, the subject becoming possessive, has already been referred to: *tan-ji-u link-in moxodo ent-im-ji*, while-went (went-at, at the going of) prairie-falcon, the-old-man slept; *xi nan amādac teūxūtc-n-au nim*, he me helped when I was sick (sick-being-at my). Most names of places and the modern names of the days of the week are locatives: *tcit'at-iu*, a place name (*tcit'at*, a species of clover); *xo-en-au*, sitting at, Sunday. On numeral stems the locative suffix gives an ordinal adverbial meaning: *hat'pañi*, four, *hat'pa-u*, the fourth time, as opposed to *hat'pud*, four times.

As some of these case suffixes, such as the objective, are entirely syntactical in function, and all but the ablative are used at times as purely syntactical means, they must be regarded as true cases and not as adverbial postpositions. Their phonetic character, their effect on the stem, and their small number, also are evidence that their formal force and content far outweigh their material significance. There is no trace of any of the case-suffixes ever being used independently of a noun as an adverb or preposition. The presence of these cases in the language is naturally allied to the absence of incorporation in the verb. While similar case-suffixes are found in many Californian languages, usually also accompanied by lack of incorporation, their number in these languages is often larger, their sense more specific and adverbial, and the suffixes themselves in their phonetic form are more like independent stems. The partial resemblance of the terminatives, inessives, introessives, comitatives, similitives, and other cases in Maidu, Yuki, Pomo, Washo, and other central Californian languages, to suffixed prepositions, cannot be said to extend to Yokuts, except to a certain degree perhaps in the ablative.

*Objective.*

The objective case presents considerable phonetic irregularity. Normally it seems to be indicated by -a. For this, -i, -o, and occasionally -u are substituted in not a few words, and a large number of words show no change whatever from the absolute or subjective form.

Like the analogous substitution of plural -a for more common -i, the cause of the use of objective -i in place of -a is not clear. The words found with objective -i are muk'ac, nibetc, natet, iwèite, kiau, nahāt, d-oxid, owik, t-e, koyoyite, huc-widètc, gòk-widètc, and perhaps kocòyi and makei; there are no doubt a number of others.

Objective -o is found on monosyllabic and disyllabic o stems and on a few others usually containing o in the first syllable followed by an i that disappears before the suffix; so that this -o is quite clearly due to influence of the stem. The stems taking -o are tot, t-ot, tcox, najoj, ucit, odix, bokid, dopit, [domit], cokod, and perhaps yoñho and ñohoo.

Objective -u occurs on nòot, perhaps on najoj and hutulu, and on three stems the u of whose last syllable disappears before the suffix, tukuyun, dumòdumute, and yipyeput. This -u is, like -o, due to the influence of stem u-o sounds.

The objective of a large number of nouns, at least one in three, is without any suffix and identical with the subjective. This class includes terms of relationship, names of persons, animals, parts of the body, and natural and artificial objects, so that it is not in any way determined by meaning. While phonetic form and to a certain extent probably derivational constitution are evidently the causes of this lack of an objective suffix by such nouns, yet a considerable proportion of them are not actually explainable in these ways, as will be seen from the following circumstances.

Most duplicated or reduplicated nouns lack the objective suffix: teej-ej, dog, coxcux and teakteak, two species of hawk, la'la', goose, hoñhoñ, heart, dapdap, leaf, xam-am, rib. A few duplicated nouns however show a suffix, such as te'imtc'im, bat: te'imate'm-a.

The majority of nouns ending in vowels are also alike in the subjective and objective. These include *nòtco*, *moxodo*, *diya'*, *hupana*, *mokoi*, *mai*, *t'ut'a*, *hit-waiu*, *onpoi*, *xoi*, *teitceu*, *coxgoi*, *k'ondjedja*, *hööpa*, *hayana*, *upyayi*, *yakau*, *nòotci*, *katcau*, *p'anuc-kai*, *woxono*, *t-ipni*, *t'uñoi*, *te'aiji*, *oca*, *t'ipeni*, *k'aiyaat-u*, *t'ukoi*, *teoto*. The final vowels of several of these nouns are quite strongly resistant to suffixation, as is shown by the complete loss of this vowel in the possessive (*nòtc-in*, *hayan-in*, *teot-in*), or by such loss of the vowel with accompanying irregular effects, especially the addition of *tc* or *c*, in the plural (*moxdi-tc-a*, *hopna-tc-i*, *t'ut'oa-c-i*). Nouns with vocalic ending taking an objective suffix are much less frequent than those that do not. They include *kaiu*, *t-e*, *añt-u*, *axi*, *nip'ei*, *ti'w*, *matci*, *t-üdu*, *teudui*, *teí*; and probably the following, in which the final vowel seems to be repeated to form the objective suffix: *caca*, *güiha*, *makci*, *ko-cöyi*, *ñohoo*, *yofñho*, *hutulu*.

Finally a considerable number of nouns ending in consonants do not change in the objective: *komoyic*, *ènac*, *t'uñod*, *agac*, *itwap*, *bohad*, *coyod*, *t-ööd*, *tadxat*, *djamoc*, *ògun*, *pöötc*, *mènitc*, *k'ewèt*, *kècìk*, *comot*, *mañad*, *teuyon*, *mod-ak*, *añac*, *kiwec*, *witcet*, *hoñ-oc*, *teit'at*, *bemamgutc*, *goddñkil*, *djitcpaapu*, *k'atcanat*, *ku-yocud*. The last half dozen of these are evidently not simple stems; and while their origin cannot be traced, it is possible that the same feeling of the language which usually prevents the addition of a suffix to duplicated and reduplicated nouns, may be operative in these composite, derivative, or onomatopoeic words. But for the great majority of the words in this list even such a tentative explanation is not available, since stems which are apparently simple and which have the same vowels as those here given, or the same consonantal ending, take objective suffixes.

The following list of subjective and objective forms gives the nouns found whose objective suffix is *-a*, those that have *-o* and *-u*, those with *-i*, and shows the scope of the changes in the stem and the extent of irregularities. The objective case less its suffix, or sometimes with it—and never the subjective or absolute form of the noun—is invariably the base from which the possessive, instrumental, locative, and ablative cases are formed.

<i>English</i>	<i>Subjective</i>	<i>Objective</i>
man	kou'teun	kou'teun-a
child	wit'ep	wit'ep-a
medicine-man	añt-u	añut-w-a
younger brother	nèec	nèec-a
older sister	nāat	nāat-a
son	butcoñ	butcoñ-a
daughter	axid	axd-a
son-in-law	napātum	napat'm-a
bear	dūxwñ	dūxn-a
panther	wōhñeit	wahact-a
man's sister's child	teayax	teayax-a
woman's sister's child	axi	axi-a
woman's brother's child	napac	napac-a
grandmother	bap'	bap'-a
daughter-in-law	onmid	unimd-a
father-in-law	naxamic	naxame-a
mother-in-law	ontip	unitp-a
brother-in-law	nip'èi	nip'èy-a
mountain-sheep	diwècip	diwecp-a
rabbit	ti'w	ti'w-a
beaver	tōpūk	tōpk-a
raccoon	kūt-u	kūt-u-a
small dark rabbit	mātei	mātey-a
gopher	hung'ut	hunuxt-a
condor	wite	wite-a
hawk, sp.	cuxup	cuxp-a
prairie-falcon	limik	limk-a
crow	aduut-	aduut-a
bird	dètcip	dètcp-a
bat	tç'imtc'im	te'imite'm-a
water-snake	yax	yax-a
quail	humud	humumd-a
eye	caca	caca-a
nose	t-ūfik	t-ūfik-a
ear	tuk	tuk-a
forehead	t-ūdu	t-ūdu-a
skin	teudui	tendi-a
bone	te'ii	te'iy-a
liver	dip	dip-a
kidney	teinèkit	teinèkt-a
vagina	umut	umta
guts	doc	doc-a
excrement	bidik	bid'k-a
tail	gut	gut-a
tree	yapkin	yapikn-a
water	idik	idk-a
hunting arrow	cikid	cikd-a

<i>English</i>	<i>Subjective</i>	<i>Objective</i>
bow	dayap	daip-a
town	t.ipic	t.ipc-a
world	p'āan	p'āan-a
wife	yiwin	yiun-a
body	podut	podt-a
game ball	odot	odot, odot-a
pestle	padui	paduy-a
cane, reed	kadkid	kadikd-a
fish	dopit.	dopt-o
skunk	teox	teox-o
squirrel	yofho	yofho-o
head	tòot.	tòot-o
belly	t.ot.	t.ot-o
hole	cokod	cokd-o
mountain	domit	domt-o
fire	ucit	oct-o
pillow	odix	odx-o
spring of water	bokid	bokd-o
younger sister	nòot	nòot-u
mother	najoj	najoj-u <sup>1</sup>
jackrabbit	tukuyun	tukuin-u
animal sp.	dumòdumute	dumòdumte-u
owl	hutulu	hutulu-u
lip	yipyeput.	yipyapt-u
woman	muk'ac	mok'c-i
older brother	nibetc	nibetc-i
father	natet	natèt-i
parent of child-in-law	makci	makci-i
wolf	iwèite	iwèite-i
coyote	kaiu	kaiiw-i
eagle	d.oxid	d.oxid-i
bald eagle	owik	òk-i
raven	gòk-udète	gok-udète-i.
gopher-snake	huc-udète	huc-udète-i
frog	koyoyite	koyoyite-i
house	t.e	t.è-i

The nouns that do not change for the objective have been previously given.

It appears from this list that the considerable changes in the stem occurring in the expression of the plural are not found in

<sup>1</sup> Or najoj-o.



the objective. As a rule the quality of the stem vowels is not affected by the objective suffix. There is however an inclination to drop the last vowel of the stem before the suffix. A considerable proportion of nouns, about half, indeed do not show this shortening; but when monosyllables and stems with vocalic ending, which are incapable of such change beyond softening *i* and *u* to *y* and *w*, are omitted from consideration, at least three nouns out of four are seen to drop their last stem vowel before the objective suffix. *Limik* makes *limk-a*; *cuxup*, *cuxp-a*; *yiwin*, *yiun-a*; *dūxun*, *dūxn-a*; *owik*, *òk-i*; *wōhōcit*, *wahact-a*; *muk'ac*, *mok'e-i*; *ucit*, *oct-o*. The exceptions found are *butcoñ*, *put-oñ*, *teayax*, *napac*, *nahāt*, *nibete*, *aduut*, *odot*, *gòkudète*, *hucudète*, *koyoyite*. Not infrequently a vowel appears in the middle of the word to compensate for the loss of the one in the last syllable; or the double process may be regarded as a transposition of the vowel. In four-consonantal stems the new vowel usually appears between a double consonant in the middle of the word: *ontip*, *unitp-a*; *kadkid*, *kadikd-a*; *te'imtc'im*, *te'imite'm-a*; *onmid*, *unimd-a*; *hung'ut*, *hunuxt-a*. In such cases there is occasionally a change in vowel quality also.

The word-accent also, which is no doubt causally related to the quantity and quality of the vowels of the word, is not affected by the objective suffixes as by the plural ones. Whereas in the plural the accent, according to the suffix added, usually moves forward or backward in the word, in the objective it almost always remains in place. This immovability of the accent before the objective suffix is no doubt connected, either as cause or as effect, with the tendency of the normal accent to rest on the penultimate syllable of the word, and the tendency of the last vowel of the stem to be lost before the objective suffix as its equivalent, as it were.

It will be seen that the considerable similarity between the plural and the objective suffixes,—respectively *i*, sometimes *a*; and *a*, sometimes *i*,—does not extend to the forms assumed by the stems to which these suffixes are added. On some words the suffixes are actually identical, whereas the stems differ vocally according to the grammatical meaning of the suffix.

<i>Meaning</i>	<i>Subjective</i>	<i>Objective</i>	<i>Plural</i>
woman	muk'ac	mok'c-i	muk'èc-i
older brother	nibetc	nibetc-i	nè'betc-i
parent of child-in-law	makci	ma'kci-i	makèc-i
older sister	naat	na'at-a	nait-a
man's sister's child	tcayax	tcayax-a	tcayix-a
woman's brother's child	napac	napàc-a	na'pic-a
father-in-law	naxamic	naxamc-a	na'xmìc-a

The differences in the objective and plural forms of the above words, which are entirely typical, show that the vocalic changes in the stem are not due merely to the direct phonetic effect of the suffix, but are caused rather by the general rules of formation for these two categories; the specific influence of the suffixes, if it ever was dominant at all, must have been more in the development of the general methods of formation characterizing the category, and in stimulating the active operation of a process of analogization, than exerted on the particular forms of stems existing at present.

An entirely similar case, which has also already been referred to in another connection, is the difference in stem presented when the plural suffix *-i*, and the derivative suffix *-i* denoting the death of a connecting relative, are respectively added to the same stem:

<i>Meaning</i>	<i>Singular</i>	<i>Plural</i>	<i>Relative dead</i>
Mother-in-law	ontip	onètáp-i	unitip-i
Daughter-in-law	onmid	onèmad-i	onimid-i

#### *Other Cases.*

The four remaining cases, the possessive, instrumental, locative, and ablative, follow the objective in usually causing the loss of the last vowel of consonantly ending stems, being in fact formed from the stem used in the objective, and not from the absolute or subjective stem-form. Thus: cikid, cikd-a, cikd-añ; idik, idk-a, idk-au, idk-anit; limik, limk-a, limk-in, limk-au; cuxup, cuxp-a, cuxp-un. The only exception found is cokod, hole, objective cokd-o, locative cokod-iu. The possessive, instrumental, locative, and ablative agree among themselves and differ from the objective in being always expressed by a suffix and never identical with the subjective, as the objective is in many words.

The possessive ending is *-in*. On stems whose last vowel is *u*, or *o* following *u* in a preceding syllable, *-in* becomes *-un*. Monosyllabic *o*-stems, as well as those containing ultimate *o* preceded by any vowel except *u*, and all stems whose last vowel is *i*, *e*, or *a*, take *-in*. The only exceptions are *noot* and *najoj*, which form *noot-un* and *najoj-un*, and which in the objective also take *-u* and *-o* instead of more regular *-o* and *-a*. *Wöhōcit* takes *-un*, *t-ōöd*, *-in*.

Final vowels do not present the same resistance to the possessive as to the objective suffix. Usually the *-in* or *-un* is simply added: *diya'*, *diya'-in*; *nip'ei*, *nip'ey-in*; *küt-u*, *küt-u-un*; *lä'la'*, *lä'la'-in*; *upyayi*, *upyayi-in*. Certain nouns impervious to the objective and usually causing the addition of *-tc-* or *-c-* in the plural, take the possessive suffix after losing their final vowel.

<i>Subjective-Objective</i>	<i>Plural</i>	<i>Possessive</i>
hayana		hayan-in
tcoto		tcot-in
nōteo	nutcè-i	note-in
ñohoo	ñoh-i-c-a	ñoh-ī-in
hupana	hopna-tc-i	hupan-in
moxodo	moxdi-tc-a	moxod-in

The instrumental, locative, and ablative seem to be based to some extent on the objective even as regards the phonetic form of their suffixes. Where the objective shows what must be considered its normal form, namely *-a*, the characteristic endings of the three cases at present under consideration are added directly to this *-a*: *duy*, eating, food, objective *duy-a*; *duy-añi*, by means of eating, *duy-au*, at, for, eating; *idik*, *idk-a*, *idk-au*, *idk-anit*; *tuk*, *tuk-a*, *tuk-añi*, *tuk-au*. After monosyllables *-añi* replaces *-añ*. Where the objective is *-o*, the instrumental is *-oñ*, the locative *-o*. Where the objective is unexpressed by a suffix, the formation of these cases varies. Some words show an instrumental in *-ñi* or *-iñ*, and a locative in *-iu*; others respectively *-añ* or *-oñ*, and *au*. On demonstratives which end vocally the instrumental is *-ñi*, the locative *-u*, the ablative *-nit*. The following list shows such minor variations.

<i>Meaning</i>	<i>Subjective</i>	<i>Objective</i>	<i>Instrumental</i>	<i>Locative</i>
bird	detcip	detep-a	detep-af	
tree	yapkin	yapikn-a		yapikn-au
arrow	cikid	cikd-a	cikd-af	
water	idik	idk-a		idk-au
bow	dayap	daip-a	daip-af	
nose	t-űńűk	t-űńk-a	t-űńk-af	t-űńk-au
ear	tuk	tuk-a	tuk-afi	tuk-au
forehead	t-űdu	t-űdu-a	t-űdu-afi	t-űdu-au
skin	teudui	teudi-a	teudi-af	tendi-au
bone	te'i	te'i-a	te'i-afi	te'i-au
vagina	umut	umt-a	umt-af	umt-au
eye	caca	caca-a	caca-fi	caca-u
guts	doc	doc-a	doc-ofi	doc-ou
head	toot-	toot-o	toot-of	toot-o
pillow	odix	odx-o		odx-o
hole	cokod	cokd-o		cokod-iu
house	t-e	t-e-i		t-e-u
breast	pűűte	pűűte	pűűte-af	pűűte-au
rock	yakau	yakau	yakau-af <sup>1</sup>	yakau-au <sup>1</sup>
stick	witcet	witcet	witcet-af	
foot	wutofi	wutofi	wutofi-af	wutofi-au
basket	katcau	katcau	katcau-uf	katcau-u
sweathouse	moc			moc-au
brush	yawud			yawud-au
awl	bawuk		bawuk-uf	
clover sp.	teit'at	teit'at		teit'at-iu
tongue	tadxat-	tadxat-	tadxat-fi	tadxat-iu
mamma	mènite	mènite	mènite-fi	
testicles	hoń-oc	hoń-oc	hońoc-ifi	hońoc-iu
leaf	dapdap	dapdap		dapdap-iu

### *Cases in the Plural.*

The objective of the plural is uniformly identical with the subjective plural.

The possessive plural is formed from the subjective plural by the suffixion of -n. The possessive of -i plurals thus is -in, of -a plurals -an, and of the one -o plural found, mokoi-o from mokoi, mother's sister, it is -on, mokoi-on.

<sup>1</sup> Instrumental and locative also yakau-ń and yakaw-u.

## THE VERB.

Of the traditional categories of inflection of the verb: person, number, tense, mode, and voice, the Yokuts verb is entirely without expression of person. There is not even so much change for person as the one rudimentary inflection that persists in the verb of spoken English. This total lack of pronominal incorporation is perhaps the prime characteristic of the Yokuts verb.

Less frequent than pronominal incorporation, but sometimes held to be equally typical of the principles of procedure of American languages as a whole, is a differentiation of verb stems for number. Such differentiation may be by inflection and affixion, or may be radical; in transitive verbs it refers to the number of the object. This expression of number is, however, like that of person, entirely wanting in the Yokuts verb. There is one case of stem differentiation; *taudj* means to kill one, *cox* to kill more than one. How far the feeling of the language for the difference between these two stems is a grammatical one, or how far there is a connotation in one stem of "kill," in the other of "exterminate," it is impossible to say.

The reduplicated verb stem occasionally has the appearance of indicating a plurality of objects, but this is probably only incidental, the reduplication being used to express the repetition of the verbal act which usually is implied in a dynamic action affecting several persons or things, rather than to express the plurality of these persons or things themselves.

Tense, mode, and voice are all expressed by one method, suffixation, several phonetic elements existing to designate the various categories.

## SEMI-DERIVATIVES.

Contrasting with the tense, mode, and voice suffixes is another class of suffixes expressing ideas which most languages agree in regarding as less grammatical in nature than these and more derivative and stem-formative. Yokuts shows this same feeling in that it treats the affixes expressing this class of ideas differently from those relating to tense, mode, and voice. Such

semi-derivative suffixes always precede the grammatical ones, being joined directly to the stem. They include a causative, frequentative, desiderative, benefactive, intransitive, and reflexive.

The causative, which is not very frequent, is expressed either by the suffix *-da* or by lengthening, with change, of the ultimate stem vowel.

t'ic, to emerge	t'ic-da-yan, let him come out!
ũñ, to be leaning	ũn-añ-da, lean it!
duy, to eat	dui-da-c, made eat
ka'm, to dance	tcān na mam ka'm-da-d, I will make you dance

Similarly *ök-da-d* from *öka*, see, and *ep-da-d* from *ep*, swim.

üdük	sing	üdöök	make sing
uk-un	drink	uk-öon	make drink
dawid	run	dawāad	make run
tax-in	come	taxāan	make come
xuyu	return	xoyoo	bring back

Had-ad, to raise, with its intransitive had-ad-in, to rise, is perhaps a causative formation from had-in, to rise.

The frequentative *-ta* is also not very common.

aj	to bite	aj-aj-ta-c	bit often
tcabop	to lie on the belly	tcabop-ta-ji na	I was lying on my belly
had-ad	to raise	hada-ta	raise it several times!
damna	to try	daman-ta-c	tried (all his arrows)
t'uy	to shoot	t'ui-ta-i	shoot repeatedly

The desiderative is *-tcin* or *-atcin*.

tan	to go	na tātān tan-atcin-ad	I too would-like-to-go
duy	to eat	duy-atcin-ad na	I would like to eat
öka	to see	üka-tcin-in tañ	wishing to see him
t'umi	to throw at	tomoi-tcin-ac manan	you tried to throw at me
xate	to stab	xate-atcin-ac manan	you tried to stab me

The suffix *-cit* expresses the fact that the action of the verb is done for the benefit of some one. The noun or pronoun designating the person thus affected is in the objective case, the object itself in the instrumental.

max	to get	max-cit-ji nan duy-añi	brought-for-did me food-with: he got me something to eat.
tüc	to make	tüüc-ücta nan daip-añ	make-for me (with-)a-bow.
üdük	to sing	üdk-üct-a	sing for.
cuina	to buy	cuina-cti nan xëñi	buy me this!
bi	to finish	bii-cit-in tan-ji	having made it for him, he went.

The intransitive *-in* is frequent. Many verbs, such as *uk-un*, to drink, regularly contain this suffix. In some cases it denotes automatic, uncaused, unintentional action: *wox-ji*, fell, implying causation, *wox-in-ji* fell, of itself. *T-at-i-ji na tañ*, I broke it, literally, break-did I that; *t-at-i-n-ji nan xe*, I broke it unintentionally, literally, broke me this; *na tööc-ad doowac*, I make battle; *nanau tööc-n-ad doowac*, for-me (literally, me-at) is-made battle. *Had-ad*, to raise, *had-in*, to rise, and *had-ad-n-ad*, rises. *T'oñ-un*, to drown, *tüüj-ün*, to become, *t'uy-in*, to be night, *taw-in*, to be day, *dok-in*, to be satisfied from hunger, *hic-in*, to hide, *yiw-in*, to marry, *tax-in*, to come, and other stems, show this suffix.

The reflexive, which in phonetic detail is somewhat variable, is an important formative. Its fundamental form is perhaps *-wic*, which also appears as *-üj*, *-wac*, *-woc*, often with the introduction of a preceding long vowel. In this supposed fundamental form the reflexive verb is used as an abstract noun. The tenses of the reflexive are formed by adding the usual suffixes to this base, forming *-wici*, *-ücac*, and *-ücad* or *-wicad*; only the future and participial suffix *-in* seems averse to being super-added to the reflexive (as to the intransitive), so that the future is expressed by *-wic* without any further suffix. A suffix related to the reflexive, and appearing to have the force of referring the verbal action to the body, is *-wid*, appearing with tense-suffixes as *wid-èn*, *wid-ji*, *wid-ed*, and perhaps *wita*. An imperative *-we* is perhaps connected more nearly with this form rather

than with the *-wic* reflexive.<sup>1</sup> The suffix *-umdüuc* or *-umduwic* denotes a person accompanied by that one of his relatives designated by the stem of the word. The category of reciprocity does not appear to be strictly distinguished from the reflexive. The reciprocal forms obtained contain the reflexive suffix, the frequentative *-ta*, and are usually reduplicated. It is not certain how far these means are actually used to express the idea of reciprocity, and in how far they are the expression of the repetition which is very apt to be implied in any plural verb with the object "each other."

doo-wac	battle
katd-üwic	kated-game
teom-woc	a hiding and guessing game
teaten-üwic	stave game
t.it-wac	copulation
hoyo-wac	name
tañy-üwic	ceremony of drinking jimson-weed (tañai)
dai-wicu na	I kicked myself (day)
cap-wicu na	I whipped myself (cap)
cap-a-uj-ad na	I used to whip myself
cap-â-wic nihi	I shall whip myself
wot-wici na	I hit myself with a stick (wot.)
wot-ðj-od na	I used to hit myself
wot-ðwic nihi	I shall hit myself
duy-ðwic nihi	I shall eat myself (duy)
teân na tũũj-wac t'oñotcni	I shall be t'oñotcim (tũc, make)
teân t'uy-u-t'y-uwuc t.aateci	there will be a great battle, (people will shoot each other, t'uy)
tööj-ũj-ac woxono	made herself, turned to, a log
teanj-ũj-ac	combed herself (teönic)

<sup>1</sup> The suffix *-wid*, imperative *-we*, is probably related to the independent stem *wid*, to tell or say, also to do or make; as *wid-ji nan*, he said to me. This stem appears in such words as *huc-udêtc*, "hush-sayer," a species of snake, and *kux-udêtc*, *kux-wid-êitc*, "kukh-maker," a species of hawk which is thought to produce a sound *kukh* as it parts the brush in dashing through it in pursuit of game. *Hatic-wid*, to sneeze, accordingly seems to be nothing but "to say hatish," or "to make hatish," and more obscure forms such as *teabop-wid* and *ũñ-ũñ-wid* may contain the same stem. When Yokuts vocabularies are obtained it soon becomes noticeable that words are frequently given followed by *wi*. This is especially the case when an informant deliberates or appeals to a bystander; the latter will then often mention the word followed by *wi*, as *ilik wi*, literally "say *ilik*," or "tell him *ilik*," but actually perhaps nearer, in general force, to our "it is *ilik*." It is doubtful from all this whether the *-wid*, *-we* suffix should really be regarded as unconnected with the reflexive, or whether the reflexive can be considered as probably genetically related to the verb stem *wi*, *wid*, of generalized meaning.



t.añid-ūj-ac	brushed herself (t.anit)
tcadx-uj-ac na	I turned myself over (tcadix)
tcabop-we	lie on your belly!
t'omom-we	lie!
hadad-we	raise yourself!
duc-duc-wi nan	rub me!
palat-we	stick out your tongue!
tcāna hatic-wid-en	I (shall) sneeze
tcāna t'umum-wid-əd	I (will) lie down
tcāna tcabop-wid-en	I will lie on my belly
hadad-wid-ji ta mai	supported that person
woj-oj-wid-ji	(arrows) stuck in (his entire body)
hiam na ūñ-ūñ-wid-ji	I leaned against it
duc-duc-wid-ən namam	I will rub you
tik axd-umduwic	she and her daughter (they daughter-and-her-self)
nak nat-umduwic	my father and I (we father-and-myself)
tacki putcñ-omduj-a	him and his son (those son-and-himself)
inmitck-amdūuc	two cowives (cowife-and-herself)
cap-i-ep-ūuj-a-ta mak	we whip each other
dai-dy-ūj-a-ta mak	we kick each other
aj-aj-ta-uj-i-ta mak	we bite each other
aj-aj-ta-uj-i-ta na	I bite myself constantly

## TENSE, MODE, AND VOICE.

The final suffixes of tense, mode, and voice are two preterites in -ac and -ji; a finite future and a present participle in -in; a continuative, indefinite as to time, in -ad; a passive in -it; a future passive and an active verbal objective noun in -ñite, sometimes -añite; an agent in -ite; and a participial form in -ana. The unaffixed stem is used for the imperative and sometimes in the indicative. Cases can be added directly to the stem treated as a noun, as well as to some of the temporal-modal forms. The suffix -ana may possibly be a case form of the participial ending -in; the locative -u added to the preterite -ji makes a temporal participle.

*Vocalic Mutations of the Stem.*

The stem preceding these modal-temporal suffixes often undergoes a vocalic change previously referred to. The form of

the stem which may be considered the normal one occurs before *i*-suffixes; a changed form before *a*-suffixes. The mutation as it occurs in monosyllabic stems ending in a consonant is as follows:

<i>Before i-suffixes</i>	<i>Before a-suffixes</i>
u	o
o	u
u	o
o	u
ü	ö
ö	ü
i	e
e	i

A undergoes no change. Monosyllabic stems ending in vowels also do not change.

Disyllabic stems are fewer and their changes more complicated, so that the principles governing their mutations are not so clear. Where the stem is derivative from a monosyllabic radical, either by reduplication, by the common intransitive suffix *-in*, or by some other suffix, there is a considerable tendency for the secondary syllable to contrast, according to the pairing just given, with the primary one, whatever the form of the stem; so that in these verbs the vocalic mutation is a double shift. For instance:

<i>Before i-suffixes</i>	<i>Before a-suffixes</i>
t'oñ-un	t'uñ-on
dem-dim	dim-edm
höp-ud	hüp-od
dötc-ün	dütc-ön
wo-wud	wu-wod

Sometimes, on the contrary, the derivative *-in* assimilates with the stem vowel. In this case, when the stem vowel changes before an *a*-suffix, the vowel of the derivative disappears.

<i>Before i-suffixes</i>	<i>Before a-suffixes</i>
tid-in	ted-n
uk-un	ok-n
tüüc-ün	töoc-n

Disyllabic stems whose vowels are *i* and *e* interchange these before *a*-suffixes; disyllabic *i* stems change the first *i* to *e* and lose the second.

eñt-im	iñet-im
ipe	epi
hiwet	heut
ciwex	ceux
pitid	petd
winis	wens
xit-iu	xet-u

Final vowels in disyllabic as well as monosyllabic stems are usually not changed; the preceding vowel also sometimes does not alter.

waki	waki
hoi	hoi
xuyu	xuyu
ōka	ūka
k'ūnu	k'anu
t'umi	t'omi
tcit'a	tcet'a

Disyllabic stems with primary *a* do not alter this. An *i* in the second syllable after an *a* in the first changes to *a* before *a*-suffixes. If the first syllable ends in *w*, the second vowel, whether *i* or *a*, disappears before *a*-suffixes.

cadik	cadak
tcadx-in	tcadax
amid	amad
a'-in	a'-an
bax-in	bax-an
hawid	hawad
dawid	daud
tawidj	taudj
awat	aut
tawac	tauc

A fundamental feature of these verbal stem changes is that the altered stem vowel is not in direct accord or assimilation

with the vowel of the suffix that might be supposed to have caused the change. While the process of stem-mutation appears to be set in operation only when certain phonetic elements are suffixed, the mutations are by no means directly determined from these elements but entirely follow their own rules.

There are two apparent departures from the rule that one form of stem is used before *i*-suffixes, the other before *a*-suffixes. First, the stem otherwise found before *a*-suffixes occurs generally before the agentive-purposive *-itc*. Many verbs however show this suffix in the form *-aitc*, *-èitc*, *-āitc*, and some of those that have merely *-itc* lengthen and accent the last vowel of the stem. It appears from these facts, and is confirmed by similar conditions in the Yauelmani dialect, that the full form of the suffix is not *-itc* but the equivalent of *-a-itc*, or *-itc* combined with another element, possibly the causative. This explains the *a*-suffix stem used.

Second, case suffixes, namely *-a*, *-au*, and *-añi*, are added to the *i*-suffix form of the stem. The explanation of this fact is that when provided with these case-suffixes the verb-stem is a noun, so that the verbal laws of vocalic change are inoperative. What seems to be the *i*-suffix stem-form in these case-formations is only the normal form of the stem, as it appears for instance in the unsuffixed imperative. This fact is typically illustrative of the nature of the laws of vocalic harmony in the language. Were the basis of these laws purely phonetic, that is to say physiological, the stem *duy*, which becomes *doy-ad* and *doy-añitc*, should also become *doy-a* and *doy-añi*; that it remains *duy* before the case-suffixes *-a* and *-añi* is evidence that the grammatical circumstance, of the stem with the suffix *-a* or *-añi* being syntactically a noun, is of more consequence than the phonetic circumstance of the vowel of these suffixes being *a*; in other words that an abstract grammatical distinction entirely suspends and again sets in operation this concrete and physical phonetic law. That this potent distinction is the fundamental but purely formal one between noun and verb, is food for thought for those who have been taught to regard American languages as, in the higher linguistic sense, "formless."

It is of course theoretically possible that this inoperativeness of the verbal law of vocalic change before case suffixes is due to some original but now vanished difference between the phonetic content of the case suffixes and the modal-temporal suffixes; in other words, that -a and -a<sup>ñi</sup> fail to produce a stem-vowel change in verbs not because they are case-suffixes which by their presence convert the stem into a noun, but because in some former period they differed vocally, just as now they differ consonantly, from the suffixes -ad and -a<sup>ñite</sup>, and that the stem-differentiation, which at that time occurred before the two sets of suffixes according to physiological influences, became crystallized and has survived as an apparent psychological distinction to this day when the suffixes no longer bear their original form. Such an explanation is entirely possible and will no doubt be made by those who are so inclined; nevertheless, when we do not go beyond what we actually have knowledge of, which is the language in its present form, it is indisputable that in this point of grammar, that is to say psychological activity, predominates over physiological activity or phonetics.

The use of the two contrasting verb-stem forms is recapitulated in the following classification.

<i>First form of stem</i>	<i>Second form of stem</i>
-ji	-ac
-it	-ad
-in	-ana
- <sup>ñ</sup> ite	-a <sup>ñite</sup>
[-ite]	-ite
Unaffixed stem, indicative.	Unaffixed stem, indicative, re-
Unaffixed stem, imperative.	duplicated.
[-a, -a <sup>ñi</sup> , -au, non-verbal]	
[-ca, enclitic]	

A number of verbs, a minority of those known, show a secondary differentiation of stem in regard to the future and participial suffix -in and the past suffix -ji.

Monosyllabic o stems containing two consonants usually change o to u before -in, so that the stem of this tense agrees exceptionally with the a-suffix stem.

<i>-in</i>	<i>-ji</i>
buk	bok
cux	cox
dux	dox
hut	hot
wut-	wot-

The stem of the passive in *-it* seems to agree with the *-in* form in these verbs.

Certain disyllabic stems lose their second vowel, which is light, before *-in* and the passive *-it*, but retain it before *-ji* and in the unsuffixed stem. This difference is evidently merely due to the vocalic beginning of *-in* and *-it* as compared with consonantal *-ji*. There is no approximation to the *a*-suffix stem, for this tends to emphasize the second stem vowel instead of dropping it.

<i>-in</i>	<i>-it</i>	<i>-ji</i>	<i>Imperative</i>	<i>a-suffix</i>
dukd-un	dukd-ut	dukud-ji	dukud	
	hupc-ut	hupuc-yu	hupuc	
patd-in	patd-it	patid-ji		
pitew-in	pitew-it	piteu-ji	piteu	
amd-in		amid-ji	amid	amad-
pitd-in		pitid-ji	pitid	pètd-

Another occasional stem-difference between the *-in*-tense and the *-ji*-tense is accompanied by a double form of the *-in*-tense. This difference within the *-in*-tense seems to be due to a distinction made between the two meanings expressed by the suffix, namely a finite future or present and a participle. In the verbs in which the forms for these two ideas are not alike, the participial *-in* has the stem-form of the *-ji*-past; the stem of the future *-in* differs.

<i>Imperative</i>	<i>-in future</i>	<i>-in participle or stem</i>	<i>-ji</i>	<i>-a-suffix</i>
waid	waad-in	waid-in	waid-ji	waad-
	hüpod-	höpud	höpud-	hüpod-
teup	teup-an	teop-un	teop-un-ju	teop-
t'ui	t'oy-an	t'uy-in	t'uy-in-ji	t'oy-

The temporal and modal suffixes are not much modified by the stem. *-ji* and *-it* follow the rule of the possessive suffix *-in* in their susceptibility to the stem; they become *-ju* and *-ut* after

stems containing u in the final syllable and after disyllabic stems containing u followed by o. The suffix -in undergoes greater modifications, which have been described in the general discussion of the laws of phonetic mutation. This suffix shows some tendency to contrast the quality of its vowel with that of the stem. The -ñite and -añite suffixes do not change; -ite varies somewhat irregularly, being sometimes -èite, -aitc, -utc. After pure a-stems it becomes -atc. The a-suffixes -ac and -ad are unmodified except that pure o stems usually cause a change of a to o. A softening to e on stems whose last vowel is i is also heard. -Ana is unaltered; it has some power of assimilating the preceding syllable to -a-.

### *Imperative.*

The imperative is the stem of the verb. It agrees with the stem of the i-suffix forms, as found most purely in the -ji past. The singular imperative is the stem alone; the dual, plural, and optative are indicated by the postposed enclitics yak, yan, han, and ca. Yak and yan are sometimes attached to other words and may precede the verb. Han is usually heard as a separate word. Ca sounds much like a suffix, but as it does not affect the vowel quality of the verb stem as it should if a suffix, resembling in this respect yak, yan, and han; and as it is always so closely followed by the pronoun that this forms part of it as much as the particle itself does of the verb; there seems no reason to regard it as anything else than an enclitic.

Yak denotes the dual, yan the plural. These forms are related to the pronouns, whose indications of dual and plural are -k and -n. Ya, their first element, is found as an independent adverb at the head of imperative and optative sentences. Han indicates a modified imperative, sometimes translated "I want you to." Ca indicates the optative of the first person.

dox	spill
t.'ik	tie!
pite'	count!
düi	eat!
düi-ak	eat! (dual)
düi-an	eat! (plural)
taxin	come!
taxin-iak t'ic-yak	come, come out, you two!

ōka-yak nan	look at me, you two!
am ōka	don't look!
am yan ōka	don't ye look!
am yak pat-ūja	don't you two fight!
tau-yan xoodo	there make him sit! (plural)
ka'm han	I want you to dance!
ka'm han yan	I want ye to dance!
nuhuk han	kneel!
tenduk han	point at it!
hōñ-han xif	I want you to smell this!
ya'mak e'p-ca-mak	let us (two) swim.
ta'xin, piti'd-ca-na-mam	come here, I will tell you a story (come, relate-let- I-thee).
ka'm-ca-mak	let us two dance.
ya'mak t'ui-t'ui-ca-mak taedi	let us go shoot them.
ya'mai doo-ca-mai	let us (plural) play.

The future indicated by the suffix *-in*, by the particle *hi*, or by both, is frequently used to express the imperative.

#### *Future and Participle.*

The important suffix *-in* expresses both a finite tense, primarily future but verging on the present, and a participle used like the English present participle when it is adjectival to the subject of the principal verb, as in "he went singing." In ordinary simple verbs it is the suffix *-in* that has both these meanings; in the reflexive both significations appear to be expressed without the suffix *-in*; and only after the derived intransitive *-in*-stem and in certain verbs like *k'on*, *daka*, *ōka* is there the distinction that the future indicative is expressed by the stem but the participle adds its proper *-in*. *Tax-in*, to come, is used for "will come"; *tax-in-ji* is came, *tax-in-in*, coming. *Dōtc-ün-ün*, being cold, *padu-un-un*, being inside, *uk-un-un*, drinking (*uk-un*, will drink), are other cases.

tau akam ni hi daka, there perhaps I shall spend-the-night.  
puñyid dakā-in am taedi wat ūkāac, twice spending-the-night,  
not them anyone saw.

pinètji. . . bok hotc-in-in tañ, he asked, wishing to find her.  
hideu tanāad tawidj-in, where does-he-go dying?

cukid-ji muk'ac ūka-tcin-in tañ, made-a-hole the-woman see-  
wishing him.



ama tā-nit bii-cit-in tan-ji, then there-from finished-it-for-him-having came.

ot-in-in tid-in-ji, falling he-rolled-down.

In a few verbs, namely *ütad* hungry, *ōka see*, *hüpod* menstruate, in which the unaffixed indicative stem with future meaning takes the place of the -in-suffix future, this unaffixed indicative stem differs from the imperative and i-suffix stem and agrees in vocalic form with the second or a-suffix stem.

The unaffixed reduplicated stem is also used as a future or perhaps an indefinite indicative. The reduplication in this case is always of the kind with metathesis of the second vowel, and the first syllable has the a-suffix form of the stem.

hiemxac na haya-wic	to-morrow I shall-laugh (cf. haya-uc-ad)
hiemxac na ah-in	to-morrow I shall-cry (cf. ahn-ad)
wica akam ni hi yo ütad	soon perhaps I shall again hunger
ta na mam ūka	if (lit. that) I you see
na ka'm-a-ki'm	I dance
xit-iu hi	angry will-be
tcān na tud-ò-tud xif p'āna	(future) I burn this country

The future is usually accompanied by one of two particles: *tcān*, placed at the head of the sentence, perhaps meaning soon, and denoting the immediate future; and *hi*, indicating a more general future. *Hi* is an enclitic and is postposed to the personal pronouns. It has the effect of changing *na*, I, and *ma*, you, to *ni* and *mi*: *ni'hi*, *mi'hi*. No other similar modification of the pronouns seems to exist.

tant-i'n namamhi	I shall shake you
tcā-na tux-òn	I shall pull
dux-è'n mi-hi	you will spill it
pitew-in na tañ	I shall stop it
pite'-è'n na tañ hi	I shall count it
a'm na hootiid	hawid-in ni-hi tañ teok-un
not I know	doing-what I shall it extinguish-shall

#### Continuative.

The suffix -ad marks a continuative and usitative, which appears to be entirely indefinite as to time, since it is sometimes past, sometimes present, and sometimes future.

hide ma tanād	where are you going?
hunai na heutad	I am just traveling (for-nothing I go)

*Past Tenses.*

The past is expressed by the two suffixes *-ji* and *-ac*. These may perhaps be related in origin. *-ji* forms the ordinary narrative tense. The *-ac* forms do not seem to be used without being connected with an adjacent *-ji* form, though they are probably not strictly dependent or subordinate forms. Sometimes the *-ac* tense occurs in what corresponds to a relative or temporal clause in a sentence whose principal verb has the suffix *-ji*; occasionally the relation is the opposite; and sometimes both tenses are distinctly finite, but the two sentences in which they occur present a certain contrast. The *-ac* tense is probably in some way analagous—not equivalent—to the Indo-European pluperfect, which also cannot exist without at least a logical reference to some other past time.

ama	eñt·im·ji	ama	k'anuw·ac	yet'·au	woxono
Then	he-slept.	Then	he-was-lying	with	a-log.
ama	batsyo	t·añd·ūuj·ac	ama	tik	yo tan·ji
Then	again	she-brushed-herself.	Then	(they two) again	went.
ama	yet	nòno	dañ·añ·t·a·ji	eòopin	nunei xāy·ac
Then	one	man	heard (-what)	three	men (had) said.
ama	tanit	tanji	pitanica	xi·tau	tud·ot·ac altinin
Then	thence	went	a-Pitanisha	hereto-where	were-burning the-people-of-Altan.
anik	tanñite	an	taedi	wat	ükāac ama tin
Their (A)	going	not	those (A)	anyone (B)	had-seen, then they (A)
	ōkaj	pitanica			
	saw	Pitanisha (B).			
ama	xwiu·ji	hidee·nit	taxn·ac		
Then	he-returned	where-from	he-had-come.		
ama	tañ	tcèet·ac	am	tañ	hèta mük·āc yo tap
Then	it	clover-she-ate;	not	it	yet she-had-swallowed and
	ti·ji	ñohoo			
	emerged	grizzly-bear.			
ama	ta·nit	tañ	t'ui·ju	t·ipnin	ükāac ñohoo
Then	there-from	him	he-shot	up	looking grizzly-bear.

There is no present tense-suffix in the language, this tense being expressed variously by the future, the continuative, and the *-ji*-past suffixes.

*Passive.*

The passive in -it is in every sense a true passive, and not very uncommon. It is past in meaning, or present when the present passive state implies a past action.

buk-it na	I was found
dukd-ut na	I am buried or I was buried
na hupe-ut	I was selected
na had-ad-it	I was raised (na hadinji, I rose)
pite'-it mak	we were counted
bi-it ma	you are eaten ("you were finished")

*Participles and Verbal Nouns.*

The -ite suffix forms a noun agent: tcow, work, tcuwèite, worker, üdük, sing, üdöküte, singer, yiwin, marry, yuwènite, husband, ka'm, dance, ka'māate, dancer. The same form is also used as a purposive: tan-ji t-okt-ik-itc, he went to hunt. Of course there is no wide difference between "he went hunting," "he went as hunter," and "the hunter went."

taxn-a'd na amād-i'tc mam	come I to-help you
xe' nim amā'd-itc	he (is) my helper

The phonetic formation of this verbal is not clear, as it appears to be usually derived from the a-suffix stem of the verb but sometimes from the i-suffix stem, and as often -ite becomes -èite, -āite, or -āte, or is accompanied by lengthening of the last stem vowel.

yuwènite	yiwin	marry
dòowite	doo	play
üdöküte	üdük	sing
ipyite	ipi	get water
hawadite	hawid	do
hiutite	hiwet	go, walk
dixedite	dixid	make basket
amādite	amid	help
goyuwinite		gamble
tcit'èite	tcit'a	eat clover

dapyite	dapi	pick, gather
pite'èite	pite'	count
pudāite	pod	cross stream
teuwèite	teow	work
ka'maate	ka'm	dance
ahanate	ah-in	cry
ükāate	ōka	see
wòdudute	wo-wud	stand
tièdite	teid	guard

Like *-in* and *-ite*, the suffix *-ñite* has two functions. It forms a future-present or continuative passive; and it forms an active verbal used as the object of an indicative verb, the subject of the verbal being rendered possessive by the substantivification. The passive form on some stems is *-añite* instead of *-ñite*, in which cases the stems undergo the *a*-suffix mutation.

dai-ñite na	I shall be kicked
bok-ñite na	I shall be found
day-a-dy-a-ñite na	I am being kicked
watak ta patd-añite	someone was being cut open
tcān mai cox-ñite	now we shall all be killed
hā-ñi mi hi hoyo-ñite	what-with you will named-be?

*hiam na teuñ-ju nim teowo-ñite*, now I have-completed my working.

*haujad ta ma hoitcad nim tañ tamna-ñite*, how-many-times that you wish my that trying (me to try it) ?

*ükāc na min tañ dui-da-ñite*, I saw you making him eat (saw I your him eat-making).

Much like the *-ñite* forms in function and use are the object-verbals formed directly from the simple verb stem with case suffixes.

*ükāc na min üdk-a*, saw I you (your) singing.

*ōkaj na min yiun-in ipe-i*, saw I your wife's water-getting.

*am-na hootcad minik ük-n-a*, not-I want ye to-look.

*maiāju tööj-ad an t'uñ-na*, himself made his drown.

*dañā'c na min xay-a*, heard I you what-said (your speech).

*na hutop min xay-a*, I shall-learn your language.

As previously stated, other case-formations of the verb stem are similarly used as nouns: *ukn-au*, at drinking, on account of drinking; *duy-añi*, in order to eat, for food.

The suffix *-ana* forms nouns and participles. Sometimes it has the appearance of an *-in* participle modified by the added *-a* of the objective; but this explanation does not cover many cases and is problematical. Generally *-ana* seems to have the force of a — one.

<i>teapana</i>	half	<i>teop</i>	divide
<i>yuwana</i>	married one	<i>yiwin</i>	marry, wife
<i>hupana</i>	widow, widower		
<i>baxana</i>	coward	<i>bax</i>	fear
<i>hixana</i>	fat one	<i>hèxa</i>	fat
<i>ciñana</i>	thin one		
<i>hayana</i>	duck	<i>hayin</i>	fly

*xi kateau map-ana*, this basket is-full (a-full-one).

*bok-ji na main t-e-i at-ad-ana*, found I our house open.

*bok-ji na patad-ana*, found I a-disemboweled-one.

*haaktei na tau bok-ji nukam-ana*, something I there found bent.

*hanak tau ka dadak-ana*, something there that is-hanging.

A characteristic construction of the language is a temporal clause formed by the *-ji* past tense to which the locative *-u* is added, the subject becoming possessive.

*ükā namamhi tuyuji-u min*, I shall see you when you return (see I-you-shall return-at your).

<i>ama</i>	<i>kaiu</i>	<i>eñt-im-ji</i>	<i>modot-sy-u</i>	<i>an</i>	
Then	Coyote	slept	seed-gathering-at	her.	
<i>tan-ji-u</i>	<i>an</i>	<i>limk-in</i>	<i>ta</i>	<i>moxodo</i>	<i>eñt-im-ji</i>
Going-away-at	his	Limik's	that	old-man	slept.
<i>xwiu-ji-u</i>	<i>nim</i>	<i>hiam</i>	<i>dowactaenac</i>		
Return-at	my	already	a-battle-was-fought.		
<i>yèt'in</i>	<i>p'aan-in</i>	<i>tan-ji-u</i>	<i>ama</i>	<i>widji</i>	
One	world's	gone-at,	then	said.	(After one year he said.)
<i>ükā</i>	<i>namam</i>	<i>hi</i>	<i>xwiu-ji-u</i>	<i>min</i>	
See	I you	shall	return-at	your.	
<i>t-ok-it</i>	<i>na</i>	<i>üdük-ji-u</i>	<i>nim</i>		
Hit-was	I	singing-for	my.		

*Interrogative and Negative.*

The interrogative and the negative are not expressed by alteration of the verb, but by independent particles, *hin* and *am*, usually placed at the head of the sentence. Sometimes *ti* is found instead of *hin*, usually proclitic to *ma*, you.

*Verb Substantive.*

There is no verb substantive. Two nouns or a pronoun and noun are simply put into juxtaposition. *Xi djeje*, this is a dog.

## THE PRONOUN.

## PERSONAL PRONOUNS.

The personal pronouns, which are never abbreviated,<sup>1</sup> much less incorporated, are differentiated for: the first and second persons and in part for the third, for singular, dual, and plural, for subjective, objective, possessive, and locative, and in the first person dual and plural for inclusion and exclusion of the second person.

		<i>Subjective</i>	<i>Objective</i>	<i>Possessive</i>
<i>Singular</i>	1	na	nan	nim
	2	ma	mam	min
	3	—	—	an
<i>Duai</i>	1 excl.	nak	nanak	nimgin
	1 incl.	mak	ʔ	magin
	2	mak	mamak	mingin
	3	—	—	angin
	1 excl.	nān	nanunwa	nimik
	1 incl.	mai	ʔ	main
<i>Plural</i>	2	mān	mamunwa	minik
	3	—	—	anik

There is no third person except in the possessive. When there is no noun-subject the third person of the verb is either unexpressed or is replaced by demonstratives or the particles *tik*, *tin*. The possessive of the third person may be altogether a formation by analogy. In other dialects, such as neighboring *Yauelmani*, "his" is *amin* instead of *an*, thus differing from

<sup>1</sup> And never modified except for the change of *na* and *ma* to *ni* and *mi* before the future enclitic particle *hi*: *nih* and *mihi*.

“your” only by the initial *a*.<sup>1</sup> Whatever the origin of all the pronominal forms, and this probably cannot be definitely determined, analogy has certainly been a powerful factor in shaping them. The regularity of the series is very unusual. The objectives *nan* and *mam*, *me* and *thee*, might be regarded as due to reduplication—an unheard of process to indicate case, and one that would be unparalleled in this language both in respect to occurring in the pronoun and in being so incomplete as to lack a second syllable—or as assimilation of a case-suffix, such as the *-ñ* forming the objective of demonstratives, to the initial consonants of the stems. But as the forms *nan* and *mam* are the bases for the respective locatives, as well as for the dual and plural objective pronouns of the first and second persons, these views seem problematical. *Ñ* does not enter into either the locative or plural of demonstratives; and above all the suffixion of a number-suffix to a case-suffix, as it might be alleged to occur in the dual *na-n-ak*, is the reverse of the process found without exception in nouns and demonstratives.<sup>2</sup> The forms *nan* and *mam* can accordingly not be wholly explained by any of the grammatical processes operative in the language,—suffixion, reduplication, and vocalic harmony. They may or may not have been stems originally diverse from the subjective stems; analogy however has certainly helped to shape them. This analogizing force becomes doubly striking when one compares the possessive forms *nim* and *min*. The absence of a third person has perhaps contributed to this parallelism by leaving room for the balancing of *n* and *m* to be fully carried out in the first two persons: *n* and *m*, *n-n* and *m-m*, *n-m* and *m-n*.

The dual and plural suffixes of pronouns are in element *-k* and *-n*, both occurring also in demonstratives. The full forms of these suffixes are, for the subjective *-k* and *-n*, for the objective *-ak* and *-un*, for the possessive *-g* and *-ik*, added to the case forms of the singular, which are thus treated as stems. In nouns and demonstratives number suffixes always precede case suffixes. In the

<sup>1</sup> See the discussion of the comparative forms of the personal pronouns of all the Yokuts dialects in Part III. Certain groups of dialects possess subjective and objective forms of the third person in the dual and plural; but none in the singular.

<sup>2</sup> And even elsewhere in the pronoun, as *nim-g-in*, *ma-i-n*, *nan-un-wa*.

possessive, the dual suffix seems to be used, strangely enough, for both dual and plural; the dual is differentiated from the plural by the further addition of *-in*, which is probably not the pronominal plural suffix here dealt with but the usual nominal and demonstrative possessive sign *-in*. In the objective plural there is a final suffix *-wa*, which may be related to the ordinary substantival objective singular case-suffix *-a*. The most regularly analogous forms of the first person in the dual and plural are the exclusive ones; the inclusive dual and plural are formed from the stem of the second person which they include. The inclusive dual *mak* is like the second person dual *mak*;<sup>1</sup> the inclusive plural is *mai*, possibly formed from the stem *ma* of the second person by the substantival plural suffix *-i* to indicate this first person, as opposed to the plural *maan* or *mān* of the second person itself. The objectives of the inclusives were not obtained; their possessives, diversely from all the other pronominal possessives, are formed by addition of the regular substantival possessive suffix *-in* directly to the subjective.

The locatives of the personal pronoun are formed, as in the noun, from the objective as a base, by suffixion of *-au*, *iu*, or *-u*. So far as obtained they are:

<i>nan-au</i>	for me, on account of me <sup>2</sup>
<i>mam-au</i>	for you
<i>nanak-iu</i>	for us (dual inclusive)
<i>mamak-iu</i>	for us (dual exclusive)
<i>nanunwa-u</i>	for us

No instrumentals of the personal pronouns have been found; the language appears to show some inclination to avoid them.

There is no distinction in the third person between pronouns referring respectively to the subject and to a person or thing distinct from the subject,—*se* and *eum*.

<i>maiāju an yiuna t-okji</i>	himself ( <i>ipse</i> ) his wife he-hit
<i>t-okji an yiuna tain</i>	he-hit his wife that-one's

Before the future participle *hi*, *na* and *ma* become *ni* and *mi*.

<sup>1</sup> Probably differing however in length of vowel.

<sup>2</sup> In other dialects these locative forms have been found with locative meaning: *nanau*, at me, here; *mamau*, at you, there.



The possessive pronoun of the third person may be introduced between two nouns one of which is in the possessive case, though this is not often done; but such a possessive pronoun never replaces the possessive case-suffix,—another instance of the completeness with which syntactical case construction dominates in the language over the necessarily largely pronominal “incorporating” type of construction.

yiwin an limk-in	the prairie-falcon's wife
yiwin limk-in	the prairie-falcon's wife

The possessive pronoun is also often tautologically repeated:

hatpau an ñauñiteau an, fourth-time his coming-at his.

cukidji an t-eu an muk'ac ta, pierced her house her woman  
the.

When both a subjective and an objective pronoun occur in a clause, they are closely coupled together. Except in cases of strong emphasis, the subjective precedes. The combination precedes or follows the verb. When it follows, it is usually enclitic to the verb; when it precedes, it is usually attached in similar manner to a particle at the head of the sentence, such as *tcān*, soon, at once (future), *hin*, the interrogative particle, or *am*, not. Other particles like *hi* in turn generally attach themselves to the end of the compound in the same manner; so that the word which they all follow may carry the accent for three or four syllables. The rule that the objective pronoun follows immediately upon the subjective is probably more regularly observed than any other governing the order of words in the language, and there is in it possibly a faint reminiscence of pronominal incorporation. That this customary coupling is however in no sense even partial incorporation is shown by the fact that the pronouns are not shortened or altered, that their position as regards the verb is not at all fixed, and that on occasion the compound can be broken up and disarranged. Both in the strictness of their order among themselves and in the fixedness of their position as regards the verb, the pronouns of French come much nearer to being incorporated than those of Yokuts.

kèmid namam,	I embrace you
ohò'n namamhi,	I will look for you
tcā'namam tanā'd,	I will take you with me
cu'inactid na'mamhi,	I will buy-it-for you
hin manan ðkac,	did you see me?
namamhi tån taudjad,	I will kill you too
ma'm na ohòod,	You are the one I want (when the right one appears after several undesirable ones have been rejected)

## DEMONSTRATIVES.

There are four demonstrative stems, falling into two groups; the radical consonant of one group is *k* or *x*, of the other *t*. *Xe*, *xi*, and *ka*, meaning *this*, *this*, and *that*, refer respectively to the first, the second, and the third person, or to distances conceived of as equivalent. When there are no persons involved, *xe* refers to close proximity, *xi* to a short distance, *ka* to a longer distance, but within sight. When an invisible object, or one merely referred to, is spoken of, the demonstrative constituting the second group, *ta*, must be used. *Ta*, however, does not primarily mean "that invisible." It is a general indefinite demonstrative, sometimes similar to our article *the*, and quite generally used, especially in the objective, for the pronoun of the third person. Its locative *tau*, there, is also liberally strewn about sentences without much specific reference. *Ta* is even used of present objects and of persons within range of speech and just referred to by *xi*:

widji	wite	am	mi	hi	xiñ	yiuna	nim	widen
Said	Condor:	"Not	you	will	this	wife	my	tell;
am	mi	hi	tañ	ipein	widen			
not	you	will	her:	'get-water'	tell."			

The difference between *xe*, *xi*, *ka*, on the one hand, and *ta* on the other, is therefore primarily between locally specific demonstratives and a locally indefinite one; secondarily, between proximity and visibility as opposed to distance and invisibility.

The four demonstrative stems form their cases and numbers as follows. The objective is *-ñ*. The possessive, instrumental, locative, and ablative are the noun case-suffixes *-in*, *-ñi*, *-u*, *-nit*. The dual and plural are formed with enlargement of the stem by *-c*, to which the number-suffixes: dual *-k* and plural *-n*, connected with the *-c* by a vowel contrasting with the stem vowel, are appended. This gives the subjective forms. The objective are formed by apparent metathesis of the last vowel, or more probably by suffixion of *-a* or *-i*, before which the last vowel is lost. In this process *-cn-* becomes *-cd-*. *Ta-nit* is often contracted to *tāt*.

*Xe* and *xi* differ only in the subjective singular; all their other forms are identical.

	<i>Subj.</i>	<i>Obj.</i>	<i>Poss.</i>	<i>Instr.</i>	<i>Loc.</i>	<i>Abl.</i>
<i>Singular</i>						
This (near 1. p.)	<i>xe</i>	}	<i>xi-ñ</i>	<i>xè-in</i>	<i>xè-ñi</i>	<i>xe-u</i>
This (near 2. p.)	<i>xi</i>					
That (visible)	<i>ka</i>		<i>ka-ñ</i>		<i>ka-ñi</i>	<i>ka-u</i>
That (general invisible)	}	<i>ta</i>	<i>ta-ñ</i>	<i>ta-in</i>	<i>ta-ñi</i>	<i>ta-u</i>
<i>Dual</i>						
This ( <i>xe</i> )	}	<i>xi-c-ak</i>	<i>xi-c-k-a</i>			
This ( <i>xi</i> )						
That ( <i>ka</i> )			<i>ka-c-k-i</i>			
That ( <i>ta</i> )		<i>ta-c-ik</i>	<i>ta-c-k-i</i>			
<i>Plural</i>						
This ( <i>xe</i> )	}	<i>xi-c-an</i>	<i>xi-c-d-a</i>			
This ( <i>xi</i> )						
That ( <i>ka</i> )						
That ( <i>ta</i> )		<i>ta-c-in</i>	<i>ta-c-d-i</i>			

These demonstratives are used indifferently as substantives or as adjectives, and for animate or inanimate objects.

In connected discourse *tañ*, that, him, it, like *tau*, there, is used so frequently, and with so little weight, that it occurs tautologically.

ama tañ natet an widji tañ wit'epa, then him father his told the boy.

widji tañ mikiti axda an, told her Mikiti daughter her.

If tañ were a true pronominal element, and actually incorporated in the verb by affixation, we should have here incorporation of the holophrastic type.

While true relative pronouns are lacking, the demonstratives in part fulfill their function.

ta injij mak daka, that good we spend-night (it is best that we spend the night).

ōkac na tañ nòno xi nan kow-o-kw-oc, I see the man who hit me (see I that man this me hit).

ama tañ taut-aj xi tañ taut-ataji an najojo, then him he-killed this her killed his mother (he killed him who had killed his mother).

ama tanit tanji xi tau tud-o-td-ac, then thence he-went this there they-were-burning-it (went where they burned).

Tik and tin, dual and plural, containing the dual and plural suffix-elements -k and -n, are used with verbs of the third person lacking a substantival or demonstrative subject. The number of the subject of the verb is thus given even if the subject is lacking, the singular of course being indicated by the absence of the particles. While the t- of these forms seems demonstrative, and their number-endings are undoubtedly pronominal-demonstrative, they seem to be merely particles indicative of the number of the understood subject and of the verb, and not to be felt as pronouns. Interpreters find difficulty in translating them and do not give the meaning "they."<sup>1</sup>

The imperative dual and plural particles ya-k and ya-n that have been described contain the same dual and plural suffixes and are somewhat of the same nature.

<sup>1</sup> Similar conditions obtain in other Yokuts dialects which lack tik and tin. These dialects possess subjective dual and plural forms of the pronoun of the third person which are used like tik and tin to indicate the duality or plurality of the preceding noun or verb: aman, they, resembling man, ye, as amin, his (Yaudanchi an), resembles min, thine. No objective or singular forms of these dual and plural words have been found, a fact which corroborates the conclusion, already evident from their usage, that they are functionally not so much the equivalents of for instance the English personal pronouns, as primarily indications of number.

## INTERROGATIVES.

The interrogatives and indefinite pronouns are:

wat, who?, someone; objective wat-i (?); possessive wat-in.  
 hed, hawed, which one?  
 han, what? something; objective hāa; instrumental hā-ñi.  
 hide-u, where? somewhere; a locative; ablative: hide-nit.

Two suffixes serve to render these stems more indefinite: -ak and -tci.

wat-ak, someone.

han-ak, hā-ak, something or other; hā-ak-tci, what, I wonder?  
 hede-ak-tci, which one, I wonder?

The verbal root haud, hawd, to do, to do something, to do what?, to do how?, which seems to be almost certainly related to the stem of hā, what, forms the following in common use:

hawidin, haudinin, how? what for? thus; literally, doing what? doing thus.

haud-au, ever, at any time, at what time? when?; with negative, never; hauj-ud is how many times?

It will be seen that the same stems are indeterminately interrogative or indefinite. When interrogative they do not require the presence of the interrogative particle hin; they are usually placed at the head of the sentence. It will also be seen that whereas the demonstrative does not differentiate for animateness and inanimateness, the interrogative-indefinites are divided between two groups of stems, wat- for the animate, h-, especially ha-, for the inanimate. Resembling the latter and probably related to it by analogy if not in origin is the interrogative particle hin.

## THE ADJECTIVE.

Adjectives are as infrequent and comparatively unimportant in Yokuts as in most American languages. It is difficult to determine whether they are at bottom more properly nouns or verbs. Their occasional use with case suffixes seems to designate them as nouns. A plural suffix *-hate* appears to belong primarily to adjectives used substantively.<sup>1</sup> A few adjectives show unexplained variations of form; *punun*, *puuteute*, small; *met*, large, *mit-amut*, large ones. A few adjectives of shape are reduplicated: *cot-ot*, circular, *up-up-uc*, *buk-buk-uc*, spherical, *taptap-ic*, flat (cf. *dapdap* leaves); also *pun-un*, *puute-ute*, small, *inj-ij* good. Attributive and predicate forms are alike.

<i>badjikin</i>	red
<i>butawaca badjikniñ</i>	painted with red
<i>punun an wutoñ</i>	small his foot
<i>punin-hete an wutoñ</i>	small (ones) his feet
<i>baha'dja</i>	adult
<i>bahadj-hate taxn-ad</i>	large-ones are-coming
<i>wit'ep</i>	a-child
<i>wit'ip-hate</i>	children
<i>na punun</i>	I am-little
<i>na puuteute</i>	I am-little, I am-a-baby
<i>puuteute na t-ok-ci</i>	when-I-was-little (as-a-little-one)
	I shot
<i>na met-</i>	I am-large
<i>nan met-</i>	we are-large
<i>t-e met-</i>	the-house is-large
<i>ñau-ji tik met- t-e-i</i>	reached (they) large house
<i>xunò tau met-</i>	farther-off there is-a-large-one
<i>xunò tau mit-a'mut</i>	farther-off there are-large-ones
<i>injij na wit'ep</i>	good I am-boy
<i>injij nim djejej</i>	good my dog-is
<i>inèjeji mak</i>	good-are we
<i>g'og'oc inèja,ji</i>	
<i>mononhoi</i>	there-were good things

<sup>1</sup> It seems, especially from the evidence of other dialects, that this suffix *hate* is really a diminutive.

## NUMERALS.

The numeral system is decimal. None of the numerals below ten are analyzable, except that *hat'pañi*, four, contains *poñoi*, two, and *yüt-ciñ-ut*, five, contains *yet*, one.<sup>1</sup> The numerals from eleven to nineteen are formed from those for one to nine by the suffixion of *-am*, or sometimes by addition of the words for "ten and." Thus, *yetc-am*, eleven, or *t-ieu yo yet*, ten and one. Twenty is two ten, and all the tens are formed thus. Twenty-one is two ten one. One hundred is *yet pite'*, one count. The hundreds are enumerated to *t-ieu pite'*, ten counts, one thousand.

According to their function the numerals assume several forms. In most of these forms certain final phonetic elements are lost in several of the stems. These unstable endings are:

2	-o- (usually)
3	-n
4	-ñi
5	-ñut
6	-i
7	-in

One suffers no loss, but is somewhat irregular. Eight, nine, and ten are also not shortened.

The modifications of form undergone by the numerals are the following.

1. When the numerals are adjectives attributive to nouns, or are inanimate nouns in the subjective case, the full forms used in counting are employed.

2. When the numerals are nouns in the objective case, or adjectives modifying such nouns, the same forms are used, plus the objective suffix *-a (-i)*.

3. When the numerals are animate nouns in the subjective case, such as "they three," "the four of them," with perhaps the idea of collectivity prevailing, the detachable endings are

<sup>1</sup> Even though the words for four and five so evidently contain the stems of two and one, their forms in twenty different Yokuts dialects vary only phonetically and give no light on their composition. This is in accord with statements made below as to the scarcity of Yokuts words whose derivation is explainable.

lost, the suffix *-in* is added to the abridged stem, and the stem-vowels, or more strictly most of them, undergo the change to the nearest contrasting vowel familiar from verb stems, *i* to *e*, *e* to *i*, *u* to *o*, *o* to *u*, *a* to *ö*. The word *hauj-un*, how many? may also contain this suffix *-in*.<sup>1</sup>

4. To indicate a distributive, as "three each," in the objective, the detachable endings are lost, and the first syllable of the stem is duplicated, the vowel in its second occurrence being weakened to *i*.

5. To indicate cardinal adverbs, such as "four times," the numerals undergo the same loss of their detachable endings, in addition drop the vowel that then remains in their second syllable, and add the suffix *-id*, which is on some of them assimilated to *-ad*, *-ud*. Compare *hauj-ud*, how many times?

6. The ordinal adverbs, such as "fourth time," are formed like the last class, except that in place of the suffix *-id* they add the locative ending *-u*.

So far as obtained, the numerals of these different classes are given in the following list.

	<i>Cardinal</i>	<i>Objective</i>	<i>Animate</i>	<i>Distributive</i>	<i>Adverbial</i>	<i>Ordinal Adverbial</i>
1	yet	yet	yit-ein	yit-yit-in	yit-atc	
2	poñoi	poñi-o	poño-iin	poñ-piñ-i	poñy-id	poñy-o
3	ödopin	ödopin-a	cupè-iin	cop-cip-i	copy-id	copy-o
4	hat'pañi	hat'pañy-i	hat'öp-iin	hat'-hüt'-w	hat'p-ud	hat'p-au
5	yüt-cifñut	yüt-cifñ-n-i	yüt-ec-iin	yüt-yüt-üc	yüt-c-ud	yüt-c-au
6	te'udipi		te'odèp-iin	te'o-to'id-ip	te'odp-id	te'odp-o
7	nomtein		numète-iin	nom-nim-ite	nomtc-id	
8	mu'noc		mu'nòc-iin	mu'n-mu'n-uc	mu'nc-ad	
9	nònip		nunèp-iin	non-nin-ip	nonp-id	
10	t-ieu		t-ieu-iin	t-i-t-i-w	t-i-ad, t-iewa	

The detachable endings that are lost in certain of these categories do not represent concrete suffixes or sense elements, but are determined apparently by phonetic usage. In *hat'pañi*, four, *-pañi* represents *poñoi*, two, but is cut in half when there is a loss of ending, *hat'pa* being retained and *-ñi* lost.

The numerals from eleven to nineteen are formed from those for one to nine by the suffix *-am*, with loss of the detachable end-

<sup>1</sup> This suffix *-in* may be identical with the *-in* indicating the plural of pronouns and demonstratives, and occurring also in the imperative and indicate particles *ya-n* and *t-in* expressing the plural.



ings. Stems whose first vowel is o change -am to -om. It will be seen that this derivative process is entirely similar to the grammatical ones above described.

- 11 yètc-am
- 12 cuyukai
- 13 copy-om
- 14 hatep-am
- 15 yüt-c-am
- 16 te'odp-om
- 17 nomtc-om
- 18 mu'nc-am
- 19 nonp-om

Cuyukai is said to be the proper Yaudanchi form for twelve. Most other dialects have poted-om, which is formed from potcot, given by the Yaudanchi as an alternative or more correct form for poñoi, two, but not yet found in the dialects that use poted-om. In Yaudanchi also potcot seems to be used only in counting; the suffixes are all added to the stem poñoi.

The stem yet, one, appears as yet- and yetc in certain Yokuts dialects, and some of its Yaudanchi derivatives show the form yetc: yetc-am, eleven, yite-a, alone. Yet-au, literally one-in, is together; òma is first.

#### ADVERBS AND UNSYNTACTICAL WORDS.

Other classes of words, which we call adverbs, conjunctions, prepositions, and interjections, are difficult to separate in Yokuts, and require little comment. A few words with the appearance of prepositions have been referred to in connection with the objective case. They are of several syllables and appear to have either a participial or a locative ending. The noun to which they refer is in the objective.

A number of adverbial words such as mun-au, outdoors, t'ic-au, in the open, bepat-iu, at the top, cik-au, in the side, hetc-au, close, are locatives.

Conjunctions, besides *yo*, and, again, also, are about lacking. Their place is taken by the subordinating constructions of the verb, the participles and the case-suffixed verbals. *Ama*, then, is a common introductory particle in narrative. *Ta*, that, is sometimes used in the sense of *if*.

*ta namam ūka, ama namam kuwu*, if I you see, then I you hit.

*ta ma tan hi ūka, wi padwan mam hi*, if you him will look-at, then he-enter-to you will.

### ORDER OF WORDS.

The order of words in the Yaudanchi sentence is rather shifting. A usual order is quite perceptible, but this is often departed from. As regards the three chief parts of the sentence, the verb most frequently comes first, the subject next, and the object last. Locative nouns, and similar modifiers, commonly stand at either of the ends of the sentence. The adjective, whether attributive or predicative, almost always precedes its noun. The personal pronouns usually precede the verb, especially if there are nouns in the sentence. The frequent *tañ*, him, her, it, and *tau*, there, usually also precede the verb; *tañ* especially when it represents a noun subsequently expressed in the sentence. The subject and object pronoun form a rather close complex between which other words do not enter, and in which the order subject-object is not departed from except for special emphasis. The particle *hi* follows the pronouns, usually immediately upon them. The negative *am*, the interrogative *hin*, and all interrogative pronouns usually open the sentences in which they occur. A rarer interrogative *ti* usually precedes the pronoun of the second person. The introductory *ama*, then, heads the sentence in narrative. The possessive pronoun is used either before or after its noun; sometimes both before and after. *Tik* and *tin* follow the verb immediately or precede it; the same is to be said of *yak* and *yan*.

## VOCABULARY.

## COMPOSITION.

No certain case of full binary composition, like sugar-loaf, man-killer, has appeared in the Yaudanchi dialect of Yokuts. There are a few doubtful cases. Nohoo ka'm, grizzly-bear dance, was heard as two words; so was k'amun hoyowoc, no name, the appellation by which a person whose names are tabu through death is addressed. Yitca-xooo virgin, bachelor, is "alone sitting," and may be two words or one, a description or a name. It is theoretically improbable that there is no binary composition whatever in the language; but the process is certainly not of much importance. The familiar class of words represented in so many American languages by mouth-stone and night-sun is lacking. In the place of such compounds Yokuts has for its nouns disyllabic and trisyllabic words a very few of which are derivable, more of which contain a familiar stem or suffix while the remainder of the word does not yield to analysis, and the great majority of which are even after some study as unassailable as monosyllables.<sup>1</sup>

A number of words, mainly names of birds, are formed of an onomatopoeic element, usually duplicated, followed by widète, udète, sayer:

huhū'-udète, hmhm-udète	bull roarer, huhū-sayer
o-udete	chicken
pòkòk-udète	ground owl
gòk-udète	raven
huc-udète	gopher-snake

and a number of others.

<sup>1</sup> It is worthy of note that an apparently composite word like hatpafi, four, certainly related to pofoi, two, appears in all the dialects known, of course with phonetic variations, but never any more structurally transparent; and that under the influence of suffixes its stem is unetymologically reduced to hatpa- not only in Yaudanchi but in the other dialects from which there is material.

## DERIVATION.

Half a dozen derivational suffixes, all forming nouns, can be determined, though their meaning is not always clear.

## -oc:

t'uy	shoot	t'uy-oc	a kind of arrow
t-ufi	shut	t-ufi-oc-ud	door, gate
mök	swallow	mük-üc	throat
ho'fi	egg, hoñ-hoñ heart	hoñ-oc	testicles

## -ud:

t-ufi-oc-ud	door, gate (t-un, shut)
kuy-oc-ud	knee (kuyo, ankle)

## -i, -ui, -oi:

padu	enter	padu-i	pestle
hiwet	go, walk	hiwit-i	tracks
teuduk	point, select	teuduk-ui	index finger
t'ofi	drown	t'uñ-oi	fish net

## -it, place of:

eñt-lim	sleep	ifet-m-it	sleeping place
t-it-wac	copulate (reflexive)	t-it-euc-it	house of prostitution

-i in terms of relationship, with vowel change, denotes that the person through whom the relationship existed is dead:

napatum	son-in-law	napitim-i	son-in-law after death of daughter etc.
nip'ei	wife's brother	nipiyi-t-i	
ontip	mother-in-law	onitip-i	
naxamic	father-in-law	naximic-i	
onmid	daughter-in-law	onimid-i	
onpoi	wife's sister, husband's brother	unipiy-i	

## -inin, people of:

xomot	south	xomt-inin	southerners
xucim	north	xocm-inin	xocom-o, xocima, northerners
not, not-u	east	nutn-unnn	nut'a, nutca-wayi, easterners
dat-u, dat-wun	west	dat-w-unun	westerners
pad-u	down-stream (=in?)	padu-unun	those below (=being inside?)
alit, Yandanchi adit	grass sp.	alt-inin	people of alt-au

The case suffixes, especially the locative, serve to derive words:

doo	battle	doo-c-id-au	where-always-fight (name of a place)
alit, adit	species of grass	alt-au	at-alit (name of a place)
t'ie	emerge	t'ie-au	in the open, up from a stream
g'o	sit	g'o-en-au	Sunday
wo-wud	stand	wud-au	Monday
pofoi	two	puŋey-afet-au	Tuesday
eðpin	three	cupey-afet-au	Wednesday
hat'pafi	four	hat'p-au	Thursday
yüt'cifiut	five	yit'c-au	Friday
sabado	(Spanish)	saualo	Saturday

The intransitive derivative -in makes verbs from nouns:

wutoŋ	foot	wutoŋ-n	to track
muk'ac	woman	mok'c-in	to lose in luck through a woman, to "be womaned."
yet, yet'an	one, together	yitw-in	to gather
injij	good (=inij-ij)	inej-n-ad	likes
opod-o	sun	opod-n-id	sun shines

There is some derivation by vowel change alone.

	<i>Verb</i>		<i>Noun</i>
cokud	perforate	cokod	hole
hoŋ-hoŋ	breathe	gikid	hunting arrow
höŋ	smell	hoŋ-hoŋ	heart
muyuk	whirl	moyak	whirlwind

There is considerable derivation between nouns and verbs, with and without vowel changes, that cannot be classified or explained.

xot	to rain	xotoo	rain
ciwex	to drizzle	ciwaxa	drizzle
winis	ready	winatum	servant, messenger
wicit	erectio penis	wicëta	elder-tree
t'oŋ	drown	t'üŋ-üŋ	thick
t'ie	emerge	t'ie-am-ya	in spring
copd	cover with blanket	copon	blanket
teutya	carrying net	teutui	put into carrying net
höpa	blood	höpud	menstruate
tipin	acorn-bread	tipin	to eat acorn-bread
dik	acorn-mush	dik	to eat acorn-mush
tafai	jimson-weed	tafy-	to drink jimson-weed
tcit'at	a species of clover	tcit'a	to gather or eat clover
axid	daughter, child	axad	to have a child
watcam	feather-ornament for hand	watcim	to hold a feather- ornament

A number of words show possible evidences of composition or derivation, though it is not possible to determine much about them.

teok, t-ok	hunt, hit	teok-oyija	wasp
pad	to cross a stream	pod-xoi	sucker
xoi	deer		
p'ān	world, land	p'ān-uckai	fly
k'on	fall, alight	k'on-djedja	a large species of lizard
pad-u	enter, in, down-stream <sup>1</sup>	pad-euyami	tribal name
xucim	north	bad-wija	tribal name
		xocomo, pl. xocima	tribal name
bok	find	bok-ninuwad	tribal name (so called "because they do not give up things that they find")
teoin-ok	tribal name	teoin-imni	tribal name
yawud	brush	yaud-imni	tribal name
		yaud-antci	tribal name
opdi	day	opodo	sun <sup>1</sup>
		upic	moon
t-ōōd	rattle-snake	t-ūūd-um	rattle-snake medicine-man
ho'fi	egg	hof-tod	fish roe
k'oco	thigh	k'oco-yi	elbow
doc	intestines		
teudui	skin	ten-doc-ui	navel
axid	daughter, child	axed-cat	husband
t-ipin	top, up, on, sky	t-ipni	magical, monster, supernatural
nôteo	young man	nôteci	friend
efit-im	sleep	añate-wat	dream
tuk	ear	tuk-uyun	jackrabbit
pofioi	two	poteot	two
		hat'pafii	four
yet	one	yüt'ciñut	five
fiaw	arrive	fiamux	bring
hiam	already	hiam-u	long ago
		hiam-xac	yesterday
yo	and, again, also	bate-yo	again
wa	far, wide, long	wa-wa-u	to-morrow
tean	now (future)	tean-um	at once
wūxe	much, many	wūx-nad	very
on-		on-tip	mother-in-law
		on-mid	daughter-in-law
		on-poi	wife's sister, husband's brother

<sup>1</sup> O'p is sun and moon in other dialects.

## REDUPLICATION.

Reduplication occurs to some extent in the formation of stems. The forms it takes and the classes of words it affects, have been discussed under the general subject of reduplication; the specific cases will be found in the vocabulary and in the comparative discussion of reduplication in the last part of the paper.

## GENERAL CHARACTER OF THE VOCABULARY.

With so little analysis of evidently and probably derived stems possible, with very few deriving suffixes determinable and almost no composition, the majority of Yokuts words, whatever their original nature, must at least be treated as stems.

Of the verb stems, the majority are monosyllabic. A third or more are irreducible disyllables. The typical verb stem is clearly a vowel between two consonants or two vowels alternating between three consonants.

Of the noun stems only a small proportion are monosyllabic. These are:

Parts of the body:	te'ī	bone
	ca-ca	eye
	tuk	ear
	gut	tail
	tot	head
	t-ot	belly
	dip	liver
	doc	guts
	hoñ-hoñ	heart
Terms of relationship:	nec <sup>1</sup>	younger brother
	noot <sup>1</sup>	younger sister
	naat <sup>1</sup>	older sister
	bap'	paternal grandmother
Persons:	mai	person

<sup>1</sup> The formation of the plural would indicate that these stems are disyllables.

Animals:	xoi	deer
	ti'w	rabbit
	teox	skunk
	wite	condor
	teak	blackbird
	t-ôd	rattle-snake
	yax	water-snake
	lau-lau	butterfly
Objects:	t-e	house
	moc	sweat-house
	ka'te	arrow point
	pon-pon	snow
	p'an	land
	dap-dap	leaf
	got-	tule sp.
	cax	milkweed, string-fibre
	hox	a shrub, string-fibre
	pi'd	road
	not	east
	so'm	wristlet
	teok	a measure of beads
	dik	acorn mush

## LIST OF PRINCIPAL WORDS.

The following vocabulary is incomplete, including less than two hundred verb radicals whereas the number in the language is presumably two or three times as great, and being deficient in the series of noun stems also. As the most common stems are included, some idea of the character of the words of the language is however given. The nouns are classified in the following groups: Words denoting persons, terms of relationship, names of parts of the body, of animals, of plants, and of inanimate objects, natural and artificial. The list of verbs is arranged alphabetically by stems. Following each stem and its significance, are given, in all cases where they have been actually found, the imperative, the future-participial form, the continuative, and the two past tenses, together with other less common forms.



*Persons:*

mai	person	te'atic	neighbor
t-aatei	people	t'ofòtchim	hermaphrodite
kou'teua	man	winātum	servant, messenger
muk'ae	woman	dīya'	chief
wit'ep	child	aft-u	doctor
nòteo	youth	t'ec	rain-maker
guyòdum	girl	t-umiun, hupana	widow, widower
moxodo	old person	wèet-it	bride
nòtei	friend		

*Nouns:**Terms of relationship:*

natet	father (address: opoyo)
najoj	mother (address: icaya)
buteofi	son, man's brother's son
axid	daughter, child
nibete	older brother, cousin
nèec	younger brother, cousin
naat	older sister, cousin
nòot	younger sister, cousin
hukòj	older or younger brother or sister, by speaker of opposite sex
komoyic	father's brother
gūiha	father's sister
agac	mother's brother
mokoi	mother's sister
napac	woman's brother's child
teayax	man's sister's child
axi	woman's sister's child, man's brother's daughter [cf. axid]
ènac	grandfather, man's grandchild
bap'	paternal grandmother, woman's son's child
t'ut'a	maternal grandmother, woman's daughter's child
hit-waiu	greatgrandfather, man's greatgrandchild (also ghost)
mokoiot	greatgrandmother, woman's greatgrandchild [cf. mokoi]
yuwènite	husband [=marrier]
yiwin	wife
naxamic	father-in-law
ontip	mother-in-law
napātum	son-in-law, sister's husband
onmid	daughter-in-law
makei	parent of child-in-law
nip'ei	man's wife's brother
onpoi	woman's husband's brother, man's wife's sister
itwap	man's brother's wife, woman's husband's sister and brother's wife

*Parts of the body:*

tòt.	head, hair, skull	t'ufi	anal hair
ot-o	hair	umut	vagina
t-üdu	forehead	teudocui	navel
tcimèjid	eyebrows and lashes	tcuyon	urine
caca	eye	bidik	faeces
t-üñük	nose	dumkun	sweat
t-äñfi	cheek	mafiad	tears
tuk	ear	höxute	saliva
cama	mouth	nitet	mucus
yipyeput.	lip	t-oka	brains
tadxat.	tongue	bac	marrow
tèdi	teeth	piked	sinew
awaci	chin	küñat	tendons
djamoc	beard	hofihofi	heart
hocod, müküc	throat	comot	lungs
ògun	neck	dip	liver
t-apid	shoulder	teinèkit	kidney
pööte	breast, sternum	cupix	} intestines, stomach, etc.
mènite	mamma, milk	potodo	
t-ot.	belly	doc	
k'ewèt	back	betninwac	
xamam	rib	höpa	blood
xoxoic	hip	te'ii	bone
k'ocò (yokute)	thigh	hèxa	fat
kadaca (poku)	lower leg	teudui	skin
kuyocud	knee	podut	body
kuyo	ankle	p'aada	fur, feathers
wutoñ	foot	teodöñic	feathers
put-öñ	hand, arm	teai	down
xapad	finger, toe	kabad	wings
kècik	nail	bumot.	beak
k'ocoyi	elbow	xicyad	scales
takâteci	palm	ho'fi	egg
teda	anus	ho'fitod	roe
poto	penis	gut	tail
hoñoc	testicles	ücad	horn
iket	glans penis	te'inawa	shadow
put.wid	semen	hüpad	menstruation
t.umot	pubic hair	hoyowac	name

*Animals:*

tcèjei	dog	bohad	ground-squirrel
duuxun	bear	yöñxo,	tree squirrel
ñiohoo	grizzly bear	dumòdumutc	wood-rat
iwèite	wolf	teviyi, [tevili]	chipmunk
kaiu	coyote	ategit	mole
au'tea	fox	hung'ut	gopher
huyaktitsi	badger	[p'icilu]	mouse

küt-u, t-it-ün	raccoon	pohdot	weasel
nahäat.	otter	wöhðeit	panther
töpük	beaver	t'uñod	wildcat
teox	skunk	divècip	mountain-sheep
teiteeu	polecat	coxgoi	elk
tukuyun, topod	jackrabbit	xoi	deer
ti 'w	cottontail rabbit	coyod	antelope
mätei	small black rabbit	te'imte'im	bat
dètcip, tènip	bird	gòkudète	raven
d-oxid	eagle	aduut.	crow
owik	bald eagle	otcote	maggie
wite	condor	oiui	road-runner
t-anka	buzzard	t-aicudète	jay
dimik	prairie-falcon	xaixai	crested jay
üdate	sparrow hawk	teak	blackbird
watewate	falco columbarius,	teakudu	meadowlark
te'iauna	circus hudsonicus	palädät	woodpecker
k'uxudète	accipiter velox	t.'iwica	yellow-hammer
po'yon	accipiter cooperi	upyayi	mourning dove
teümgutan	buteo swainsoni	teuiditna	himantapus mexicanus
teaktcak	buteo lineatus	waxit.	crane
cuxup	hawk sp.	hayana	duck generically
coxeux	fish-hawk	wat.wat.	mallard duck
còteudète	snowy owl	la'la'	goose
[hutulu]	horned owl	datcai	mudhen
duk'teatei	glauucidium gnoma	uyoiite	wood-duck
yo'mdjac	sarnia ulula	hoxodo	duck sp.
pokòkudète	ground owl	hummud	quail
gugòteup	a small owl	t-ipdi	mountain quail
bèmamgute	hummingbird		
t.ðöd	rattle-snake	koyoyite	frog
yax	water-snake	djitcpaapu	horned toad
hueudète	gopher-snake	k'ondjèdja	lizard sp.
godoñkid	king-snake	kahut.wai	lizard sp.
xot.uñut	snake sp.	xolpòyi	lizard sp.
capacipite	snake sp.	wilèli	lizard sp.
teoto	turtle	k'atcānat	salamander
dopit.	fish	èpic	lake "trout"
dadim	trout	djakòmon	river "trout"
podxoi, ticaa	sucker	gòpa	perch
teokoyija	wasp	laulau	butterfly
baðnai	yellow-jacket	te'anèkac	grasshopper
p'anuckai	fly	b'akid	flea
mumai	blowfly	tehet.	head louse
k'acop	mosquito	badad.	body louse
t'anāwute	dragonfly	gat.uk	worm
kakau	red ant	tabak	deer-tick

*Plants:*

yapkin	tree	teoxote	soaproot
yawud	brush, grass	hox	shrub used for string
tc'axic	live oak	teitik	milkweed used for string
ðeün	black oak		
k'ömiyax	plains oak	cax	milkweed used for string
tcimat	oak sp.		
tòwixit	white oak	hðñatchuñate	milkweed used for gum
putuc	acorn		
kanad	conifer sp.	cuyo, got-	tule, two sp.
teuñoxic	sugar pine	kadkid	cane, reed
toñac	digger pine	tc'akac	wire-grass, basket material
idfiit	pine sp.		
watak	pine nut	adit	salt-grass
wicðeta	elder	teit'at	clover sp.
caxate	willow sp.	xodono	clover sp.
cadam	willow sp.	dapdap	leaf
apt-u	manzanita	èdam, èdau	flower
topoñ	buckeye	hòpud	root
we'tcip	a small tree	bunt-ana	stump

*Natural objects:*

t-ipin	sky, above, up	teodowin	plain
opodo	sun	wages	sand
upic	moon	kuyo	salt
opdi	day	yakau	rock
toyono	night	witeet	stick
te'oitoc	star	hütac	wood
k'üdai	cloud	woxono	log
teeheñ	fog	idik	water, stream
xotoo	rain	bokid	spring
ciwaxa	drizzle	påaji	lake
ponpon	snow	buyoñ	ice
xowot.o	hail	ucit	fire
dagòtak	rainbow	mod.ak	smoke
t-akaa	thunder	hapac	ashes
teidaca	wind	capan	coal
moyak	whirlwind	xucim	north
yèlyal	earthquake	not	east, up-stream
p'ään	land, world	xomot	south
düñüt	earth	dat-uu	west, down-stream
domit	mountain		

*Artificial objects:*

t-e	house	giteu	wooden hairpin
moc	sweat-house	wadak	head-net
padåwa	entrance, cave	watcam	feather ornament
t-uñðeud	gate, stopper		carried in hand

t'ipic	town, people	cèma	head-band of eagle
copon	blanket		down
dayap	bow	so'm	wristlet of eagle down
cikid	arrow	waiate	necklace, garland
t'uyoc	war-arrow	tc'omis	tule case
djibaku	a kind of arrow	teoxun	ceremonial skirt of eagle down
wuk'ud	a kind of arrow		
k'ate	arrow-point	pode, cuyut	beads
padui	pestle	xumana	long beads
padifi	bed-rock mortar	bopoite	needle for piercing ear
p'wac	portable mortar	cakai	asphalt
k'oiwoc	small mortar	xojojidj	white mineral paint
kateau	basket	kababafite	fathom
tc'aji	open-work seed-beater	histā	measure of shell-beads (on hand)
kaiadju	sifting basket		
t'aiwan	gambling tray of basketry	teok	half of histā
		k'onomo	half of teok
bawuk	bone basket-awl	mononhoi	property
dahitci	moccasin	baut	shelled acorns
tc'ufic	woman's dress	ip'in	ground acorns
badāwufut.	pipe	tipin	acorn bread made in flat basket
sōkon	tobacco		
citet	cane	kodwidin	acorn bread cooled in water
teapoi	digging stick		
tock [sic]	crook for gathering wood	caca-fiite	acorn bread cooked in a hole
teutia	carrying net	t'adie	soft acorn bread cooked in rocks
odix	pillow		
owon	tule boat	dik	acorn mush
huete	walnut dice	cècat	meat
odot	ball	ūdam	myth
katet	ball stick	tibiknite	world of the dead
teupaiwit	swing	teèdafidu	passage to tibiknite
pucate	whistle	cokod	hole
mauwuūi	musical bow	pi'd	road
wocok	belt		

*Adjectives.*

wūxe	many	up-up-uc	spherical
k'umui	all	buk-buk-uc	spherical
met.	large	wiic	bare, naked
pūnun, pūteute	small	padūx	smooth
inj-ij	good	nuite	crooked
dot-e	bad	badjikin	red
wā	long	tc'iimat	green
at'e	short	teodod	white
tap-tap-ic	flat	tcūmgutan	black
cot-ot	circular		

*Adverbs and Particles.*

hohu, houn	yes (o nasal)	hunai	for nothing, in vain
k'amu	no	hiam	already, now
am	not	hiamu	long ago
penau	near	hiamxac	to-morrow
atceu	near	wawau	yesterday
munau	outdoors	hêtcî	today, now
pidau	at the door	wûxnad	very (cf. wûxe)
k'acnu	at the rear of the house	akam	perhaps, it seems
		taan	too, also
t'ican	in the open, up from a stream	yo	and, also, again
		wica	after a time, after-ward
teinnaj	through		
powo	across a stream	ama	and then, then
xamfi	on this side of	hi	future particle
t'ipin	up, high, above, sky	hin	interrogative particle
adid	down, low, below	ti	interrogative particle
hitca	perhaps	dap	particle expressing the unexpected or a contrast; indeed
wit'i	a little		
widite	a little while		
maiäju	self, of himself, by itself (ipse)	we	particle expressing indefiniteness
hutfai	intentionally	wi	well!
niudi	another	hawe	well!
yitca	alone	ya	used with the optative
yet'au	together (=at one)	wôpatc	<i>utinam</i>
heta	yet	teuk'it	look out!
tean	future particle	hide	greeting
teanum	immediately		(cf. "where?")

Verbs.							
Stem	Meaning	Imperative	-in tense	Continuative	-ac past	-ji past	Other forms found
ah	cry				ah-an-ac	ah-in-ji	ah-an-atc
aj	bite		aj-in			aj-ji	aj-it; aj-a; aj-ij-ñite
akid	embrace (head)	aked	akd-in			akid-ji	
amid	help	amid	amd-in	amâd-ad	amâd-ac	amid-ji	amd-a; amâd-itc
ap	carry on back		ap-in		ap-ac		
at-id	open	at-id				at-id-ji	
awat	dislike		awat-in	aut-ud		awat-ji	
axid	have child		axâd-in				axid, daughter, child
bax	fear		[bax-an]	bar-an-ad		bar-in-ji	bar-n-a; bar-ana
bi	finish		bi-èn			bi-ji	bi-it; bi-ñite
biet	twist	biet	biet-in			bok-ji	buk-it; bok-ñite; bok-o-bik
bok	find		buk-èn				
cadik	wake				cadak-ac	cadik-ji	
cap	whip		cap-èn			cap-ji	cap-cap-it; ref. cap-âwic, cap-aujad, cap-wiju
ciwex	drizzle		ciwex-in	ceux-ad		ciwex-ji	ciwaxa, noun
cod	overeat		cod-in-in			cod-in-ji	
cokud (†)	pierce		cokud-in			cukid-ja (†)	cokud-wid-èn, cokud-wid-ji; cokod, hole; cikid, arrow
cox	exterminate		cox-èn			cox-ji	cox-ñite; cox-in-ji, died, pl.; cox-in, of the killed; cox-on-in of the dead
cutux	skin					cutux-ju	

Stem	Meaning	Imperative	-in tense	Continuative	-ac past	-ji past	Other forms found
cuy	buy				cui-n-ac		cuy-ut; cui-na-t
dadik	hang	dadik	dadk-in			dadik-ji	dadak-ana
daka	spend night		dakā-in			dakā-ji	daka
dam-na	try	dam-na			dam-an-d-ac		damna-nite
dañ	hear		dañ-in	dañ-ād	dañ-āc	dañ-ji	dañ-añ, listen; dañ-añ-ta-ji
dapi	pick, gather					dapai-ji	dapy-ite; dapi-it-au
dawit	run	dawit			daut-ac	dawit-ji	
day	step, kick	dai-dai	day-èn		day-a-dy-ac	dai-ji	dai-nite; day-a-dy-a-nite; dai-da-nite, a ceremony
dim	think	dem-dim		dim-e-dm-ad	dim-e-dm-ac	dem-dim-ji	dim-e-dim; dem-dam, thought (noun)
dixid	make basket	dixid					dixed-ite
do	battle						ref. doo-wic, doo-wac, do-wiji, doo-wac-iu
do	play	doo	do-on		do-od-ac	doo-ju	doow-ite
doc (†)	beat, overcome						dodoc; dodoc-it
dok	satisfy hunger			dok-on-od		dok-in-ji	dok-o-dok
dok-u	pregnant					dok-in-ji	dokow-on-o
dox	spill	dox	dax-èn			dox-ji	
dōtc	cold		dōtc-ūn-ūn	dōtc-ūn-ad		dōtc-ūn-ji	dōtc-a-in-ad
dukiu	pulverize	dukyu				dukyu-ji	
dukud	bury	dukud	dukud-un			dukud-ji	dukud-ut
dumuk	sweat			dumok-n-ad			dumk-un, perspiration
duy	eat	dni	duy-èn	doy-ad-i, doi-id-i	doy-a-dy-ac	dui-ju	duy-a, duy-añi
dwc	rub						ref. dwe-duc-we, duc. dwe-wid-ji



Stem	Meaning	Imperative	-in tense	Continuative	-ac past	-ji past	Other forms found
d-aj	tangle			d-otex-ad			d-aj-d-aj tangled
d-otex	fear			ip-äd	ip-äc	ep-ji	
ep	swim	ep	ep-in	inät-m-ad	inät-m-ac	enät-im-ji	inät-am-a; inät-im-ad; inät-m-it, sleeping place
enät-im	sleep	enät-im	inät-im-in				
<b>guyu (†)</b>	<b>gamble</b>	<b>guyu-na (†)</b>					<b>goyuw-in-itc; red.</b>
<b>g'o</b>	<b>be, sit, live</b>	<b>g'o</b>	<b>g'o-en</b>		<b>g'o-oc†</b>	<b>g'o-ji</b>	<b>gwiu-na-uj-id</b> <b>g'o-oo=†; g'o-g'i=†;</b> <b>g'o-g'o-j, lived;</b> <b>g'o-do, g'o-do-d,</b> <b>g'o-do-e, to seat</b>
<b>had</b>	<b>raise</b>	<b>had-ad</b>	<b>had-ad-in</b>			<b>had-ad-ji</b>	<b>had-ad-it; had-ad-n-</b> <b>ad, rises; had-in,</b> <b>rise; had-in-ji, rose</b>
<b>hawid</b>	<b>do thus, what</b>		<b>hawid-in</b>		<b>hawad-ac</b>	<b>hawid-ji</b>	<b>hawäd-itc; haid-i;</b> <b>haud-in-in</b>
<b>hay</b>	<b>jump, fly</b>		<b>[hay-in]</b>	<b>hay-in-ad</b>	<b>hay-in-ji</b>		<b>hay-ana, duck</b> <b>caus.† hai-da-e; refl.</b>
<b>hay</b>	<b>laugh</b>						<b>hai-u-wac, hai-ä-uj-</b> <b>ad, hai-ä-uj-aj, hai-</b> <b>wiju</b>
<b>hic</b>	<b>hide</b>	<b>hic-in</b>		<b>hic-n-ad</b>	<b>hent-ac</b>	<b>hic-in-ji</b>	<b>hiut-itc; hiwit'i,</b> <b>tracks</b>
<b>hiwet</b>	<b>walk, go, move</b>		<b>hiwet-in</b>	<b>hent-ad</b>			
<b>hodj</b>	<b>flow (†)</b>			<b>hodj-ad</b>			
<b>hok</b>	<b>go to meet</b>		<b>hok-un</b>			<b>hok-ju</b>	<b>hoñ-hoñ, heart</b>
<b>hoñ</b>	<b>breathe</b>						<b>hot'on-i; hot'on-ic</b>
<b>hot' (†)</b>	<b>kindle</b>						<b>hote-in-in</b>
<b>hote</b>	<b>wish, like</b>			<b>hote-ad</b>			

Stem	Meaning	Imperative	-in tense	Continuative	-ac past	-ji past	Other forms found
höñ	smell	höñ		höñ-ad	höñ-äc	höñ-ji	cf. breathe
höp-ad	menstruate		[höp-ad; höp-ad]	höp-ad		höp-ad-ji	höp-a, blood
hupuc	select	hupuc		hupuc-ad		hupuc-ju	hupuc-ut
hut	know			hot-id (†)		hot-ju	hut; hut-oo; hut-op, learn
hutok	pick, gather	hutok					hutk-ad-iu, hutk-ad-nit
ip'i	get water	ip'ey	ip'e-in	ep'y-ad	ep'y-ec	ip'è-ji	ip'ei, verb. obj.; ip'y-ite; ipi-au
kaj	whisper			kaj-a-kj-ad			kaj-i-kj-i-wic (refl.)
ka'm	dance		ka'm-èn			ka'm-ji	ka'm-aate
kem	embrace	body		kèm-id			kem-ic; kem-it-ac
ki	touch					ki-ji	ki-wic
ko	hit with hand	koo	ku-kuu-n			kui-ju	kuu-t
k'on	fall		[k'on]	k'un-e-ad		k'on-ji	
koy	butt					koi-ji	
kót	tear	kót				kót-ji	
k'uyuk	scratch	k'uyuk	k'uik-un	k'oik-ad			
k'ünw	lie	k'ünw	[k'ünw]	k'anuw-ad	k'anuw-ac	k'ünw-ji	k'ünw-ut; k'ünw-üj-ad
map	fill	map					map-ana
max	get	max	max-in			map-in-ji	max-max-ji; max-a-etc
me	gather acorns		me-en			me-ji	
med	cover				mid-äc	med-ji	
modote	gather k'isin		modote-in			modote-i	modots-yu=modote-ji-u
mök	swallow	mök	mök-an		mük-äc		mük-äc, throat
mud	cheat		mod-in				mud-it-ji; mod-od-ite
müñ	forget					müñ-üñ-ji	

<i>Stem</i>	<i>Meaning</i>	<i>Imperative</i>	<i>-in tense</i>	<i>Continuative</i>	<i>-ac past</i>	<i>-ji past</i>	<i>Other forms found</i>
nit.' nokum	squeeze with hand bend	nit.' nokum	nit.'-èn			nit.'-ji nokum-ju	nukom-un-ju; nukum- n-ad; nukam-ana
nuhuk fiannux	kneel bring	nuhuk	nuhuk-un				
fiaw	arrive	naw-in	naw-in		fiaw-ac	fiaw-ji	fiaw-fite-au; fiaw-fi
odoy	be on, put on	odoi	odoi-n			odoi-ji	odoi-t; udu-ta-ji
oho	wish	ohò	[ohò]	ohò-od		òho-j	oh-a-o
ot	fall	oot-in	oot-in			oot-in-in	oot-in-in
òka	see	òka	[ùka]	ùkà-d	ùkà-c	òka-j	òka-t; ùka-atc; ùk-n-a
òt	hungry	òt		ùt-àd-ad	ùt-àd-ac	òt-àd-ji	
padu	enter	padu-an	padu-an			padu-un-ju	
palat	project tongue						palat-we; palt-at-at- at-we
patid	disembowel		patd-in			patid-ji	patd-it; patd-a-fite; patad-ana
pat.	fight		paat-in	paat-ad			pat-uj-ac; pot-wi-ji part-ù-fut
parat	mourn for					parat-ji	
pinit.	ask					pinèt-ji	
pitid	tell, answer	pitid	pitd-in	pitd-ad	pitd-ac	pitid-ji	
pite'	count	pite'	pite'-èn		pete'-a-pte'-ac	pite'-ji	pite'-it; pite'-ète; pite'-a
pitciw	catch, stop	pitciw	pitciw-in			pitciw-ji	pitciw-it
pod	cross stream		pod-in	püd-àd		pod-ji	ped-a-ite
püd	creep		[püd-ö-päd]	püd-ö-päd-ad			
tad	alive		[tad]	tad-ad			
tan	go	tan	[tan, taban]	tan-àd	tan-àc	tan-ji	tan-fite; tan-ji-u

Stem	Meaning	Imperative	-in tense	Continuative	-ac past	-ji past	Other forms found
tafi	drink jimson-weed					tafy-in-ji	tafy-uwic; tafai, jimsonweed taw-in-in
taw	day		taw-in	tauc-ad		taw-in-ji	
tawac	thirsty		tauc-in	taudj-ad	taudj-ac	tawac-i	
tawidj	die			tax-n-ad	tax-n-ac	tawid-ji	tandj-a-flite, tawatj-a
tax	come		tax-in	tied-ad		teid-ji	tied-a-flite; teid-ac
teid	watch	t'ic	teid-in			t'ic-i	t'ic-a; t'ic-an
t'ic	emerge		t'ic-ee			tid-in-ji	tid-en-it
tid	roll		tid-in	ted-n-ad			
tip	eat acorns	tip-in	tip-n-in				
toj	silent		toj-in			toj-i	
t'om	lie	t'om-om	[t'um-um]			t'om-om-jo	
t'of	drown	t'of-un	t'of-un	t'uñ-on-ad		t'of-un-ju	t'uñ-n-a
tud	burn		tud-on		tud-o-td-ac	tud-un-ju	tud-o-tud
tudo	unable					tudo-ju	[tudo-ju=reflexive f]
tumi	throw	tumi			tomi-oc	tumi-ji	tomoi-tein-ac; tomoito-flite
tux	pull	tux	tux-on			tux-ju	tuxut
tuy	night		[tuy-in]			tuy-in-ji	toi-n-it; toy-an; toy-ono
t'uy	shoot	t'ui-t'ui	t'uy-on	t'oy-ad		t'ui-ju	t'ui-t'uy-ut; t'uy-a; t'oy-a-t'y-a-flite; u-t'y-u-wuc
tüc	make	tüuc		töcc-ad	töcc-ac	tüuc-ju	töcc-n-ad; t'üuc-in-ju; t'üuc-wac; t'üuc-aj-ad; töcc-aj-ac; t'üuc-aj-wj
t-añit	shake	t-añit	t-añt-in			t-añit-ji	t-añit-uj-ac

Stem	Meaning	Imperative	-in tense	Continuative	-ac past	-ji past	Other forms found
t-at-i	break	t-at-i	t-at-y-in			t-at-i-ji	t-at-ai-t-ad
t-aw	overcome		t-aw-en	t-aw-ad-ad	t-aw-ad-ac	t-au-ji	t-aw-in-ji tau, payment
t-aw	pay [cf. last]	[t-aw-ad-a]					
t-'ik	tie	t-'ik	t-'ik-en			t-'ik-ji	t-it-wac; t-it-wac-in
t-it	copulate		t-it-en			t-it-ji	
t-o	possess person		t-o-in			t-o-o-ji	
t-o	throw at	t-o-t-o				t-o-t-o-ji	t-o-t-o-t-oe
t-ok	hit, hunt		t-ok-in			t-ok-ji	t-ok-it; tok-flite; tok- ot-od; tok-ok-o- flite; tok-t-ik-ji; tok-t-ik-ite; t-uk- t-ik-ite
t-om	cover	t-om				t-om-ji	t-om-wie
t-uf	shut	t-pfi	t-uf-on			t-uf-ju	t-uf-oe-ad, door; t'uf-uk, thick
teabop	lie on belly	teabop-we	teabop-wid-en				
teadax	turn	teadax		teadax-n-ad		teadx-in-ji	teadx-uj-ac; teadx- wuc; teadx-in
team	smash with hand	team-we					[team-woc, hand- guessing game]
teaw, teafi	shout	teaw	teaf-en	teaf-a-tefi-ad	teaf-a-tefi-ac	teaw-ji	teaw-a-tew-ac; teaf-a- tefi; teaw-a; teaw- a-te-in
teik	love			teik-en-ad			teik-en-ite
teit'a	pick, eat clover sp.	teit'a			teot'a-c		teit'a-ite; teit'at, the species of clover
teitcik	cold			teitcek-n-ad			
teitid	pull hair		teited-in				
te'itiu	pinch	te'itiu				te'itiu-ji	

Stem	Meaning	Imperative	-in tense	Continuative	-ac past	-ji past	Other forms found
te'o	carry	te'o	te'u-en				
took	extinguish	took	teok-un				teop-un; teop-un-ju
teop	agree		teup-an		teow-oc		teow-o-ŋite; teow-oj-in; teuw-ŋ-ite
teow	work	teow-o (†)		teow-ad			teanj-ŋj-ac
teōnie	comb	teōnie	teanj-in				teuŋ-ut
teuŋ	accomplish	teuŋ	teuŋ-on		teoop-ac	teuŋ-ju	teap-ana, half; teoop-au, in the middle
teup	halve	teup	teup-un			te'utui-ju	te'uty-a, carrying net
te'utuy	put in carrying net						
teuyo	urinate		teuyo-n			teuyo-ju	
teūxūte	hurt, sick					teūxite-in-ji	teūxite-ac; teūxūte-n-au
uk	drink		uk-un-un	ok-n-ad	ok-n-ac	uk-un-ji	uk-un; uk-n-a; uk-n-au
up	swim in water	up'e (†)					cf. ep.
utuy	push	utui	uty-un		utui-ju		cf. odooy
ūđək	sing	ūđək					ūđək-ŋite; ŋđk-a
ūñ	lean	ūñ-añ-a (†)					ūñ-añ-it, ŋñ-añ-ta
wadix (†)	pass by						wadix-uc
waid	breakfast	waid	waad-in	waad-ad		waid-ji	also waid-in
waki	give	waki	waki-in	waki-ed			waki-t
wej-iñ	not find						
wicit	erectio penis			wicet-n-ad		wèjñ-ji	
wid	say, tell		wid-èn			wicet-in-j.	
winis	ready		[winis]	wens-ad		wid-ji	ud-ète
wodo	dodge				wodo-ic		

Stem	Meaning	Imperative	-in tense	Continuative	-ac past	-ji past	Other forms found
wot'	project		[wot'.ot']		wot'.ot'.oc	wot'-ji	wot-o-t-o-fite
wot.	hit with a stick	wot-wot.	wut-en		wot-o-t-oc	wox-ji	wox-on-od; wox-in-ji
wox	fall over					woi-ji	
woy	be born					wowud-ju	wod-a (imper. f); woud-ute; woud-au, Monday, at the standing
wud	stand	wowud	[wūwud]	wuwōd-od	wuwōd-oc		wutoŋ, foot
wutoŋ	track					xapit-ji	
xapit	pull out	xapit					xate-a-tcin-ac, wished to stab
xate	stab	xate	xate-en	xate-a-xtc-ad			
xay	speak	xai				xai-ji	xay-a
xitiw	angry		[xit-iu]	xai-id, xay-ad	xay-ac		xiti-uj-ic
xot	rain		[xot]	xet-u-ad	xet-u-ac	xot-ji	xot-oo, rain
xuyu-	return	xwiu	[xwiu]	xot-e-ad	xot-e-ac	xwiu-ji	xwiu-ji-u
yam	gather seeds		yam-en			yam-ji	
yitw	gather		[yitw-in]			yitw-in-ji	yet, one; yet-au, to- gether
yiw	marry		yew-n-in			yew-in-ji	yiw-in, wife; yuw-en- ite, yuw-ana, hus- band
yom	cuckold	yom	yom-un	yum-aad	yum-aac	yom-jo	yum-ā-fite

## YAUDANCHI TEXTS.

The following Yaudanchi texts include all the myths and tales obtained and two incomplete texts based on myths of other Indian tribes. These two were obtained with the idea that a Yokuts text expressing the same ideas as texts extant in other languages might be convenient in comparisons aimed to bring out the essential qualities of different American languages. One of these two texts is a translation of part of an Arapaho story, the other of the beginning of a Chinuk myth. The former is the first text given, and illustrates the dependent constructions of Yokuts unusually well. It is followed by a full word by word analysis. The first lines of the second text, the story of which is purely Yokuts, have been analyzed in the same way. All the texts have been left exactly as recorded as regards the division of words. This was done because the question of the degree of union between the pronouns and the tense and mode particles is at once a delicate one to decide and perhaps an important one in Yokuts, since the grouping of these words is the nearest approximation in this language to the common American characteristic of incorporation. In actual discourse these pronouns and particles are probably run together somewhat more than shown in the texts, as the informant unquestionably sometimes spoke with unusual slowness and distinctness for dictation. On the whole, however, the condition of the texts in this respect will indicate fairly the character and extent of such enclitic word grouping. In all cases the several words heard pronounced as one have been separated in the Indian text by hyphens and their English equivalents have been given as entirely separate words. Wherever a single Indian word has had to be translated by two or more English words in order to make its meaning clear, these English words have been united by hyphens. In regard to accents, also, the texts have been left exactly as recorded in spite of some inconsistencies and incompleteness. The word accent in Yokuts is not so marked that it would be wise to indicate it unless special attention had been given to it, which was not the case; the sentence accent, however, on account of the grouping of enclitic words, bears on the same question, of the degree of union



between them, that has just been referred to; and for this reason the accents, in spite of the imperfection of the record, have been retained where written and not added where omitted.

TANGLED HAIR.<sup>1</sup>

ta	ma	tañ	hi	ũka-wi	paduan	mam-hi
"If	you	him	will	look-at,	will-enter-to	you will."
widj'-an	yiuna	tanateinin	ama	tanit	tanji	
told his	wife	go-wishing.	Then	that-from	went	
t-okt-ikite	ama	d-ajd-ajtintoote	ñauji	tañ		
to-hunt.	Then	D-ajd-ajtintoote <sup>2</sup>	reached	that		
yiuna-an	wa-am-tañ	õkaj	ama	d-ajd-ajtintoote		
wife his.	Long not him	looked-at.	Then	D-ajd-ajtintoote		
xwiuji	hideenit	taxnac	am	haa	tũũcju	
returned	where-from	came.	Not	anything	did	
t-ipni	tan	oma	ñauñi	tau	tean	xono
the-supernatural-one	(†)	first	arriving-by	there.	Soon	constantly
taxin	ama	ñauñitcau-an	am	tañ	ũkãad	
comes.	Then	arriving-at his	not	him	ever-looked-at.	
ama	hatpau-an	ñauñitcau-an	tau	cukidja-an		
Then	four-at his	arriving-at his	there	pierced her		
t-eu	an	mukac	ta	paukuñ-an	ũkateinin	
house-at	her	woman	that	awl-with her	see-wishing	
tañ	t-ipni	ama	widji	an	demdam	
that	supernatural-one.	Then	said	her	thought:	
ũkã-na-mam-hi	t-ipni	xuyiujiu	min	ama		
"See I you will	supernatural-one.	return-at	your."	Then		
cokdo	an	tau	õkac			
hole	her	there	looked.			

## ANALYSIS.

ta, if; indefinite demonstrative that, used sometimes as an equivalent of if.  
ma, you.

tañ, him; indefinite demonstrative that, ta; objective suffix of demonstratives, -ñi.

hi, future particle.

ũka, see, look. Unaffixed stem altered from õka.

wi, interjection.

paduan, will enter; -in or future tense of padu, to enter.

<sup>1</sup> Based on part of the text of an Arapaho myth.

<sup>2</sup> d-aj, tangle, tin, particle of plural, tõte or tõt-, head, hair.

- mam-hi, two words: mam, objective you, thee; hi, enclitic future particle. widj', for wid-ji, told; -ji past tense of stem wid, to tell.
- an, his; possessive of third person singular; here enclitic to widj'.
- yiuna, wife; objective case of yiwin, by suffix -a.
- tanatcinin, wishing to go; stem tan-, to go; a-tcin, desiderative suffix; -in, suffix of participial-future tense.
- ama, then; introductory connective.
- tanit, thence; indefinite demonstrative that, ta; -nit, ablative suffix.
- tanji, went; -ji past tense of stem tan, go.
- t-okt-ikite, to hunt; stem t-ok, reduplicated t-okt-ik; -ite, purposive and agent suffix of verbs.
- ama, then.
- d-ajd-ajtintoote, Tangled-hair, name; composed of stem d-aj, tangle, duplicated; tin, particle expressing the plurality of the subject of the verb; toote or tôt, hair.
- fiuji, reached, arrived; -ji past-tense of fiaw, to arrive.
- tañ, that; indefinite demonstrative, here adjective, ta; -ñ, objective suffix of demonstratives.
- yiuna-an, his wife. Two words: yiuna, objective of yiwin, wife; and an, his, possessive of the third person, here enclitic to yiuna.
- wa-am-tañ, long not him. Three words: wa, far, long; am, not; tañ, indefinite demonstrative that, he, ta, with objective suffix -ñ.
- ðkaj, looked at; -ji past tense of ðka, see, look.
- ama, then.
- d-ajd-ajtintoote, Tangled-hair.
- xwiuji, returned; -ji past tense of xwin, to return.
- hideenit, whence; interrogative-relative hide, hidee, where; -nit, ablative suffix.
- taxn-ac, came, had come; -ac past tense of stem taxn, come, probably related to tan, go.
- am, not.
- haa, anything; indefinite-relative something, anything.
- tüüçju, did; -ji past tense of stem tüüç, make, do form.
- t-ipni, supernatural being, act, or power. Evidently related to t-ipin, up, sky, high.
- tan, for tañ, her?
- oma, first, adverb.
- ñaufi, by his arrival; instrumental case, suffix -ñi as in nouns, of the stem fiaw, arrive, reach.
- tau, there; indefinite demonstrative ta, that; locative suffix -u. Tau is freely used without specific force.
- tcan, soon; adverbial particle, usually at the head of the sentence, implying urgency or immediateness, and generally futurity.
- xono, constantly.
- taxin, comes; -in participial-future tense of taxn, to come. The full form taxin-in is used only participially; the finite present-future form is taxin, according to rule for -in verbs.
- ama, then.

*ñaufitcau-an*, at his arrival; two words, *ñaufitcau* and the enclitic *an*, his; *ñaufitcau* is a locative participial form, composed of *ñau*, arrive; participle *-fitc*; locative *-u* or *-au*.

*am*, not.

*t-añ*, him; objective of demonstrative *ta*, by suffix *-ñ*.

*ükaad*, ever looked at; continuative *-ad* tense of *öka*, see, look.

*ama*, then.

*hatpauan*, at his fourth; two words, *hatpau*, at the fourth, and enclitic *an*, his; *hatpau* is formed by the regular locative suffix *-u* from the reduced stem of *hatpañi*, four, which is derived from *poñoi*, two. The locative forms of the numerals are adverbial ordinals, denoting the *n*th time.

*ñaufitcau-an*, at his arrival; two words, *ñaufitcau* and the enclitic *an*, his, tautologically repeated from *hatpau-an*; *ñaufitcau* is the stem *ñau*, arrive, with participial suffix *-fitc*, and the usual locative suffix *-u* or *-au*.

*tau*, there; locative of the demonstrative *ta*, that. Freely used without specific force in many cases.

*cukidja-an*, she pierced her; two words, *cukidja* and enclitic *an*, his, her. *Cukidja* is the *-ji* past tense form of stem *cokud*, to pierce, perforate, appearing also in *cikid*, arrow, and *cokod*, hole.

*t-eu*, house; locative, by means of the regular suffix *-u*, of *t-e*, house.

*an*, her; tautological to the enclitic *an* in preceding *cukidja-an*, both being attributive to *t-eu*, house.

*muk'ac*, woman.

*ta*, that; indefinite demonstrative, here attributive, implying previous mention rather than location.

*paukuñ-an*, with her awl; two words, *paukuñ*, with awl, from *bawuk*, awl, and the instrumental suffix *-uñ*, *-ifñ*, *-fiñ*; and *an*, her.

*ükatcinin*, wishing to see; participial-future in form of the stem *öka*, see, with the desiderative suffix *-tcin*.

*tañ*, that; demonstrative *ta*, demonstrative objective suffix *-ñ*; here attributive to *t-ipni*.

*t-ipni*, supernatural one; objective, identical with the subjective occurring previously.

*ama*, then.

*widji*, said; *-ji* past tense of stem *wid*, say, tell.

*an*, her.

*demdam*, thought; stem probably *dim*, used only in duplicated or reduplicated form. Verbal forms are *dim-e-dm-ad*, *dem-dim-ji*. *Demdam* here seems to be substantival, probably in unexpressed locative relation to *widji*: said in her thoughts. It seems less likely that it is the subject of *widji*. The omission of the sign of the locative is unusual and not explained.

*ükä-na-mam-hi*, I shall see you; four words, *üka*, see, and the three enclitics *na*, I, *mam*, objective you, thee, and *hi*, future particle; these three are in the usual order of pronominal subject, object, and future tense particle. *Üka* is the unaffixed but altered stem form *öka*.

t-ipni, supernatural one; objective case, identical with the subjective.  
 xuyiujiu, at the return, when you return; stem xwiu, return; past tense-suffix -ji; locative suffix -u. The ending -jiu renders the verb participial, its subject being in the possessive case, and gives the phrase the force of a temporal or causal clause.  
 min, your; possessive pronoun of the second person singular, subjective ma. Min is subject of the participle xuyiu-ji-u.  
 ama, then.  
 cokdo, hole; probably objective, possibly locative, of cokod, hole.  
 an, her.  
 tau, there; indefinite demonstrative ta, that; locative suffix -u.  
 ôkac, looked; -ji past tense of ôka, see, look.

## THE PRAIRIE-FALCON'S WIFE.

g'òg'oc Lived	tau there	li'mik prairie-falcon.	g'òg'oc Lived	an his	yiwin wife	
ha'ia'na duck.	g'òg'oc Lived	tau there	kai'iu coyote	yèt'au' with	tañ him.	g'òg'oc Lived
tin (they)	tau there	cupèiin three.	ama' Then	tanji went	limik prairie-falcon.	ama Then
widji (he-) told	kaiuwi coyote:	am-hi "Not will	eñt-im sleep!"	ama Then	tanit there-from	yiwin wife
an his	limkin prairie-falcon's	tanji went.	ama Then	modotei seed-gathered.	ama' Then	tīk (they-two)
ñauuji arrived.	yo Also	limik prairie-falcon	yo also	ñauuji arrived.	ama Then	ineci'in well
tīin (they)	ku'moi all	ñauuji arrived.	ama Then	t'awi'nin becoming-day	yo again	ta'nji went
limik prairie-falcon.	ama Then	widji told	kai'uwi coyote:	am-hi "Not will	e'ñt-im sleep!"	
ama Then	tanji went	yo again	yiwin wife	an his	li'mkin prairie-falcon's.	ama Then
kai'u coyote	eñt-imji slept	modoteyu seed-gathering-at	an her.	ama Then	ôkaj saw	tañ her
wite condor	t-ipinit above-from.	ama' Then	tanit there-from	tag'i'nji came.	ama' Then	
kwanji lit	tañ her	a'tc'eu near	yiuna wife	an his	limkin prairie-falcon's.	ama Then
ta'n her	wi'dji told:	t-ipin-mak "Above we-two	tā'n go-will."	ama Then	widji told	tañ him
muk'ac woman:	a'm-ni-hi "Not I will	tān go-will."	ama Then	tañ her	wi'dji told:	

taha'n-mak "Go-will we-two."	ama Then	tcoopunju consented.	ama Then	tañ him	widji told:	
hawidin "What-doing"	ni-hi I shall	tahan go-shall!"	ama Then	widji said:	xeu-nan "Here me	
tcabo'pwe prostrate-yourself	kiwètau-nim back-on my."	ama Then	tik (they-two)	ta'nji went.	tanji Went	
tik (they-two)	t-i'pin above.	ama Then	tik (they-two)	tau that-at	ñau'ji arrived	wa' far
cokòdiu hole-at	an its	main our	p'ānin world's.	ama Then	g'òg'oe was	tau there
moxodo old-man.	ama Then	tik (they-two)	tau there	g'òg'oe lived	t-òin-tañ possessing that	
mu'k'ci woman.	ama Then	tani-tañ there-from that	moxo'do old-man	tèidji guarded	tañ that	
mu'k'ci woman.	ama' Then	ñā'uuji arrived	li'mik prairie-falcon.	ama Then	widji said:	
hide'e-nim "Where my	yiwin wife!"	ama' Then	widji said:	am-na "Not I	hòotit know."	
ama Then	widji said:	hawid'ji-ma "Did-what you!"	eñt-imji Slept	ti'-ma you!"	ama Then	
widji said:	ho'oo "Yes,	eñt-imji-na slept I."	ama' Then	tik (they-two)	òhoe sought.	
ama Then	tik (they-two)	tañ that	wèjĩnji not-found.	ama' Then	tik (they-two)	hò'yic sent
upya'yi dove.	ama' Then	tañ her	upya'yi dove	am-bokji not found.	ama Then	
tik (they-two)	hò'yic-yo sent also	te'a'nkaa buzzard.	amaa-tañ Then her	kot-eya buzzard		
am-bokci not found.	a'ma Then	tik (they-two)	yò also	hò'yic sent	tañ that	met- large
p'ā'nuckai fly.	ama Then	tañ her	am-bokji not found.	ama Then	tik (they-two)	
hòyic sent	tañ that	met- large	k'o'ndjèdja lizard-species.	ama Then	k'o'ndjèdja lizard	
t'i'ci emerged	yakau'wanit rock-from.	ama' And	t-ipin above	ò'kaj looked.	ama' And	
ò'kaj saw	t-ipin above	co'kod hole	ma'in our	p'a'anin sky's.	ama Then	widji said
k'o'ndjè'dja lizard:	t-ipi'n "Above	wa far."	ama Then	tĩn (they)	tañ that	hòyic sent
yo again	met- large	p'ā'nuckai fly.	ama' Then	ta'nji went	t-ipin above.	ama' Then

tau that-at	ñauji arrived	t-ipin above	cokò'diu hole-at	p'a'anin world's	ma'in our.	
ama' Then	òkaj saw	tañ that	muk'ei woman	p'a'nuckai fly.	ama And	
tanit that-from	xu'yiuji returned.	ama' Then	ña'uji arrived	li'mkau prairie-falcon-at.	ama' Then	
widji told	li'mka prairie-falcon:	tau-min "There your	g'ò'og'i is	yiuwini wife	t-i'pin above."	
ama' Then	tanji went.	widji Said	wite condor	tañ that	moxo'do old-man:	
a'm-mi-i-xiñ "Not you will this		yi'una-nim wife my	wi'dèn say:	am-mi'-i-tañ not you will her:		
ip'ò'in 'get-water!'	wide'n say.	wi-tcā'-na Well, now I	tā'an go."	widji told	tañ that	
moxo'do old-man.	ama Then	tanji went	wi'tc condor.	ama Then	ñauji arrived	tau that-at
li'mik prairie-falcon	idkau water-at.	ama And	tau that-at	limik prairie-falcon	òkac saw	an his
yiuna wife.	ama Then	tañ her	widji told	yiuna wife	an his	limik prairie-falcon:
a'm-mi-hi "Not you will [sic]		tò'jin silent-be!"	ama' Then	limik prairie-falcon	tūjünju became-made	
moxo'do old-man.	ama' Then	tā'nit that-from	limik prairie-falcon	ta'nji went.	ama' And	tau that-at
ñauji arrived.	ama'a And	tañ that	widji said	moxodo old-man:	hide'e "Where	ma you
tanāat go!"	ama Then	widji said:	huna'i-na "Only	heutad am-travelling."	ama Then	
widji told:	tcā-na-tān "Now I go;"	widji told	an his	yi'una wife:	wi-ta'u-ma-nan "Well, there you me	
hi will	ñawin arrive	i'dkau water-at."	ama' Then	an-ta-yi'win his that wife	widji said:	
hò'we "Yes."	ama' Then	tanji'u-an going-at his	limkin prairie-falcon's	ta that	moxodo old-man	
eñt-imji slept.	ama Then	limkin prairie-falcon's	yi'win wife	tanji went.	ama Then	
ñauji arrived	tañ that	an his	yiuwini wife	limkin prairie-falcon's	tau that-at	i'dkau water-at.
ama Then	tik (they-two)	tanji went.	ama' And	tik (they-two)	ñauji arrived	a'n'gin their-two
t-e'u house-at.						

## PARTIAL ANALYSIS.

g'òg'oc, lived; radical g'o, sit, be; past g'o-ji, sat; g'og'oc, lived, is a reduplicated form with the same narrative past suffix, = g'o-g'o-ji.

tau, there, that-at, indefinite distant demonstrative ta, locative -u.

limik, prairie-falcon.

g'ògoc, lived.

an, his.

yiwin, wife; yiwin, marry.

haiana, mallard-duck. Hay- to jump, fly; -ana nominal participial suffix. (Derivation probable.)

g'òg'oc, lived.

tau, there, that-at.

kaiiu, kaiu, coyote.

yèt'au, together-with, one-at; yet, yit, one, -au locative.

tañ, him, that-one; ta, indefinite demonstrative frequently used as pronoun of third person; -fi, objective suffix for demonstratives.

g'òg'oc, lived.

tin, (they); particle indicating the plurality of the subject; -n is the plural suffix of pronouns and demonstratives.

tau, there, that-at.

cupèiin, three, three of them. Subjective animate form, possibly collective in meaning, derived from copin, three, by loss of final -n, regular before suffixes, by addition of the suffix -in, and by accompanying change of the stem-vowels to those of contrasting quality: o to u and i to e.

ama, then, and then, frequent introductory or connective particle in narrative.

tanji, went; stem tan, narrative past suffix -ji.

limik, prairie-falcon.

ama, then.

widji, told, said to; stem wid, narrative past suffix -ji.

kaiwi, coyote; from stem kaiu and objective suffix -i.

am-hi, not will; two words, the second accentless and enclitic. Am, not; hi, particle indicating the future.

eñt-im, sleep; the stem, used as imperative.

ama, then.

tanit, there-from, that-from; indefinite distant demonstrative ta, ablative suffix -nit.

yiwin, wife.

an, his.

limkin, prairie-falcon's, possessive case of limik, formed by regular suffix -in, with loss of unaccented second stem vowel.

tanji, went.

ama, then.

modotci, seed-gathered; stem modote, to gather k'isin seeds, narrative past suffix -ji.

ama, then.

tik, (they-two), particle expressing the duality of the subject, as tin does plurality; -k is the dual suffix of nouns and pronouns.

ñauuji, arrived, reached their house; from stem ñau, ñaw and narrative past suffix -ji.

yo, also, again, and.

limik, prairie-falcon.

yo, also.

ñauuji, arrived.

ama, then.

ineciin, well, probably being well, doing well, from stem inij, (from which inj-ij good, objective inij-ya, plural inej-aj-i), and active participial and future suffix -in; or possibly the subjective animate collective suffix -in of numerals as found in cupèiin.

tiin, they, = tin, particle of plurality.

kumoi, all, adjective used substantively.

ñauuji, arrived.

ama, then.

t'awinin, becoming-day; stem t'aw or taw, not found without intransitive suffix -in; finite future tawin, active participle tawin-in, formed by the future and participial suffix -in which appears after -in- only with participial meaning.

yo, again, also, and.

tanji, went.

limik, prairie-falcon.

#### THE PRAIRIE-FALCON FIGHTS.

	g'òg'oc Lived	ù'dam myth	li'mik prairie-falcon.	g'òg'oc Lived	ti'pic village.	li'mik prairie-falcon
g'òg'oc lived	y'itea alone.	amā'-tanji Then went.	ama' Then	ñau'uji arrived	ti'pea town.	
ama' And	tā'nit that-from	xwī'wiji returned.	ama' And	yo again	ta'nji went.	ama And
ñau'wiji arrived	ya'kau rock.	ama' Then	ñawiji arrived	t·ipi'n top	tañ that	
yakau rock	tañ that	u'dutāji sat-on.	ama' Then	o'doic laid-on	an his	da'ipa bow
tañ that	ya'kau rock	t·i'pin top.	ama' Then	ta'nit that-from	demdi'mji thought.	
ama And	widji said:	ta-i'njij-na "That good I	euxè'n kill-will	ti'pea village."	ama Then	
tā'nit that-from	ta'nji went.	ama And	pa't·ūjæc fought.	tea'num Immediately	t'u'iju shot.	
ama' Then	tea'num at-once	tipe village	xiti'ujie angry.	ama' And	teanum immediately	
dò'wiji battled.	a'ma Then	co'xji killed	tipea village.	ama' Then	coxin of-the-killed	
dadikji hung	anik their-two	o't·o hair	yapi'knau tree-on.			



## THE PRAIRIE-FALCON LOSES.

tea'watewac Shouted	limik prairie-falcon,	k'u'mui all	t-a'uei beat	t-ā'atei people.
ama' Then	g'ò'g'oc were	upya'yi dove	yo and	tea/k'udo meadow-lark.
ti'k (they two)	hòyie sent	k'a'iuwe coyote:	da'wit "Go!	yo'm cuckold
ama Then	widji said	k'a'iu coyote:	hòwe "Yes,	li'mka prairie-falcon!"
ama' Then	ta'nji went	do'mto mountain. <sup>1</sup>	ama And	tau that-at
domto mountain <sup>1</sup>	g'ò'g'oc was	bò'kit spring.	ama Then	tanji went
bè'pat'iu tip-at	do'mtin mountain's.	ama Then	tanit that-from	tidinji rolled.
limik-na prairie-falcon I,	limik-na prairie-falcon I	limik-na prairie-falcon I"	ama Then	tau that-at
ñau'uji arrived.	ama Then	ò'kaj looked	tañ that	idka water.
limik prairie-falcon.	ama Then	yoo again	tanji went	t-ipin up
domtin mountain's.	ama And	tāt that-from	tidinji rolled	bepatnit tip-from
li'mik-na "Prairie-falcon I,	limik-na prairie-falcon I,	limik-na prairie-falcon I,	limik-na prairie-falcon I."	ñauji-tau Arrived that-at
i'dkau water-at.	ama Then	ò'kaj looked	tañ that	idka water
xunò'nai further	tau that-at	mit'ate somewhat	limik prairie-falcon.	ama Then
yo'o-tanji again went	bè'patiu tip-at	tā'in that-of	do'mtin mountain's.	ama' Then
yo again	tidi'nji rolled.	li'mik-na "Prairie-falcon I,	li'mik-na prairie-falcon I,	li'mik prairie-falcon."
tau that-at	idkau water-at.	ama Then	tañ that	ò'kaj looked
				idka water.
				ama Then

<sup>1</sup> Probably locative, perhaps objective.

hi'am now	limik prairie-falcon;	wit'a said:	wó'ipát.-nim "Let-there-be my	tau that-at	k'a'tet ball-stick."
ama Then	tanit that-from	tanji went	kaiu coyote	limkin prairie-falcon's	t-eu house-to. Then
tau that-at	k'ate'ta ball-stick	űńűńt-a leaned	tau that-at	camau entrance-at	an its house's
li'mkin prairie-falcon's.	ama' Then	widji told	limkin prairie-falcon's	yí'una wife.	taxā'ni-nim "Bring my
o'dot ball."	ama Then	wi'dji said	yi'win wife	li'mkin prairie-falcon's:	hide'u "Where-at
g'òg'i is!"	tau "That-at	o'dxo pillow-at	makin of-us-two	g'òg'i is."	ama' Then sought
tañ that	odot ball.	ama Then	am-tañ not that	bokji found	odota ball. Then
widji said	li'mkin prairie-falcon's	yiwin wife:	taxi'nin "Come,	maia'ju self	max get!"
ama' Then	t-e house	paduunju entered	tanit that-from	ka'iu coyote.	ama Then
odxo-xiñ pillow this	atidji opened.	ama Then	tau that-at	g'òg'òc was	ta that o'dot ball.
ama Then	li'mkin prairie-falcon's	yi'uwin wife:	haudinín "Why	ma you	wí'ic left (t) <sup>1</sup>
tanā'at going!"	ama Then	tanit that-from	kai'iu coyote	kè'mic-tañ hugged that.	ama Then
tañ that	t.'i'tsyi <sup>2</sup> copulated	tañ that	kaiu coyote.	ti'ci Went-out	tanit that-from coyote
t-è'nit house-from	wot'ò'ot project	an his	gut tail.	ama' Then	kau that-at ñau'ji arrived
kata'd'wictu ball-stick-one-another-at.	hiam Now	t-a'uuji won	upya'yi dove,	hiem now	
t-a'uji won	tc'ak'u'du meadow-lark,	hiem now	t-awinji lost	li'mik prairie-falcon;	k'umui all
an his	k'ò'xa beads	t-awi'nji lost	limik prairie-falcon.		

<sup>1</sup> Wí'ic is also bare; naked.<sup>2</sup> For t-it-ji.

## MIKITI.

g'og'oc Lived	tau that-at	mi'kiti <sup>1</sup> mikiti	yo and	an her	ā'xid daughter
tcit'a'tiu <sup>2</sup> clover-at.	g'og'oc Lived	tik (they two)	tau there	yi'tca alone	axdu'mduwic she-and-her-daughter.
ama Then	t'i'camyu spring-in	boohu'tsyu grew	tcit't'at clover.	ama' Then	
ta-a'xid-an that daughter her	tanā'ad used-to-go	tcit'èite to-gather-clover.	ama Then	tañ that-one	mi'kiti mikiti
wi'ta told:	a'm-mi-hi "Not you will	wa-ta'han far go!"	ama Then	g'òg'oc was	wa longtime (!)
am not	wa far	tanji went.	ama Then	tā'nit that-from	hātcatāmi began (!)
wa far	mi't'ate somewhat.	ama' Then	tau that-at	ō'kaj saw	tcit't'at clover, dapai'ji gathered.
ama Then	tañ that	nā'muxju brought.	ama Then	tcèt'aj-tañ ate-the-clover that	mikiti mikiti.
hide' "Where	ma you	ma'xji got	i'nisya good	tcit't'at clover!"	wa'a-na "Far I
ta'nji went."	ama Then	tañ that	widji told	mikiti mikiti	axd-an daughter her:
am-mi'-hi "Not you will	ta'u-yo that-at again	ta'han go!"	ama Then	tawi'nin being-day	ta'nji went
da'pyite to-gather.	ama Then	tanji went	ta'u-wa that-at far	yaudau brush.	wi-a-mi-hi "Well, not you will
hutkadnit gather-whence	tcit't'a taste-clover!"	wi'dji told	tañ that	mi'kiti mikiti	axda'-an daughter her.
yaudau Brush	tau there	tanji went.	ama Then	ta that-one	bokci found
tcit't'at clover					
inisyā good.	ama Then	tau that-at	da'paiji gathered.	ama' Then	tānit that-from
wūxi much					
da'paiji gathered.	ama' Then	tañ that	te'utu'iju put-into-net.	ama Then	bi'in-an-tañ finish her that
tc'u'tia carrying-net.	ama Then	maxji seized	tcit't'at clover.	ama Then	tanit that-from
tañ that					
ō'kaj saw	tcitat-tañ clover that.	ama' Then	i'njij good	wū'xnad very	ō'kati'nan looked.
ama Then	tañ that	tcè'et'aj ate-clover.	am-tañ Not that	hèta yet	mūkā'ac swallowed

<sup>1</sup>A kind of supernatural being.<sup>2</sup>Name of a place; tcit't'at, a species of clover.

tei't'at clover	yo'-tap and indeed	t'i'ji emerged	ñohoo grizzly-bear.	ama And	tau that-at		
biit was finished, <sup>1</sup>	kaate kach, <sup>2</sup>	kaate kach,	kaate kach,	kaate kach,	kaate kach.		
dokò'wono Pregnant	ta that	muk'ac woman.	ama Then	miki'ti mikitti	wè'jiñji missed,		
am not	ña'uuji arrived	a'ngin their-two	t-e'u house-at.	ama Then	widji said	mikiti mikitti:	
hiām-na-mam "Now I you	hò'tatac knew,	wè somehow	biit-ma are-finished you."	ama Then	tawi'nin being-day		
tanji went	wutu'ñnac tracked.	ama Then	õ'kaj saw	an-tau her that-at	dap'i-tau gather that-at		
an her	a'xdin daughter's.	ama Then	ò'hoec sought	k'u'mui all	xeu this-at,	a'm not	
bokji found	hõ'pa blood.	ama' Then	tā'nit that-from: (whistling).	am Not	hide'u anywhere-at		
hā' anything	da'ñji heard.	ama' Then	yo again: (whistling).	am Not	hā' anything		
da'ñji heard	yo'o again.	ama' Then	yo again	tanji went.	ama Then	tānit that-from	yo again:
(whistling).	ama' Then	wānit far-from:	(a faint long whistle).	e <sup>n</sup> "Ah,	tau-ta'-nim that-at that my		
djudj'a <sup>3</sup> daughter's child	g'ò'og'i is."	ama' Then	tau that-to	ta'nji went	miki'ti mikitti.		
ama Then	tañ that	ò'hoec sought	k'umui all	teit'a'tiu clover-in,	teit'a'tiu clover-in,		
k'u'mui all	tañ that	ò'hoec sought,	am not	bo'kji found.	ama' Then	yo again: (whistling).	
ama' Then	he'tanit <sup>4</sup>	xenit this-from.	ama' Then	tañ that	õ'kaj saw		
hetau'-xeu <sup>4</sup> this-at	hõ'pa blood	teit'a'tiu clover-on	da'pda'piu leaf-on.	ama' Then			
tañ that	maxji took	hõ'pa blood	dapdap-tañ leaf that	tā'nae brought	t-e'u-an house-at her.		
ama' Then	tañ that	katca'uwu basket-in	otò'ji put.	ama Then	tañ that	ta'nae took	
idkau'-an water-at her	bokdo spring-at.	ama' Then	tañ that	tau that-at	dò'odoc left,	tomji covered	

<sup>1</sup> Devoured.<sup>2</sup> Indicating the sound of chewing.<sup>3</sup> Padeuyami dialect for t'ut'a.<sup>4</sup> Hèta, yet, cf. above, plus -nit, -u; or xe, this, plus ta-nit, ta-u, there(?)

tañ	katca'wuñ	ama	tanji	tāt	mikiti	t-e'u-an
that	basket-with.	Then	went	that-from	mikiti	house-to her.
ama	tawi'nin	ō'kaj-tañ	daña'nt-a	tañ	at-idin	
Then	dawning	looked that,	listened	that	opening.	
ama'	tānit	da'ñji	k'ō'xkō'wi'ta <sup>1</sup>	ò	djudj'a'ñkel'	
Then	that-from	heard	tapped.	"Oh,	daughter's-child!	
djudj'añkel	hiam	poohu'teu	nim	djudj'añkel		
daughter's-child!	Already	grew	my	daughter's-child!"		
ama'	tañ	at-i'dji	t-ipni'ni	ka'teau	ama'-tañ	
Then	that	opened	covering	basket.	Then that	
ta'nac	t-e'u-an	hiam	tau	mai	g'og'i	
took	house-to her.	Already	that-at	person	was	
teu-an-tañ	tanac	ta'nac	tañ	wit'è'pa	'ma'	
house-to her that	took	took	that	child.	Then	
g'ò'g'oc	ti'ik	tau	ama	tānit	wi't'ep	t'ici
lived	(they two)	that-at.	Then	that-from	boy	emerged
mu'nau	ama	wit'ep	xuy'ji	djudj'añkel		
outdoors.	Then	boy	returned:	"Maternal-grandmother!		
djudj'añkel	hā'aktei-na	ō'kaj	dètcip	a'ma		
maternal-grandmother!	Something-or-other I	saw	bird!	Then		
injij	naa-tañ	t-òkin	ama'-tañ	eika'dnactic		
good	I that	will hit!"	Then that-one	made-arrows-for		
djudj'a'ñkel-an	ama	tā'nit	biici't'in	ta'nji	ama	
daughter's-child her.	Then	that-from,	having-finished-for,	went.	Then	
tau	ō'kaj	dè'tepa <sup>3</sup>	ama	tañ	tū'iju	t-o'kji-tañ
that-at	saw	bird.	Then	that	shot	hit that.
ama'-tat	taxi'nji	ama	wakī'ji	tau	dè'tepañ	
Then that-from	came.	Then	presented	that-at	bird-with	
tā'ni	injij	wūxnad	djudj'a'ñkel	ama'	yo'o	
that-with.	"Good	very	my daughter's child!"	Then	again	
tanji	ama	taxi'nji	yo	djudj'a'ñkel		
went.	Then	came	again:	"Maternal-grandmother,		
hā'aa'ktei'-na	ō'kaj	g'ò'g'-'an-gi'teu	hu'mmut			
something-or-other I	saw	was its crest!"	"Quail."			
witā'-tañ	ama'	tāt	tanji	wit'ep	ama'	tañ
told that.	Then	that-from	went	boy.	Then	that
t'ui'ju	t-o'kji-tañ	ama'	ta't	taxinj'	ama'	
shot.	hit that.	Then	that-from	came.	Then	

<sup>1</sup>"Said k'ōxkō."<sup>2</sup>Said to be Padeuyami dialect for t'ut'a-nim. The form given for "my" by the Padeuyami is gen, not kel.<sup>3</sup>Objective; et. the objective dètcip above.

wakí'ji presented	tañ her	ta that	wit'ep boy	t-okin hitting;	t-o'kji hit	tañ that
humu'mda quail.	ama' Then:	hia'm "Already	totcè-nim bad my	xe this	daiap bow.	
injj good	ma-nan you me	tüücyat make	niudiñ another-with	daipañ bow-with!"	ama Then	
tüücyu <sup>1</sup> made	miki'ti mikiti,	tü'üsyu <sup>1</sup> made	daipa bow	ini'sya good.	ama' Then	
xā'pi'tsyi pulled-out	an her	t-u'mot pubic-hair	ta'-an that her	tug'o'edut bow-string.	ama' Then	
ta'nji went	yoo again.	ama' Then	yo again	taxinji came:	hā'aktei-na "Something-or-other I	ō'kaj saw
djudj'a'ñkel maternal-grandmother."	ha'n "What	ta'ham ?"	wā'a-an "Long its	xunò'nai-kau further that-at		
gí'teu crest!"	t-i'pdi-ta "Mountain-quail that;	t-audja kill	da'wit go!"	ama' Then	tat that-from	
ta'nji went	ta that	wit'ep boy.	ama Then	ta-ñau'ji <sup>2</sup> that-reached.	ama' Then	tañ that
tu'iju shot;	t-a'udjac-tañ killed that.	ama' Then	tāt that-from	taxi'nji came,	wakí'ji presented	
tañ that	tā'ñi that-with	t-i'pdiñ mountain-quail-with	djudj'a'ñkel maternal-grandmother	an his.	'ma' Then	
hiam now	po'huteyu <sup>3</sup> grew.	ama' Then	awa'tsyi <sup>4</sup> dialiked	a'n his	tañ that	
dai'ipa bow	yo' again.	ama' Then	widji said:	k'amu' "Not	tixè' remains	
ñu'nonhoi property	nim my	paha'dhain ancestors'!"	ama' Then	widji said	miki'ti mikiti:	
ñññ "Yes,	g'ò'g'i is."	ho'itead-na-nim "Wish I my	tañ that	ü'kna see."	ama Then	
at-i'dji opened	a'nkin their-two	t-ò'i house.	ama' Then	tau that-at	g'ò'g'oc were	
k'u'mui all	inè'sasi good	taiyup bows	t'ü'yoc war-arrows	cò'p'on blankets	k'umui all	
tau that-at	g'ò'g'oc was	inè'sasi good	mo'nonhoi property.	ama' Then	tau that-at	
paduu'nju entered	tau that-at	ta that	wi't'ep boy.	ama Then	ta that	widji said
djudj'a'ñkel maternal-grandmother:	hu'puc "Select	hā'a what	ma you	ohò'od wish.	ama' Then	

<sup>1</sup> For tññe-ji.<sup>2</sup> For pñhute-ji.<sup>3</sup> For tau-ñau'ji, there reached!<sup>4</sup> For awa't-ji.

ma-tań	mā'xin	ama'	widji	wi't'ep	hòo	
you that	take-will."	Then	said	boy:	"Yes.	
xiń-ni	maxin	dai'pa	yo	xiń	t'u'yoc	ama'
This I-will	take-will	bow	and	this	war-arrow."	Then
tā'nit	dama'ndac	a'n-tań	k'u'mui	t'u'yoc		
that-from	tried	his that	all	war-arrows.		
ama'-tań	djudj'ańkel	a'm-mi-hi	xe'u	not		
Then that	maternal-grandmother:	"Not you will	this-at	east		
ta'han	taudja'ńite	mi-hii	ama'	tā'nit	ta'nji	
go:	will-be-killed	you will."	Then	that-from	went.	
ama'	tau	ńa'uuji	wā'a	tau	g'ò'g'oc	ya'kau
Then	that-at	arrived	far	that-at	was	rock.
ama'	tau	hadxi'nji	ama'	tānit	xwiū'ji	
Then	that-at	ascended.	Then	that-from	returned	
t.e'u-an	ama'	tau	djudj'ańkel	wa'a-na-tanji		
house-to his.	Then	that-at:	"Maternal-grandmother,	far I went		
no't	am	hii	yoo	tau	tān	ta'udjad-mam-hi
east!"	"Not	will	again	that-at	go:	kill you will
t'è'n <sup>1</sup>	nn	tā-ti	hāa	t-a'udjad	moxodo	
grizzly-bear."	"Oh,	cannot (?)	anything	kill	old-one	
midja'md-un <sup>2</sup>	wu'toń	ama'	tā'nit	ta'nji	ama	
large (-having?)	feet."	Then	that-from	went.	Then	
ta'nit	tea'uuji	ama'	taxi'nji	tea'nuń <sup>1</sup>	ńo'hoo	
that-from	shouted.	Then	came	immediately	grizzly-bear.	
ama'	tau	ńa'uji	ta-ńohoo	tau	wit'ò'pa	
Then	that-at	arrived	that grizzly-bear	that-at	boy.	
ama'-tań	widji	wit'ep	xuiyi'u	dawe't		
Then that-one	told	boy:	"Return	run,		
a'm-na-mam	ohò'od	'ma'	yo'ò	tcā'aj	ama'	
not I you	wish!"	Then	again	shouted.	Then	
yo	teanu'ń <sup>3</sup>	taxi'nji	ni'udi	ńo'hoo	ama	
again	immediately	came	another	grizzly-bear.	Then	
tau	yo	ńau'ji	wit'ò'pau	ama	tań	widji
that-at	again	arrived	boy-at.	Then	that-one	told
ta	witep	ńohoo'	tań	xwiū'-dawit	am	
that	boy	grizzly-bear	that-one:	"Return run,	not	
na-mam	ohò'od	ama'	tat	tanji	xwiū'ji	ama'
I you	wish!"	Then	that-from	went	returned.	Then
yo	tea'num	tea'uji	ama'	teanu'm	ehè'	
again	immediately	shouted.	Then	immediately—	"Eh,	

<sup>1</sup> Said to be Padeuyami dialect for ńohoo, grizzly bear.<sup>2</sup> Said to be Padeuyami dialect; cf. met., large.<sup>3</sup> For teanum.

ma'm-na you I	ohò'od wish!"	ama' Then	ñò'hoo grizzly-bear	tea'num immediately:	i'njij "Good."
teanum Immediately	tañ that-one	hainietac leaped-at	ñò'hoo grizzly-bear.	ama' Then	wodò'ic dodged
wit'èp boy.	ama Then	yo'o again	tañ that-one	haini'etac leaped-at.	ama wa Then far
haini'nji jumped-up-to	t-ipin high	yakā'wau rock-on.	ama' Then	tā'nit that-from	tañ that-one
t'ū'iju shot	t-ipnin up	ūkā'ac looking	ñò'hoo grizzly-bear.	ama'a-tañ And that	
mūkca'u-an throat-in his	t'ū'iju shot.	ama-tañ Then that-one	taudjac killed	xi-tañ this that-one	
taudjatāji had-killed	an his	najò'jo mother.	ama' Then	tañ that	cutu'xju flayed
ñò'hoo grizzly-bear.	ama' Then	tat that-from	ta'nji went.	ama Then	tau ya'kau that-at rock
g'og'oc was	i'piiā'u-an water-get-at her	mikitiin mikitl'a.	ama' Then	copdo'c covered	tañ that
yakau rock	tendya'ñ-an skin-with his	tain-ñò'h'iin of-that grizzly-bear's.	ama'-tat Then that-from	t-e'u house-to	
tanji went.	djudj'añkel "Maternal-grandmother,	ip'è'i get-water,	da'wet run!"	i'njij "Good,	
djudj'añkel daughter's-child."	tanji Went	tat that-from	mikiti mikitl	ipyite to-get-water.	ama Then
tat that-from	ò'kaj saw	tañ that	ñoh'i'in grizzly-bear's	teu'dya skin.	ama' Then
tā'nit that-from					
miki'ti mikitl	xwiū'ji returned.	ama' Then	tanit that-from	ta'h'nin coming	teuyò'ju urinated:
do'jojojojojoj "Dozhohozhohozhosh."	katcā'wu basket (-in)	an her.	ama' Then	tat that-from	
wa'kyit (he-) was-presented.	ama' Then	tañ that	awat.ji disliked	ta-wi't'èp that boy.	am-xi "Not this
inijj good	idi'k water;	dot.e bad;	wa'yikhunu throw-away;	ini'cya good	i'p'ei water-get.
da'wit run!"	ama' Then	tāt that-from	yoo again	ta'nji went	ipyi'te to-get-water.
ama' Then					
tañ that	yo again	ò'kaj saw	idkau-a'n-tau water-at her that-at	teudya-an skin his	ñò'h'iin grizzly-bear's.
'ma' Then	tā'nit that-from	taxinji came	yo again	xuyu'ji returned	am ip'èyin <sup>1</sup> not bringing-water

<sup>1</sup> ip'èji, brought water, was also said.



i'nisya good.	ama' Then	tā'nin going	teuyò'ju urinated.	ama Then	tau that-at
ña'muxju brought	wit'è'pa <sup>1</sup> boy.	a'm <sup>2</sup> (Then?)	tañ that-one:	a-ma-xiñ "Not you this	i'nisya good
e'p'yad are-bringing-water "	wita'a-tañ told that-one.		ama'a-tañ Then that-one		piti'dsyi <sup>3</sup> related:
djudj'añkel " Maternal-grandmother,		hāa-ma-ta'u what you that-at		baxā'nad fear	i'dkau water-at
mā'gin of-us-two!	ta'-ta' That that	ñohoo grizzly-bear	taudjatāji killed	nim my	najò'jo mother."

## THE VISIT TO THE DEAD.

xi-tā'pa This- [?]	mè'tc "true" <sup>4</sup>	tawidji-nan die we.	ama' Now		yuwè'nite-an husband her		
ta'nji went.	ama And	tanji went	ta'u-xi-ta'u there this there	an his	yiwin wife		
dukdut was-buried.	ama Then	tau that-at	toyo'no night	eñt-imji slept	yuwè'nite-an husband her.		
ama Then	yo again	tanji went	to'yono night.	ama Then	tau that-at	yo again	tau that-at
ñauji arrived.	tau that-at	yo again	eñt-imji slept.	ama Then	yo again	tanji went.	
ama Then	tau-yo there again	eñt-imji slept.	ama Then	djò'opau middle-at	toyo'no night		
t'ici' emerged	an his	yi'win wife.	ama' And	wò'wudju stood	yiwin-an wife his.		
ama And	t.-añdū'ujac shook-herself.	ama And	widin [?]	tanji went	xw'eim north.		
ama Then	apui following	tanji went	k'ouhten'n-an man her.	ama And	tik (they-two)		
to'init spent-the-night (?)	ama Then	tau that-at	tüüjünju became-made	woxono log	tawatea dead-one.		
ama And	tanit that-from	mu'k'ac woman	g'o'oji sat-up	to'yono at-night.	ama And		
bats-yo' again	t.-añdū'ujac brushed-herself.	ama And	tik (they-two)	yo'o-tanji again went.	ama And		
bats-yo again	woxono log	tüüjünju became-made	ta'watea dead-one.	ama Then	yoo again		

<sup>1</sup> Or wit'èpan?<sup>3</sup> For piti'd-ji.<sup>2</sup> For ama, then!<sup>4</sup> Yaelmani dialect: mèts, "because."

g'òji arose.	ama Then	g'ò'in arising	bats-yo again	t-añdū'ujaj brushed-herself.	ama Then
tik (they-two)	yo-ta'nji again went.	ama' Then	tik (they two)	ñauuji arrived	te'edañdu bridge
wa far	tibikniteca world-of-dead.	ama Then	ta'nji went	mu'k'ac woman.	ama And
yuwènite-an husband her	tudò'ju was-unable.	ama And	tanji-an went his	yiwin wife	
teedañduu-tau bridge-at there,	yuwè'nite-an husband her	t'uddò'ju was-unable.	ama And	g'og'oc were	
pòwò'n across	t'èidatei watchers.	ama And	tí'in (they)	òkaj saw	tañ that
kouhteuna-an man her	pòowò'o across	i'dka water.	ama And	wi'dji said	taci'n those
t'èidatei watchers:	ama' "Now	tii'c-yaan make [ye]	te'edañdu bridge!"	ama And	
mò'kein-ta'in woman's that	k'ò'uhteun man	ta'nji went,	ñau'uci-tau arrived there.	ama Then	
t'èidatei watchers	hōñji smelled.	ama Then	t'èidatei watchers	wi'dji said:	tau-yan "There-[ye]
mā'mau you-at	g'ò'odo make-him-sit!"	ama And	tau there	g'ooji sat	ta that
yuwè'nite-an husband her.	ama' Then	hòtsyu knew	ta'cin those	t'èidatei watchers.	ama' Then
widji said	tīn (they):	ütā'dad "Hungry	akam perhaps;	wakī'-an present his	duyā'ñi food-with."
ama Then	wakit was-presented	yèt-añ one that	watā'kin pine-nut's	ama and	tañ that
yet one.	ama Then	piiiji finished	tañ that.	ama And	yo again
tañ that	pī'iji finished	yoo again.	ama And	yo again	xuno-tau beyond that-at
ama' Then	dò'k'inji was-satisfied.	ama And	toyo'no night	kamè'n dance	t-aate persons.
ama' And	yo again	ta'win'in being-day,	toyo'no night	k'a'm'en dance.	ama' Then
t'èidatei watchers	wi'dji said	tīn (they):	ti'cidai-yān "Emerge-make [ye]	xiñ this	mo'k'ei woman!"
ama Then	tin (they)	widji said	an-tañ his that	yi'una wife:	ta "That
tik (they-two)	xu'iyu return."	ama Then	tik (they-two)	xwī'yuji returned.	ama And
					tīn they

tañ him	widji told	t'è'idatei watchers:	a'm-mi-hi "Not you will	e'nt.imin sleep!"	ama' Then
tik (they-two)	xwi'yuji returned;	dakā'ji passed-night	tik (they-two).	ama Then	tik (they-two) again
ta'nji went.	ama' And	tik they	yo again	da/kāji camped.	ama And (they-two)
yo'o again	tanji went.	a'ma Then	e'nt.imji slept.	ama Then	k'anuwac lay
yè'etau one-at	wo'xono log.				

## FIGHT WITH THE PITANISHA

widji Said	pit'a'nica Pitanisha-Indians:	ō'kaj "I-saw	o'etin fire's	mò'djak smoke."	ama Then
widji said	pit'anica Pitanisha:	wè'u-ham-na "Would wish I	ma'x get	anik-tc'í'a their bones."	
ama Then	tanit that-from	yet one	nòno man	da'nañt-ā'ji heard	eòopin three
nu'nèi men	xā'yac had-said.	ama Then	tanit that-from	tanji went	pit'a'nica Pitanisha.
xi-tau This that-at	tudo't'ac burned-the-land	alti'nin Altau-people.	ama' Then	taedi those	widji told
yet one	pit'a'nica Pitanisha:	wèwu-ham-nan "Would wish we	max get	anik-tc'í'a their bones."	
widji told	ta'edi those.	ama Then	xiti'uji were-angry	t.'ie'u ten	nunè'i men. Then
tin (they)	widji told	tañ that	pit'a'nica Pitanisha:	tau "That-at	mā'n-hi ye will those
tanat go-cause	ū'nau playing-place."	ama Then	widji said	pit'a'nica Pitanisha:	hò'u "Yes.
tau-na'n there we	hi-tān will go.	nā'win arrive-will	nā'n-i-tau we will that-at	eòò'pinau three-in	
op'o'do days;	ca'lalwidau early-morning-in	waidin breakfasting	ta'han go-will	tāu that-at."	ama Then
tanji went	altinin Altau-people	puñyid twice	dakā'in passing-the-night	yet one	op'o'do day
a'nik their	ta'ngite <sup>1</sup> going	am not	taedi them	wat anyone	ūkāac saw. Then

<sup>1</sup> For tan-fite?

tin (they)	š'kaj saw	pit'a'nica Pitanisha.	ama Then	tin (they)	widji told	yet one
nò/no man:	xeu "This-at	taxin go	t'icau open-in.	xeu here	nā'n-hi we will	yaudau brush-in
taxin go."	ama' Then	ta that	nòno man	hupuc selected	a'nik their.	ama Then
pit'a'nica Pitanisha	š'kaj saw	tañ that	nòno man	taxnad coming.	ama Then	widji said
ta that	yet one	pit'a'nica Pitanisha:	cütawidin "Get-ready!	am Not	huna'i vainly	
taxnad is-coming!	teā'n-mai Now we (incl.)	co'xñite shall-be-killed."	ama Then	ta that	nòno man	
wodò'yita dodging	taxuin comes.	ama And	teanum immediately	pit'a'nica Pitanisha	tanji went	
hokeu'-tañ met him.	yò'o-xe Also this	tapa [t]	yaudau brush-in	taxnad were-going	t-aā'tei people.	
ama Then	teanum immediately	t'uiju shot	ta-nò/no that man	alti'nin Altau-person.	ama Then	
to'kji hit	yet one	teanum at-once	ye't one	t'ū'iju shot-at.	ama Then	xiti'uji were-angry
pit'a'nica Pitanisha.	ama Then	teanu'm immediately	t'uit'uiyut was-shot-at-repeatedly	ta-nò/no that man.		
ama' Then	am-tiin-tañ-to'kji not (they) him hit.	ama Then	xican these	t-aā'tei people		
t'iji emerged	xeu this-at	yau'dau brush-at.	ama Then	teanum immediately	do'owoc battled.	
ama And	teanum immediately	pit'a'nica Pitanisha	da'witji ran.	ama Then	ta that	ye't one
nòno man	t'uit'uyut was-shot-repeatedly.	ama And	wojojwidji pierced	pot'au body-in	an his	
t'ū'yoc arrows	hetat still	t'oyatyañite was-shot-repeatedly.	ama Then	hī'a at-last	tā'witsi. died.	
pit'anica Pitanisha	da'witji ran-off	kumoi all.				

IOI AND BLUEJAY.<sup>1</sup>

Yò'i Ioī	yò and	tc'ai'judète Jay	nès-an younger-brother her	wit'ep boy	g'ò'g'oc were
tik (they-two)	tau that-at.	yètan One-at	t'oyo'no night	taxi'nji came	hitewa'iu ghost,

<sup>1</sup> Cf. Boas, Chinook Texts, 161.

cū'inac bought	an-yī'una his wife.	Yð'i Iol	cuinat was-bought,	cutcahaña !		
kō'xa shell-beads	tañi that-with	cuinat was-bought.	tau That-at	yè'winji married	t'o'yono night.	
hia'mu Long-ago	ca'lalwidau early-in-morning	ta'nji went	Yði Iol.	te'aijudete Jay		
hiā'mu long	tau that-at	g'ð'g'oe lived,	yet'in of-one	pānin world's	tanji'u gone-at. <sup>1</sup>	
ama Then	wi'dji said:	ohò-na-nim "Seek-will I my	huk'ð'jo sister."	pinè'tsyi <sup>2</sup> Asked		
k'u'mui all	wi'tcet trees, <sup>3</sup>	bok and	hotei'nin wishing	tañ that.	ama/ Then	
pinè'tsyi <sup>2</sup> asked:	hide'u "Where-at	mai person	tanā'ad goes	tauidjin dying!"	kumui All	
t'e'npa birds	pi'nè'tsyi <sup>2</sup> asked.	am not	tīin (they)	tañ him	pitidji related.	ama Then
pi'nè'tsyi <sup>2</sup> asked	yakau stone.	wi'dji Said	tañ to-that-one:	t-awā'da "Pay	nan me.	
ama then	na-mam-hi I you will	tau that-to	tanad take."	ama/ Then	tañ that	
t-auwādae paid.	ama Then	tañ that-one	ta'nae took	hitcwa'iu ghosts-to.	yakau/ Stone	
yo and	te'ai'ewidète Jay	ñauji arrived	tīk (they-two)	tau that-at	t-ea'wayu houses-at.	
t-eawaihiu/ Houses-at	tau that-at	k'amu not	tau that-at	mò'djak smoke.	ama Then	
tīk (they-two)	tau that-at	ñauji reached	teumnau last-at	t-ea'waihin of houses,	ñauji reached	
tīk (they-two)	tau that-at	met. large	t-ði house.	ama/ Then	tau that-at	ō'kaj saw
mò'djak smoke.	ama Then	paduunju entered	te'aijudète Jay.	ama Then	tau that-at	
na'aata'-an elder-sister his	bokci found.	hide/ "Well,	nès-nim younger-brother my,	hidenit-ma where-from you		
taxnad come?"	pinetsyi asked	tañ that-one;	tawi'dji "died	ti-ma did you!"	ama Then	
widzyi <sup>4</sup> said:	am-na "Not I	tā'widji died;	yakau stone	nan me	xeu this-to	
āpī'in carrying-on-back	ñā'muxju brought."	ama Then	at-i'dji opened	k'umui all	t-è'wayi houses.	

<sup>1</sup> For one year.<sup>3</sup> Sticks.<sup>2</sup> For pinèt jī.<sup>4</sup> For widjī.

map'i'nxac full	t-eawaihin houses'	tc'i bones	ũ't'at only.	t'òt Head	tau that-at	
do'momto lay	atce'u near	an his	huko'iju sister	yoo and	tc'i'i-yo'o bones also. <sup>1</sup>	
ama Then	hukò'iju-an to-sister his	pinetsyi asked:	hāa "What	ma-xè'ni you this-with	haudi do-what	
tc'ia'ni bones-with!"	ama Then	tañ that	dai'iji kicked.	ama Then	tañ to-that-one	nā'at elder-sister
an his	widji told:	am "Not	da'idai kick	min your	napā'tma. sister's-husband!"	

## SUMMARY.

The chief characteristics of the Yaudanchi dialect,<sup>2</sup> which in the main apply also to all the other dialects of the Yokuts family, are a comparatively simple phonetic system, the presence of a series of impure vowels<sup>3</sup> more or less parallel to the usual series, the occurrence of two classes of t-sounds, the presence of hard sonants and of stressed surds in all series of consonants, the absence of spirants except in the k series and among the s-sounds, an extensive and varied development of vowel mutations, the presence of syntactic cases and of several locative and instrumental ones, a plural for words denoting persons, the absence of reduplication as a grammatical means in the noun but its presence in the verb and numeral, the complete lack of pronominal affixes in verbs, the vocalic differentiation of the verb stem into two principal forms determined probably by the suffixes, the indication of number in the verb by separate particles, a full and very schematic development of the personal pronouns in singular, dual, and plural, the absence of a personal pronoun in the third person except in the possessive, the occurrence of number and case suffixes in both personal pronouns and demonstratives different from those in nouns, the combination of personal pronouns and modal and temporal particles into clusters very nearly

<sup>1</sup> "Head and bones also" = skeleton.

<sup>2</sup> See also p. 183.

<sup>3</sup> Lacking in most Yokuts dialects.

equivalent to words but without abbreviation or phonetic modification of the particles composing these clusters, and a simple sentence structure marked by a lack of involved dependent constructions, the clauses occurring being either non-pronominal participial derivatives of verbs or non-pronominal verbal nouns with case suffixes. The number of grammatical categories in the language is not large and the means used to express them are still more restricted, consisting, besides a limited employment of reduplication, only of vocalic mutation and suffixion. The vocalic mutations are peculiar in being of a different character in the expression of different grammatical functions. The number of suffixes used for grammatical purposes is small, probably not exceeding thirty or forty. There are no affixes of the kind found in many American languages and denoting shape, spatial relation, or the instrument or object of action, all such ideas being expressed as in English only by words or circumlocutions. The use of suffixes for etymological derivation is restricted and composition of two independent stems is very unusual. Many verbs go back to monosyllabic stems, but on the whole the stems of the language are polysyllabic.

## II. THE YAUELMANI DIALECT.

The material on which the following comparative sketch of the Yauelmani dialect is based was collected in 1900. No texts were secured at that time and the work was not carried farther in subsequent years, except that a few songs and short formulas were recorded in this dialect in 1903. These are included with the texts from miscellaneous dialects in Part III. Except for these short texts all the material obtained is from a young middle-aged man named José Maria, at Tule river reservation.

The Yauelmani, or at least the people at present speaking this dialect, are more numerous on Tule river reservation than the Yaudanchi, although the reservation is situated near or in the original territory of the latter. The Yauelmani territory seems to have been on Kern river in the vicinity of Bakersfield and in the plains northward. Its exact limits have not been determined. On the east and south this territory was adjacent to Shoshonean areas, on the west and north to other tribes of Yokuts family.

In general structure the Yauelmani dialect is closely similar to the Yaudanchi. There are however a number of distinct differences that are structural and not merely phonetic. The relation of the vocabulary of the two dialects is discussed in Part III. In probably a majority of words the two dialects differ either by phonetic variations or radically.

### PHONETICS.

The phonetic constituents of Yauelmani are on the whole much the same as those of Yaudanchi. The most important difference is that Yauelmani lacks the impure vowels, especially *ö* and *ü*, of Yaudanchi. *i* takes the place of *ü*, and *e* of *ö*, as shown by the corresponding forms of certain words. It is possible that this *i* and *e* are not exactly the same as ordinary *i* and *e* of this dialect. *Ilik* means both water and sing in Yauelmani,



corresponding respectively to Yaudanchi idik and üdük. The Yauelmani informant asserted that there was a difference in the quality of the vowels of this word according as the meaning varied; but the difference heard was imperceptible, so that it could not be determined whether the distinction really exists in the language or was due in this case to an unconscious intention to discriminate between the homonyms. Yaudanchi pöötc is piis in Yauelmani. It is worthy of note that most Yaudanchi words containing an impure vowel have been found represented not by phonetic equivalents but by entirely different stems in Yauelmani.

sick, hurt	tcüxütc	tixt-in
cloud	k'üdai	k'ilei
beaver	t'öpük	t'èpik
panther	wöhöcit	wehèsit
make	tüüj, tööj	tic, tec

One of the chief other phonetic differentiations of the two dialects is the occurrence in Yauelmani of l. This is usually d in Yaudanchi. In some cases l is represented by Yaudanchi n. Sometimes y is the equivalent of d in Yaudanchi and l in other dialects. Ñ does not occur in Yauelmani, being replaced throughout by n. S and c are distinguished with difficulty in Yaudanchi. In Yauelmani the sound nearer to s was heard more frequently than that approaching c. The difference between the two dialects extends to tc, which is usually ts in Yauelmani. In some cases, including the suffixes -ñite, -atein, and -tci, Yaudanchi tc becomes t in Yauelmani.

#### MEANS OF GRAMMATICAL STRUCTURE.

The various forms of reduplication found in Yaudanchi, and represented respectively by the forms: t'uy-t'uy, t'uy-u-t'y, tud-o-tud, and cop-cip-i, occur in Yauelmani.

Many Yauelmani suffixes are identical with the Yaudanchi ones and some differ only phonetically. A few of the most important Yaudanchi suffixes are however lacking, and a number

that have not been found in Yaudanchi are important in Yauelmani. The following list gives the suffixes determined for the two dialects.

*Non-grammatical:*

<i>Yaudanchi</i>	<i>Yauelmani</i>	<i>Meaning</i>
-oc	-oc	noun formative
-ud		noun formative
-it	-itsʔ	place of
-i, -ui		noun formative
-i		death of a connecting relative
-in-in	-in-inʔ	people of
	-at.	desirer of
	-lis	habitual place ofʔ agentʔ
-am	-am	ten and, on numerals

*Number:*

-i (-a)	-i	plural, nouns
-n, -in	-n, -in, -an	plural, pronouns
-k, -ik	-k, -ik, -ak	dual, pronouns
-c	-s	connective, demonstratives
-hate	-hats	diminutive, plural of adjectives
-awayi		pluralʔ collectiveʔ
-hin	-hal	collective, inanimate nouns

*Case:*

-a (-i)	-a (-i)	objective, nouns
-ñ	-n, -in	objective, demonstratives (-in, nouns)
-wa	-wa	objective plural, pronouns
-in	-in	possessive
-ñi, -fi	-ni	instrumental
-u	-u	locative
-nit	-nit	ablative

*On Numerals and Interrogatives:*

-in		animateʔ collectiveʔ
-id	-il	adverbial
	-am	adverbial distributive
-ak	-uk	indefinite
-tci	-ti	indefinite

*Semi-derivative, verbal:*

<sup>1</sup>	-i, -u, -a	causative
-da	-la	causative
	-li	frequentative
-ta	-ta	frequentative
-a-tcin	-a-tin	desideration
-cit	-sit	benefactive
-in	-in	intransitive
-wic	-wis	reflexive
	-wid	
	-umdu-wic	

*Mode and Tense, Verb:*

-ji	*	preterite
-ac	*	preterite
-in	-in	future
-in	-hin	participle, present
-ad	*	continuative
*	-an	aorist
*	-ahin	preterite
*	-g' o	continuative
*	-g' ohin, g' on	preterite
-it	-it	passive
-fiitc	-nit	future passive
-itc	-its	agent
	-ini	agent
-ana		participle
	-al	apodosis of hypothetical condition
	-mi	from
	-i	from, off
	-a	habitual agent?
	-han	passive in dependent clause
	-wal	?
*	-ka	imperative

## THE NOUN.

Very little material was obtained as to the plural in Yauclmani. It is confined to names of persons, and is formed by the suffix *i* with more or less vocalic alteration of the stem as in Yaudanchi.

youth	nòto	nòtèi
man	nòno	nònèi
woman	kaiina	kaèni
child	witep	witip-hats

<sup>1</sup> Lengthening of final stem vowel.

\* Suffix known to be lacking.

A suffix *-hal*, apparently corresponding to Yaudanchi *-hin*, is used on inanimate nouns with a collective meaning.

silel-hal	pile of rocks
witcet-al	many sticks
lòmet-al-iu	mountainous, mountain-many-at
tun-ò-hal	many pines
salam-hal	willows

The case suffixes are the same as in Yaudanchi, with of course the regular change of the instrumental *-ñi* to *ni*, and plus an objective form not found in Yaudanchi. The Yaudanchi objective suffix *-a* or *-i* occurs on some words, but a number of others in Yauelmani show a suffix *-in*, the equal in form of the possessive suffix. The objective suffix for demonstratives in Yaudanchi is *-ñ*, which in this dialect becomes *-n*, and it is possible that the ending in question is to be explained as this suffix used on nouns. Certain words which take the *-in* suffix, such as *nòto*, young man, and *nòno*, man, are identical in form in the objective and possessive. Added to final *i*, the ending *-in* changes this to *è*. Occasionally the objective *-in* is modified to *-n*, *-en*, or *-on*. Whatever the suffix *-in* itself, it appears that its occurrence with objective meaning in Yauelmani must be connected with phonetic causes; since all words that take it end vocally, while those that end in a consonant take *-a* or *-i*.

#### Objective.

in :

t.è-in	house (t.i)	kawayò-n	horse (kawayu)
nòto-in	youth	taut-inè-in	murderer (taut.-ini)
nòno-in	man	tid.ik-l-inè-in	continued splitter
kodj-èn	small (kudji)	tid.ak-t-inè-in	continued splitter
totce-en	bad	hay-inè-in	laughter
nohoo-n	grizzly bear	hat-ya-in	glutton
hitwaia-n	ghost	insana-n	lover
pimtana-in	stump	manè-in	much (mani)

a :

witep-a	child	paln-a	flat (palin)
pus-a	dog	yapikn-a	tree
ilk-a	water, song	and most verb stems, such as xat-a, eat	

-i:

batcikn-i	red	kas-a-ts-i	puncher (kas-a-its)
yokots-i	person	oxoyo-ls-i	lover
lehàm-ts-i	runner	ax-ts-i	bed (axits)
xat-a-ts-i	eater (xat-a-its)		

Without objective suffix:

kaiina	woman	xoi	deer
silil	rock	talap	arrow

The forms taken by the other cases need no special comment. The locative appears as -u, -iu, -au, -ou, -o, as in Yaudanchi: t-è-u, xot-i-u (from xot-oi), ilk-au, oct-ou, lomt-o. Sili-u from silil is scarcely an irregularity. There is a break after the second vowel of this word, apparently due to its aspiration, so that more accurately it is sili'l. Powers wrote it silekhl. Moreover, silil may be a reduplication from sil, and this form the one used in the formation of the locative.<sup>1</sup>

The use of the cases is the same as in Yaudanchi, but one or two idioms have been noted. An animate agent with a passive verb is put in the possessive, not in the instrumental. This holds in Yaudanchi also, and of the pronoun as well as of the noun. The possessive is used as the subject of verbal object clauses, the idiom in such cases being really: "I saw your eating" where we say: "I saw you eat." The object of such a verbal clause, which is itself an object, is in the instrumental. To express the idea of "for," the possessive case is used, at least in demonstratives. Many constructions were obtained in which the case endings were added directly to verb stems. In such sentences as: "I see you eat," the objective -a is added to the naked stem meaning to eat. Only very few verbs, including hiwet, to walk, ep, to swim, and huloc, to sit, lack the objective -a in such constructions and are used without any suffix. The locative is used on verbs with the meaning of "for the purpose of"; the possessive with the meaning "on account of," or "from," as in tuit-un, from being struck. When a causative suffix is added to a verb, the person that is caused to perform the action is expressed in the objective, the person or object affected by the action, in the instrumental.

<sup>1</sup> Like dulul, mountain, dul-au; injij, good, injj-ya; natet, father, nat-umduwic, in other dialects.

## THE VERB.

Number and person are not expressed in the Yauelmani verb and the scope and methods of the expression of mode and tense agree quite closely with those in Yaudanchi, though some of the suffixes used differ entirely.

## SEMI-DERIVATIVES.

The causative is in some verbs expressed by *-la*, corresponding to Yaudanchi *-da*, and in others by *-i*, *-a*, or *-u*. This latter suffix replaces the lengthening of the last stem vowel in some Yaudanchi verbs. Yaudanchi forms *üdük* from *üdük*, to sing; Yauelmani, *ilik-i* from *ilik*. Other occurrences are *kosow-e*, *lihim-e*, *hatam-i*, *ukon-o*, *tan-a*, *cilit-i*.

The frequentative *-ta* is alike in the two languages.

The desiderative *-atin* is the phonetic equivalent of *-atcin* or *-tcin* in Yaudanchi.

*-sit* is the Yaudanchi *-cit*, indicating that the verbal action is performed for some one's benefit. The idiom by which the object of the action is in the instrumental case is common to the two dialects.

The intransitive *-in* is as frequent as in Yaudanchi and like it varies in form to *-n* or *-un*.

The reflexive is *-wis*, corresponding to Yaudanchi *-wic*.

## SUFFIXES OF TENSE, MODE, AND VOICE.

In the matter of modal and temporal suffixes there is considerable difference from Yaudanchi. Of the four common tense suffixes of Yaudanchi the two preterites in *-ji* and *-ac* and the continuative in *-ad* do not occur in Yauelmani.

The future and indefinitely participial suffix *-in* is the only one of the four common to the two dialects. In Yauelmani it takes two slightly different forms corresponding to its two meanings in Yaudanchi. The future is expressed in Yauelmani by *-in*; an indefinite or present tense, which appears however to be finite and not participial, is expressed by *-hin*. In some verbs

the difference between the two suffixes is further increased by a difference in the stem, the future *-in* causing a lightening or omission of the last vowel and a consequent shortening of the stem, whereas *-hin* is added to the full unaltered verb stem as it is found in the imperative. In many other cases, however, the verb stem is alike for the two suffixes; and as their phonetic difference is so slight, they are frequently difficult to distinguish.

A suffix *-ān* seems to be an aorist, sometimes past and sometimes present in meaning. Related to this suffix in its influence on the stem is a preterite *-āhin*, which has some appearance of being composed of *-an* and *-hin*.

A continuative or indefinite present is formed by the suffix *-g'ò*. There can be little doubt that this is the verb stem *g'o*, to live or be (appearing in Yaudanchi with the additional meaning "sit" and in certain northern dialects as "house"), which, through being an auxiliary, has become a suffix. That it is at present a suffix and not an enclitic is certain from the fact that in some cases it causes vocalic modification of the stem. Just as the preterite *-āhin* is formed from the aorist *-ān*, so the temporally indefinite *-g'ò* gives rise to a preterite *-g'òn*, also appearing in the forms *-g'òin* and *-g'òhin*. It seems a little curious that the indefinite or present *-hin* should be used to derive the only two distinctly past tenses in the language, *-āhin* and *g'òn*; but there is a parallel in many Indo-European languages in the use of auxiliaries, which are themselves in the present tense, to express a perfect in the verb. The *-g'ò* and *-g'òn* suffixes are in some verbs added directly to the stem; in others a connecting vowel, usually *è*, is inserted. An additional reason for regarding these two suffixes *g'o* and *g'òn* as derived from the verb-stem *g'o*, is the fact that they are the only suffixes found in this dialect with *o* as their vowel. It may be added that this *o* never undergoes modification.

As in Yaudanchi, the future suffix *-in* changes its vowel, chiefly to *e* or *o*, after certain stems. The analogous suffix, *-hin*, seems to change less readily. The forms taken by the suffix *-in* may be summarized as follows: After monosyllabic or disyllabic *i* or *e*-stems the suffix is either *-in* or *-en*; after monosyllabic *a*-stems it is in some instances *-in*, in others *-en*; on disyll-

labic stems whose first vowel is a, and the second vowel i strengthened to a before an a-suffix and lost entirely before the present suffix, the form is -in; monosyllabic o-stems in some cases take -en, in others -on; disyllabic stems containing an o followed by an i take -en; u-stems and disyllabic stems containing o and u take -on.

The usual suffix indicating the agent is -its, Yaudanchi -ite. On certain verbs and after certain suffixes this form is not used, but the agent is expressed by -ini. This difference seems to be due to a difference in meaning between the two suffixes, rendering each more appropriate for certain verbs. -Ini perhaps denotes a more habitual agent.

As in Yaudanchi, the suffix -its is not always used in its simple form. On disyllabic stems it appears as -its, except that stems containing only o or u alter the suffix to -uts. Monosyllabic stems, on the other hand, insert a vowel between the stem and the suffix, ā after a-stems, ò after o or u-stems, and è after e or i-stems. This inserted vowel bears the accent. As an equivalent, disyllabic stems strengthen their second vowel as they do before a-suffixes. Some verbs in Yaudanchi have also been found to insert a vowel before this suffix, but the phonetic processes seem less clear in that dialect than in Yauelmani. It is not improbable that this suffix is to be conceived as added to the causative of the stem, one form of which is expressed in Yauelmani by the addition of a vowel similar in quality to the vowels of the stem, and in Yaudanchi by the strengthening of the last stem vowel much as before the present -its suffix on disyllabic verbs in Yauelmani. That this vowel-lengthening form of the causative has not been found on all verbs in both these dialects, but is replaced in some by the suffix -la, is not necessarily an objection to this view, as the causative vowel may now be present before the -ite suffix merely as a rudiment of the process which once introduced it there, and not with any active meaning.

The agent suffix -ini just mentioned perhaps expresses a more habitual agent than the suffix -ite. It is regularly found on some verbs in place of -ite, and apparently always after the frequentatives -ta and -li. It is however possible that the distinction of use between -ini and -ite is not due to any difference in meaning



but to phonetic causes, since the former suffix is found regularly on all verb stems whose imperative is -k instead of -ka, and only on such stems. It is to be observed that the frequentatives -ta and -li also have imperatives in -k instead of -ka.

The passive is expressed by the suffix -it, identical with the Yaudanchi form. The idiom by which the animate agent of the passive verb is in the possessive case is common to the two dialects.

The future passive is expressed by -nit, corresponding to Yaudanchi -ñite.

The Yaudanchi participial form -ana has not been found, except perhaps in ins-ana, lover, apparently from ins-is, good.

#### IMPERATIVE.

The imperative is regularly expressed by the addition of -ka, or, in a smaller number of verbs, -k. This ending is added to the pure forms of the stem. In Yaudanchi the imperative is expressed by the stem without any ending. This difference is one of the most characteristic between the two dialects, coming to light even in a short vocabulary, and persisting throughout the two dialectic groups of which Yaudanchi and Yauelmani are representatives, from the southern to the northern limits of the family. It is probable that this ending -ka is not a true suffix. It certainly is felt as an enclitic rather than as a constituent part of the word, even though its union with the stem seems to be quite close. Were it a true suffix becoming an integral part of the verb, it would seem that the same stem-vowel strengthening would occur before it that occurs before other a-suffixes in the verb; but this is not the case. The stem-vowels retain before it what may be considered their normal (or i-suffix) form, corresponding to their form in the unsuffixed Yaudanchi imperative. The dual and plural imperative are respectively -ka-wik and -ka-wil. -Ik and -in are pronominal suffixes indicating the dual and plural. This fact is further evidence that the -ka preceding them is not a real suffix, for it is the distinct tendency of Yokuts, shown not only in the present dialect but in all known, to avoid coupling pronominal elements with the verb so closely as to actually combine them into a single word. In

Yaudanchi -yak and -yan indicate the dual and plural of the imperative. These two particles also contain the pronominal endings -ik and -in. While usually enclitic to the verb to such a degree as to resemble suffixes, this -yak and -yan are sometimes added to other words, a fact which proves them to be structurally and syntactically independent particles. Both from inherent evidence and from the analogues in Yaudanchi it is therefore clear that the Yaudanchi imperative endings are not regarded as suffixes by the language.<sup>1</sup>

The optative is expressed by the enclitic -xa or -g'a, corresponding to Yaudanchi -ca, similarly used.

#### VOCALIC MUTATIONS.

The characteristic vowel mutations of Yaudanchi, according to which one of the stem vowels in many verbs changes in quality to a reciprocal vowel before certain suffixes, are found in much the same form in Yaelmani. As in Yaudanchi, the process does not seem quite regular, certain verbs preserving their vowels, while others, apparently in the same phonetic circumstances, alter theirs. In disyllabic stems the second vowel usually changes. If i, it becomes e, or if i preceded by a, it becomes a; if u, it becomes o. A as the vowel of monosyllabic verbs, or the first vowel of disyllabic verbs, does not change. I also shows considerable resistance to modification. The other vowels sometimes change and sometimes do not when they occur in monosyllabic verbs or the first syllable of disyllabic verbs. If they change e becomes i, o becomes u, and u becomes o.

The suffixes that bring about these changes in the stem seem to be, as in Yaudanchi, those containing an a; whereas those containing an i, such as -in, -hin, -it, and -wis, do not cause a change in the vowels of the stem, except that as already mentioned the future suffix -in sometimes causes a change in the opposite direction, namely, a lightening or omission of the second vowel of the stem. The a-suffixes are -ān and -āhin. The imperative with the ending ka does not affect the stem; as ex-

<sup>1</sup> In Chanchila the imperative ending -ka is modified to -ku and -ki after u and i stems, so that in this dialect it can scarcely be regarded as anything but a suffix.

Meaning	Imperative -ka	Future -in	Present -hin	Preterite -âhin	Aorist -ân	Preterite -g'ôn	Continuous- tive -g'ò	Passive -it	Reflexive -wâs	Agent -its	Other forms
eat	xat-ka	xat-in, -en		xat-â'in	xat-ân					xat-â-its	xat-in, g'lutton
drink	uk-un-ka	uk-un-on		uk-on-âhin	uk-on-ân					uk-on-uts	
sit	huloc-ka	huloc-en		huloc-âhin	huloc-ân		huloc-è-g'ôn		cinit-iws-	huloc-uts	
smell	cent-ka	cent-en		cent-âhin	cent-ân			lay-it	lay-wis-	lay-â-its	
kick	lai-ka	lay-en		lay-âhin	lay-ân			kun-ut	kun-wus-	kun-ò-its	kun-t-un, from being struck
strike	kun-ka	kun-on	kun-hun	kun-âhin							
butt	koi-ko	koy-en			koy-ôn					sotox-its	
throw	sotix-ka	sotix-en		sotix-âhin				tuy-ut	tuy-uwus-	wot-ò-its	tui-t-un, from being shot
shoot	toi-ka	tuy-on		tuy-âhin	tuy-ân		wot-wot- g'òhin	wot-it			
beat	wot-ka	wot-wot- en									
punch	kas-ka	kas-en		kas-âhin			demdim-g'òin			kas-â-its	
think	demdim-ka	demdim-in					texal-g'òin			dimédi m-its	
speak	texal-ka	texal-in					texal-g'ò			tiexi'j-its	
dance	hatim-ka	hatim-in	hatim-hin	hatam-âhin	hatam-ân					hatâm-its	
sing	ilk-i	ilk-in, -en		ilek-âhin	ilek-ân					ilek-its	
cry	waxil-ka	waxil-in		waxal-âhin							
swim	ep-ka	ep-in	ep-in	ep-âhin	ip-ân					ip-ète	
see	cil-ka	cil-en	cil-hin	cil-âhin	oil-ân		cil-è-g'òhin			hiwèt-its	
walk	hiwet-ka	hiwet-in		hiwet-âhin	hiwet-ân		hent-â-g'òin			wu-wòl-uts	
stand	wo-wul-ka	wol-on		wu-wol-âhin			wul-è-g'òin			tat-ây-its	
break	tot-i-ka	tot-i-en	tot-oy-en	tat-ây-âhin	tat-ây-ân					tid-èk-its	tsâp-un, noon
split	tid-ik-a	tid-ik-en	tid-ik-en	tid-èk-âhin						salap-its	
halve	tsâp-ka	tsâp-in	salip-hin	tsâp-âhin	salap-ân						
whittle	salip-ka	salp-in		salap-âhin	sipuy-ân						
shave	sipwi-ka									kit-e-kit-its	
cut across	kit-ka		tsis-in							tsis-è-its	
cut into	tsis-ka									piwec-its	
grind	piwic-ka										
scorns	lokui-ka									lokow-its	lokiw, flour
grind	lokui-ka										
seeds											

Meaning	Imperative -ka	Future -in	Present -hin	Preterite -shin	Aorist -än	Preterite -g'ön	Continuous -g'ò	Passive -is	Reflexive -wis	Agent -its	Other forms
run	lihim-ka	lihim-en, lèhm-in	lihim-hin		lehëm-än					lehëm-its	
whip	ins-in-ka	lap-en								lap-ä-its	ins-ana, lover
go		tan-in	tan-bin	taxan-ähin	tan-än	ins-in-g'ön	ins-in-g'ò	lap-it			
come	cilit-ka	taxn-en	cilit-in		taxan-än						
jump	woi-ka	woy-on		woy-ähin	woy-än	wuy-è-g'ön					
sleep	as-is-ka	as-en		as-as-ähin				as-it	as-is-		
bite	pat-in-ka	pat-n-in	pat-in-hin			pat-n-è-g'ön					
fall on	kon-in-ka	kon-on-on	kon-in-hin								
descend	hoy-in-ka	hoy-on-on	hoy-in-hin								
fly											
hurt, sick					tixèt-än	tixt-in-hin	tixt-in-g'ò				
recover			tail-hin		tal-än						
tire	kii-ka	moy-on-on	moy-in-in	kiy-ähin							
touch	wi-ka	kiy-en		wiy-ähin	wiy-än						
do thus,		wè-n									
say	toapx-in-ka		toapx-in-hin								
splash											
make	tosit-ka	tie-en		tec-ähin							
tell	tao-ko	tosit-en			tsow-än						
touch	dadit-ka										
track	taud-a-k	taud-a		taud-ä-hin	taud-ä-n	taud-a-g'ön		taud-a-t	taud-a-wis-	taud.-Ini	dad'at', foot
kill									'-was-	tawid.-its	
laugh	hays-k	hays		hays-ähin						hays-ä- hay-uwis-	hay-Ini
taste	tanna-k									tamn-Ini	
lie	banan-ak				banan-än	banan-g'ön					
live, be	g'o-k		g'o-in-in			g'o-g'ön					g'o-Ini
hear	lana-k				lanä-n	lana-g'ön					

plained, probably because it is not a suffix. The agent suffix *-its* has the same effect on the stem as an *a*-suffix. In Yaudanchi this tendency of this suffix is also observable, though it is apparently less regular than in Yauelmani. The explanation of the exceptional effect of this *i*-suffix as due to its including the causative suffix, or another vocalic element, has been mentioned.

The phonetic effect of the two *o*-suffixes, namely, *g'ò* and *-g'òn*, has not become clear on account of an insufficient number of occurrences of these forms. At least in certain stems, such as *huloc*, *hiwet*, and *woy*, the *o*-suffixes produce vocalic changes from the *i*-suffix forms of the stem not produced in these words by the *a*-suffixes.

The behavior of the verb stem under the influence of its principal temporal and modal suffixes is illustrated in the appended list of Yauelmani verbs giving the forms actually found.

#### VARIOUS SUFFIXES.

A suffix *-mi*, not found in Yaudanchi and used only on verb stems, has the force of *from*, *because of*, *on account of*, and sometimes, perhaps, *of at or when*. It is used in such cases as "I am sick from eating."

A suffix *-i*, also without known Yaudanchi parallel, has been found a few times as a suffix of verbs dependent on the stem *moy-in*, to be tired of. The subject of the verb with this *-i* suffix is in the possessive case. The construction of these forms is similar to that of stems with the ordinary objective suffix *-a*. That this *-i* is not the objective is made probable by the fact that the stems on which it has been found also appear with the objective *-a*.

*hiem na moyin-hin ilek-i nim*, now I am-tired of-singing my.

A suffix *-han* has been found with a passive meaning on verbs dependent on other verbs.

*lan-a-g'o na min cil-han*, hear I that-you were-seen.

An apparent suffix *-wal* has been found in a few cases, always before an imperative *-ik*. Its meaning is unknown and the existence of the suffix cannot be regarded as certain, since *-lik*, the

last part of *-walik*, admits in form of being the imperative of the iterative *-li*.

yux-ul-wal-ek	crush it!
potox-wal-ek	smash it!

A suffix *-al* is used on verbs in the apodosis of conditional sentences. Usually it is accompanied by a particle *lac*. The Yaudanchi material obtained happening to be lacking in conditional sentences, this suffix or its equivalent has not been found in that dialect.

kun-al na mam lac	I should have struck you, (if....)
taxn-al na lac	I should have come, (if....)

A suffix *-a*, found a few times, perhaps indicates a continuing agent.

hat-ya, glutton (from xat, eat?).
hulc-a, one who sits in one place.
wul-a, one who stands a long time.

Another somewhat doubtful suffix, also without known Yaudanchi equivalent, is *-lis*, appearing to denote the agent or place of an action.

oxoyo-lis, lover (oxoyo, desire, seek).
hot-one-ls, fireplace (hot-one-, build a fire). <sup>1</sup>

The case suffixes of nouns are freely used on verb stems and more instances of such constructions were obtained in this dialect than in Yaudanchi. The objective suffix *-a* is added to unsuffixed verb stems dependent as objects on another verb, as in "I saw you eat." The subject of the dependent verb is in the possessive case, showing that this dependent verb, in line with its having a case-ending, is really regarded as a noun. This is further borne out by the fact that its logical object is not in the objective case but in the instrumental. Literally the construction then is: "I saw your eating by means of meat." It has been mentioned that a few verb stems, such as *hiwet*, *ep*, and *huloc*, appear to occur in this construction without any objective case suffix. The locative is used with the sense of "for" as well as "at." The possessive occurs on passive verbs with the meaning

<sup>1</sup> Cf. Tachi *yokteo-lis*, somebody, from *yokote*, person.

of from: *tui-t-un*, from being shot. On active verbs the possessive case ending does not appear to be used, the suffix *-mi*, not found on nouns and not known from Yaudanchi, taking its place with the meaning of "from." The instrumental also occurs on verbs. The Yaudanchi construction in which a temporal clause is expressed by the suffixion of the locative to a verb with the past tense ending *-ji*, the logical subject being in the possessive and the whole phrase having the force of a temporal clause, is lacking in Yauelmani on account of the absence of the *-ji* suffix, and no analogous construction has been found.

#### PARTICLES.

The modal and temporal particles of Yauelmani are in part different from those of Yaudanchi. The ordinary future is expressed, in addition to the suffix *-in*, by the particle *hi*, which as in Yaudanchi tends to be enclitic to the pronouns and to alter *na* and *ma*, I and you, to *ni* and *mi*. A particle *mi*, usually at the head of the sentence, seems to correspond to Yaudanchi *tean*, which does not occur. It is used before future verbs. The negative is *ohom* in place of Yaudanchi *am*. The interrogative is *ki*, which seems to correspond to Yaudanchi *ti*, used less frequently in that dialect than *hin*, which is without a representative in Yauelmani. If is expressed by *acwa* in the protasis and *lac* in the apodosis.

#### THE PRONOUN.

The personal pronoun is used as in Yaudanchi and many of the forms are identical. What chiefly characterizes the Yauelmani pronouns as distinguished from the Yaudanchi, is first the formation of the possessive of the third person from a stem *amin*, instead of Yaudanchi *an*, and second the fact that in the dual and plural there are subjective and objective as well as possessive forms for the third person. In Yaudanchi this is not the case, the demonstrative pronouns being used for the object and the particles *tik* and *tin* to indicate the duality and plurality of the subject of the third person. These two Yaudanchi particles

and the Yauelmani subjective forms of the third person, amak and aman, render each other mutually unnecessary; so that whereas Yaudanchi entirely lacks the pronominal forms, Yauelmani is without the particles. Minor differences of the Yauelmani pronouns from the Yaudanchi are the fact that the objective ending wa is found in the dual as well as in the plural, that the connecting vowel in the dual and plural of the objective is i instead of a or u, and in the plural of the possessive o instead of i.

It is noteworthy that in spite of the presence in this dialect of forms for the third person throughout the dual and plural as well as in the possessive, there are no forms for the subjective and objective singular, he and him. These are, as in Yaudanchi, either simply understood or expressed by demonstratives.

		<i>Subjective</i>	<i>Objective</i>	<i>Possessive</i>
<i>Singular</i>	1	na	nan	nim
	2	ma	mam	min
	3	—	—	amin
<i>Dual</i>	1 <i>excl.</i>	nak	?	nimgin
	1 <i>incl.</i>	mak	?	magin
	2	māk	mamikwa	mingin
	3	amak	amamikwa	amingin
		1 <i>excl.</i>	naan	naninwa
<i>Plural</i>	1 <i>incl.</i>	mai	?	maiin
	2	?	maminwa	minòk, minòkun
	3	aman	amaminwa	amnòk

The artificiality, so to speak, of the forms for the third person, and their probable derivation from the second person by analogy, are very strongly shown by this table. So full a form as the possessive amin without even a trace of a subjective or objective base, either in this or in any other Yokuts dialect, and identical but for its initial a- with the min of the second person, is one point; another, even stronger on account of the absence of plural forms of the third person from Yaudanchi, is the exactly similar relation of the dual and plural forms to the dual and plural of the second person. It is clear from the lack in the singular of forms for the most common categories, the subjective and objective, he and him, and from their absence in all numbers in Yaudanchi, that the language has a feeling against



personal pronominal forms of the third person. Their occurrence in the dual and plural in Yauelmani as equivalents of only semi-demonstrative particles in Yaudanchi, stamps them as primarily mere indications of number and case, their pronominal content being very subsidiary. It is on this account that their close similarity to the forms of the second person is so significant. In the possessive relation pronominal forms are for some reason felt as more important by the language, as is shown by their existence in all numbers in both dialects; but the lack of a historic base to go back to is evident from the entire difference of the forms used in the two dialects: an, unrelated to anything else, in Yaudanchi, and amin, closely connected by analogy with the second person min, in Yauelmani.

Three demonstratives have been found as against the four of Yaudanchi. These are ki, ke, and ta. Ki indicates proximity, ke a short distance, and ta a greater distance or invisibility. Ta corresponds to Yaudanchi ta, ke probably to ka, which is not in very frequent use, and ki to the Yaudanchi xe and xi, which in all cases except the subjective are identical in form in that dialect. In Yauelmani at least the locative of ki and ke, and perhaps other cases also, are alike or distinguished only with difficulty. The objectives of ki and ke are however distinct. The dual and plural of the demonstratives are formed much as in Yaudanchi, except that a greater resemblance to the suffixes of the personal pronouns is observable, especially in the objective.

	<i>Sub.</i>	<i>Obj.</i>	<i>Poss.</i>	<i>Instr.</i>	<i>Loc.</i>
<i>Singular:</i>					
This (close)	ki	ki-n	} kè-in	kè-ni	kè-u
That (further)	ke	ke-n			
That (distant)	ta	ta-n			
<i>Dual:</i>					
This (ki)	ki-s-ik				
That (ke)					
That (ta)					
<i>Plural:</i>					
This (ki)	ki-s-in	ki-s-in-wa			
That (ke)					
That (ta)	ta-s-in	ta-s-in-wa	ta-s-in-w-in		

The interrogative and indefinite pronouns are given below. It will be seen that almost throughout they end in -uk. This

-uk seems to be the Yaudanchi suffix -ak, which in that dialect is added only to give an idea of indefiniteness. A second Yaudanchi suffix, -tei, is represented in Yauelmani by -ti, occurring about as frequently as in Yaudanchi, and distinctly with the force in both dialects of making for greater indefiniteness. It will be seen that except for this suffix -ti the -uk is always final. Thus, the objective hanuk, what, is to be explained as the stem ha, what, with the demonstrative objective case suffix -n, plus -uk. The interrogative of place, hiyok or hiyuk, where, contains the stem hiye and the same suffix -uk. Hiye is the equivalent of Yaudanchi hide and hile of other dialects.<sup>1</sup> The same stem with the locative suffix, hiye-u, is the non-interrogative indefinite "somewhere."

wat-uk	who?
wat-òk-ti	some one (objective)
wat-au	some one
hā-uk	what?
hā-n-uk	what? (objective)
hā-n-òk	with what? (instrumental)
hā-uk-ti	something
hā-n-uk-ti	something (objective)
ha-wiy-uk	which, what kind?
ha-uyèn-uk	what for? why?
ha-ujin-uk	how many?
ha-wetam-uk	how? doing what?
hiy-ok	where?
hiye-t-uk	from where?
hiye-u	somewhere
hiye-nit	from somewhere

#### NUMERALS.

The numerals are radically the same as those of Yaudanchi except that another word is used for nine. The ordinary cardinal forms are used both for counting and as adjectives with nouns. Two, three, and four take the objective suffix -a. When the numerals are suffixed or reduplicated they lose certain final portions, which correspond exactly to those similarly lost in Yaudanchi, and like these are determined by phonetic causes

<sup>1</sup> Cf. *teyi*, *tedi*, and *teli*, teeth, in the same dialectic groups.

and not by etymology. The animate or collective suffix *-in* of Yaudanchi, and the ordinal adverbial forms produced by the locative suffix *in* that dialect, perhaps occur in Yauelmani, but have not been found. The adverbial form of the numeral expressing "the number of times" is formed by the suffix *-il*, corresponding to Yaudanchi *-id*. *-Il* is used on *o*-stems, *-al* on *i*-stems, and *-ul* on an *o*-stem, monos, the first vowel of which appears to replace an original *u*. The distributive is formed by reduplication, the stem as far as the first consonant after the first vowel being reduplicated and prefixed. The vowel of the prefixed syllable is that of the unreduplicated stem, except that *i* is strengthened to *e*; the vowel of the second syllable, the original stem, is weakened to *e*, except again in monos. To indicate the adverbial distributive with the meaning "so many at a time," the suffix *-am* is added to the distributive forms.

	<i>Cardinal</i> in counting and as adjectives	<i>Objective</i> as adjectives	<i>Adverbial</i> the number of times	<i>Distributive</i>	<i>Collective</i> "—at a time"
1	yet.		yitsai	yet.-yèt.-in	yet.-yèt.n-am
2	ponoi	pony-o	pony-il	pon-pèni	pon-peny-am
3	c.òopin	c.òopin-a	e.opi-il	e.op-c.èpi	c.op-c.epy-am
4	hotponoi	hotpony-o	hotpi-il	hot-hètíp	hot-hetp-am
5	yitsinil		yits-al	yet-yètis	yit-yets-am
6	tsolipi		tsolp-il	tsol-tsèlip	tsol-tselp-am
7	nòmtil		nomts-il	nom-nèmits	nom-nemts-am
8	mònos		mons-ul	mon-mònos	mon-mòns-am
9	soponhot				
10	t.ieu		t.iw-al	t.ei-t.èiu	t.ei-t.eiw-am
11	t.ieu yo yet., or yètsam				
12	t.ieu yo ponoi				
20	ponoi t.ieu				
100	yet. pits				

### COMPOSITION AND DERIVATION.

The traces of composition and derivation are as slight in Yauelmani as in Yaudanchi. The suffix *-wiya* is added to unsyntactical stems denoting shape or motion and makes of these verbs of action. The suffix seems to be derived from the stem *wi*, to do thus or to say, and its use in this way is analogous to that of the Yaudanchi suffix *-wid-ète* added to unsyntactical

terms representing animal cries, thus forming names of animals, as huc-udètċ. A Yauelmani suffix -at-, -t-, or hat- added to nouns seems to mean "he who desires." Thus, t-è-t-, kawayu-t-, mokè-hat-, insin-hat-, one who likes to stay at home, one fond of horses, one who desires women, a woman who desires lovers. A few isolated cases of derivation or composition have been noted, such as k'ili, cloud, k'ili-a-g'o, it is cloudy; maya-in-talap, large bows, the name of the Shoshonean Gitanemuk of Tejon; and paaċi, lake, kuyu-paaċi, ocean, literally salt lake. It is however to be observed, as in analogous Yaudanchi forms, that there is nothing to prove that such forms as the two last are true compound words and not merely collocations or phrases.

#### YAUELMANI SENTENCES.

In the absence of texts, the following Yauelmani sentences are appended. The transcription of these follows the methods employed in giving the Yaudanchi texts. Where two or more words,—usually all but one of them pronouns or other enclitics,—were heard as one, they have been written as one, the component elements of the cluster being separated by hyphens. The English equivalents of such words have been separated. Hyphens connecting English words indicate that all so connected are to be regarded as a unit equivalent to one Indian word; hyphens in the Indian text, other than for the purpose mentioned, are used in many cases to separate suffixes from the stem and from each other, for the sake of making the structure clearer. Generally the English translation is as if interlinear, the words following one another in the same order as their Indian originals. In a few cases, which will be obvious, a short Indian phrase has been more freely rendered by a longer English one and no attempt made at a word for word translation.

- amin t-ii, his house.
- māgin t-ii, of me-and-you the-house.
- nimgin t-ii, of-me-and-him the-house.
- mingin t-ii, of-you-two the-house.
- minòk t-ii, your (pl.) house.
- nimòk t-ii, our-and-their house.
- amnòk t-ii, their house.

amingin t.ii, of-them-two the-house.  
 k'ili, cloud.  
 k'iliäg'o, it is cloudy.  
 pāaji, lake.  
 kuyu-pāaji, ocean, (salt-lake).  
 yaha mak huloc-xa mak, come we-two, sit let us-two!  
 na mamikwa cil-hin, I ye-two see.  
 ma naninwa cil-hin, you us-two see.  
 hitai na-mam cil-en, to-morrow I you see-shall.  
 wa ta nõno g'o-g'o, far that man is.  
 cil-än-na amin uk'n-a, see I his drinking.  
 hòhu cilaan-ma nim xat-a, yes, see you me eat.  
 nim xat, my food.  
 hanuk na xat-än inis-a, something I eat good, what I eat is good.  
 insis t.ii, good house.  
 na insis, I am good.  
 insis nim t.ii, good my house, I have a good house.  
 cil-hin na inisa t-èn, see I good house.  
 cil-hin na inisa xat-a, see I good food.  
 maiek t.ii, large house.  
 taut-a-na-kin puus-a mets-nan as-is-in, kill-shall I this dog because me  
 bites.  
 hawiy-uk puus-a ma taut-an, which dog you killed?  
 ta ki nan ta as-as-ähin, tan na taut-ähin, that this me that bit, that-one  
 I killed.  
 hauj-in-uk ma taut-ähin, how-many you killed?  
 hot'pony-o na taut-ähin, four I killed.  
 c-òopin-a na taut-ähin, three I killed.  
 hauyèn-uk ma taut-ähin, what-for you did-kill-them?  
 hä-nò-k ma tan taut-ähin, with-what you him killed?  
 hä-n-uk ma cil-ähin, what you did-see?  
 hä-uk-ta, what (is) that?  
 hä-uk-ki, what (is) this?  
 hä-uk-ke, what (is) this (more distant)?  
 wat-uk-ma, who (are) you?  
 cil-hin-na hä-n-uk-ti, see I something.  
 hä-uk-ti tahan-an xāmi, something comes hither.  
 pat-in-hin na hä-n-ok-ti, fell-on I something.  
 tsūp-a yokots, some people, part-of-the persons.  
 tsūp-a silel, some-of-the stones.  
 hä-utsin yokots, few people.  
 māni yokots, many people.  
 cil-hin-na tan hat-yā-in, saw I that glutton.  
 cil-hin-na tan xat-a-ts-i, saw I that-one who-eats.  
 cil-hin-na ta-in xat-a, saw I that-one eat.  
 cil-hin-na ta-n xat-a, saw I that food.  
 taut-inè-in na cil-hin, the-killer I saw.  
 na nõno, I-am a-man.  
 ma káiina, you-are a-woman.

na hulc-a, I-am a-sitter.  
 na hulac-t-ĩni, I-am a-repeated-sitter.  
 t-ĩpin ki-n xat-a, on-top-of this food.  
 g'o-g'o ta-u kudjala ke-u xat-au, is there the-spoon at-this food-at.  
 yawalya-k, run around, look for it!  
 yit-was na amaminwa, go-with I them (yit., one, -wis reflexive).  
 api-na mam tahan, with I you come.  
 api-na-mam g'o, with I you live.  
 g'ò-k ta-u, live there! (a farewell greeting).  
 g'ò-k wik ta-u, live you-two there!  
 g'ò-k wil ta-u, live ye there!  
 g'ò-na kè-u, live I here.  
 g'ò-in-in-na kè-u, live I here.  
 g'ò-g'o ki-ma kè-u, live (question) you here?  
 nibets nim nak yèt-iu tahan-ān, older-brother my he-and-I together come.  
 yit-was na puus-a nim tahan-āhin, accompanying I dog my came.  
 g'ò-g'o-in-nak, live-together we-two.  
 toxil-nit na tahan-an, west-from I come.  
 xosim-na tanān, north I go.  
 witcet ki panan-g'o kè-u oct-ou, stick this lies this-at fire-at.  
 amtsau ki-n oct-o huloc-on-na, near this fire sit I.  
 t-ĩpin ki-n oct-o, over this fire.  
 ax-its, bed.  
 atil ki-n ax-ts-i, under this bed.  
 tot-ii-ka, break-it!  
 tot-ii-li-k, break-several-pieces!  
 na tot-i-lè-hen, I shall-break-several.  
 walan-na tsòp-āhin toineu, yesterday I broke-it in-the-middle.  
 tsūup-un, noon.  
 salap-ta-g'òn-nan walan nimòkun t-amut, shaving-were we yesterday our  
     beards.  
 cil-hin-na minòkun calp-a, see I you-plural shaving.  
 potox-wāl-ek yèt-o yux-un-uk, smash-it-entirely, pulverize-it!  
 potox-potox-wāl-ek amāminwa, smash them!  
 piwec-ān aman, pound-acorns they.  
 piwac-ta-k, pound-acorns-intermittently!  
 piwic-ka, pound-acorns! (once or continuously, for a short or long time,  
     but without intermission).  
 pāiic, mortar.  
 potox-potox-wal-ĩni, one-who-mashes-everywhere.  
 kit.-è-kit-its, one-who-cuts.  
 tid-èk-its, one-who-splits.  
 tid-ik-l-ĩni, one-who-splits-repeatedly.  
 tid-ak-t-ĩni, one-who-splits-repeatedly.  
 salap-t-ĩni, one-who-whittles-repeatedly.  
 mokè-hat, one-who-likes-women.  
 ins-in-hat, one-who-likes-lovers.  
 kawaiu-t, one-who-is-fond-of-riding-horseback (kawaiu, horse).  
 t-ò-t, stay-at-home (t-i, t-e-, house).

hat-ya ma, glutton you.  
 xat-iin ma, glutton you.  
 xat-â-its nan cil-hin, the-eater me saw.  
 hulc-a, one-who-sits-in-one-place.  
 hulac-tâ-hin na, I sit, get up, sit again, and so on.  
 wowul-mu-na-mam cil-hin, standing I you saw.  
 cil-hin-nan xat-mi, he-saw me when-he-was-eating, (from, at, eating).  
 hulac-t-ini nan cil-hin, he-who-sits-down-repeatedly me sees.  
 ohom na mam cil-aan, not I you see.  
 an-ki mi-hi lap-en, † you will hit-him †  
 hoseon ki ma, cold (question) you †  
 ohom, no.  
 inès-as-i mak, are-good you-and-I.  
 inès-as-i māk, are-good ye-two.  
 yet-o mai inès-as-i, all-together we are-good.  
 lap-ka, whip!  
 lap-ka-wik, whip-ye-two!  
 lap-ka-wil, whip-ye!  
 kun-kun-ka-wik, hit-repeatedly-ye-two!  
 kun-kun-ka-wil, hit-repeatedly-ye!  
 lap-wis-in-ma, whip-self you.  
 lap-wis-in, he-whips-himself.  
 lap-wis-in aman, whip-themselves they.  
 lap-i-lp-iis-a-g' o aman, whip-one-another they.  
 kun-u-kn-us-a-g' o amak, strike-each-other they-two.  
 lai-i-ly-is-a-g' o amak, kick-each-other they-two.  
 wot-i-wit-is-a-g' o mak, beat-each-other we-two.  
 xat-xa-mak, eat let me-and-you.  
 lap-xa-mak, whip let us-two (I and you).  
 lap-it nak, whipped-are we-two (I and he).  
 ukòn-u-k nan, drink-give me!  
 lap-xa na, whip let me!  
 tan-xa-mak t-èu, go let us-two house-to.  
 walan-na-mam ep-la-g' on, yesterday I you made-swim.  
 walan-na-mam lap-lap-la-g' oin, yesterday I you made-whip-repeatedly.  
 walan-na-mam xat-la-g' oin, yesterday I you eat-gave.  
 cil-aan-na min uk-òn-u ki-n ta-ni ilk-ani, saw I your giving-to-drink him  
 with-that water.  
 cil-aan-na min xat-la ke-ni ta-n, saw I your giving-to-eat with-this to-  
 that-one.  
 cil-aan-na min cilit-i-han-an, saw I your making-him-jump.  
 cil-aan-na kün-a min ki-n puus-a silel-ni, saw I striking your this dog  
 stone-with.  
 cil-aahin na walan kun-a-la min ki-n nòtò-in kè-ni puus-ani silel-ni, saw  
 I yesterday making-strike your this youth by-means-of-this dog  
 stone-with (I saw you make the youth strike the dog with a stone).  
 hawètam-uk ma ta-n tiic-in, how you that make †  
 wi-mi, thus.  
 ins-in-g' o na-mam, like I you.

ins-in-ka mam, love me!

ines-til-sit-g' o na-mam, or ines-tal-sat-g' o na-mam, do-well-for I you.

c-òopin cilit, three jumps.

yit. kun, one stroke.

tixt-in-hin-na hotp-il kun-t-un min, sick-became I four-times hit-being-from of-you.

tixt-in-hin-na kun-mi, sick-am I hitting-from.

tixt-in-hin-na lap-lap-t-in amin, sick-am I repeatedly-whipped-being-from of-him.

na ilak-ta-g' òhon ama na kun-ut, I sang-a-long-time, then I was-struck.

hitsi-na ilak-ta, tomorrow I shall-sing-a-long-time.

ilak-ta-k, sing (a long time, or continually)!

taxan-àhin-na t-è-nit mèts na hosòon, came I house-from because I cold.

tixt-in-hin-na hosiuw-mi, get-sick I cold-being-from.

hosiu-ta-u-nim tixèt-an ot-o, cold-continually-from my hurts head.

mi na-mam ilik-i, shall I you sing-make.

mi na-mam hatam-i, shall I you dance-make.

walan-na mam ilik-i-g' òn, yesterday I you sing-made.

uk-on-òhin nan, drink-he-made me.

lihim-i na-hi tan, run-make I shall him.

ta lihim-hin, he runs.

hiwit-i na-hi tan, walk-make I shall him.

hiem-ma tan-hin, now you go?

tan-a na-mam-hi, take (make-go) I you shall.

mi-na kin tan-a, shall I this take.

mi na-mam ep-la, shall I you swim-make, or put-in-the-water.

tan-àn-ki-ma, going-are (question) you?

wiy-àan-nan, he-says-to me.

wiy-aahin nan tăn-ki-mi-hi, said-to me: "go (question) you will?"

wiy-aan nan tăn-hi, he-told me go he-would.

ma ki nan cilit-i, you (question) me jump-make?

cilit-è-hin nan, jump-makes me.

cilit-i na-mam-in-wa, jump-make I ye.

kun-à-la na mam hi, hit-make I you shall.

walan-na-mam kun-à-la-g' òn, yesterday I you hit-made.

nòtu-na wa g' o, east I far live.

toxil-ki ma g' o, west do you live?

hitsi ni-hi tau g' o, to-morrow I shall there be.

mī-na tau g' o, shall I there stay.

atil ilk-a, bottom-of water.

hatim-hin-na, dance I.

paiutè-n hatim, Paiute's dance.

paiuti hatam-an, the-Paiute is-dancing.

ilik-sit-g' o-na paiutè-n, sing-for I Paiute.

tsumun-amin, end its.

tsumun amin ilk-in kon-in, end its water's fall's.

woi-ka, sleep!

walan-na wuy-è-g' òn, yesterday I slept.

c-òopin toino hiem tan-in, three nights now went.



tsum-un amin wūy-un nim, end its sleep's my.  
 insis nim wūi, good-is my sleep.  
 ins-in-g' o-na nim wūy-a, like I my sleep (I like to sleep).  
 inēs-tam-na kon-in-hin, well I descend.  
 cil-e-g' o-na batsikn-i pūs-a, see I red dog.  
 silit-hin-na t-ipin ki-n silel, jump I on this rock.  
 witset ki panan-g' o kè-u sili-w, stick this lies on-this rock.  
 cil-e-g' òhin na as-a min ta-s-in-wa, see (saw?) I biting your those.  
 as-is-in nan aman, bite me they.  
 as-is-in na a-mam-in-wa, bite I them.  
 as-is-in na kin, bite I him-close-by.  
 as-is-in na ken, bite I him-somewhat-near.  
 cil-e-g' òn-na min lai-han-ahin xat-au-min, saw I your having-been-kicked  
 eating-for your.  
 cil-e-g' òn-na min as-is-(h)an-àn min uk-un-t-au, saw I your having-been  
 bitten your drinking-for.  
 cil-aan-na ki-n puus-a xat-àn, see I this dog eat.  
 cil-aan-na kè-in puus-un xat-a, see I this dog's eating.  
 kè-in puus-un xat, this dog's food.  
 cil-hin-na kè-in xat-a, see I this-one's food, see I this-one eat.  
 ki tau nõno xat-in, this there man eats.  
 cil-hin-na ki tau nõno xat-àn, see I this there man eat.  
 cil-hin-na kè-in tau nõnò-in xat-a, see I this there man eat.  
 tixt-in-hin na mètš na ki-n xat-in, sick-am I because I this eat.  
 tixt-in-hin na ta-ni xat-àni, sick-am I that by-means-of-food.  
 tixt-in-hin-na xat-mi ki-n, sick-am I eating-from this.  
 tail-hin-na hatim-mi, recover I dancing-from.  
 tail-hin-na kè-ni hatm-àni, recover I this dance-by-means-of.  
 mi-na hatm-in ama-na täl-an, shall I dance, then I recover-shall.  
 wot-it-na kè-in nõno-in, hit-was I of-this man.  
 pok-in-ki-ma, find did you?  
 wot-sit-it na min, hit-for-am I for-you.  
 kun-hun-na, hit-with-the-hand I.  
 cil-hin-na puus-un lap-lap-han-ain, see I dog's being-whipped.  
 cil-hin-na min kun-han-ain, see I your being-struck.  
 cil-it-aman, seen-are they.  
 lana-g' o-na-min cil-han, hear I you to-have-been-seen.  
 lana-ahin na min cil-a nohoo-n, heard I you saw grizzly-bear.  
 ilk-in kono, water-fall.  
 walan-na pat-an na ilk-au, yesterday I fell I water-in.  
 pat-n-in na ilk-au, fall-shall I water-in.  
 pat-in-hin-na xoti-u, fall I ground-on.  
 kon-in-ka, descend!  
 wa-nit t-ipi-nit ilik kono-n-on, far-from high-from water falls.  
 lomt-o-nit tahan-an ilik, mountains-from comes the-water.  
 toxil tan-aan ilik, west goes the-water.  
 palu-wa g' o-g' o paaci, down far is lake.  
 pus na-mam wiyaan, xat-en mi-hi, (?) I you told, eat you would.  
 wut-è-g' o-na ki tan hi nono xat-en, knew I this it would man eat.

wut-è-g' o na kon-on-ma-nan-hi, knew I strike you me would.  
 taud-ak, kill!  
 mi-na-mam taud-a, shall I you kill.  
 walan-na-tan taud-a-g' òn, yesterday I him killed.  
 hitsi-na-tan taud-a, tomorrow I him kill.  
 k'ehèian mèts na tan taud-âhin, (sorry) because I him killed.  
 cil-hin-na amin tan taud-a, saw I his him killing.  
 cil-hin-no min wat-òok-ti taud-a, saw I you some-one kill.  
 taud-a-nit na-hi, killed-shall-be I shall.  
 ma-hi tau taud-a-nit, you will there killed-be.  
 haiyu-wis-ka-nan, laugh-at me!  
 waxil-sit-ka-nan, cry-for me!  
 ilik-sit-g' ò-na-mam, singing-for-am I you.  
 texal-sit-g' o-na-mam, speaking-for-am I you, I interpret for you.  
 texal-g' o-na-mam, speaking-am I you, I talk of you.  
 taud-a-sit-g' o-na-mam tani, killing-for-am I for-you that-one.  
 kun-sut-un-na-mam kèni, strike-for I for-you this-one.  
 mi-na tamna, shall I taste.  
 tamna-sit-ka nan, taste-for me!  
 mi-na kiy-en tan, shall I touch that.  
 kii-sit-g' o-na-mam, touch-it-for I for-you.  
 lap-lap-it-na, whipped-am I.  
 lap-ats, a whip.  
 mi-na lap-en, I shall whip.  
 wot-it, he-is-hit.  
 wot-wot-it-na, am-hit-several-times I.  
 wot-g' o na kin pūs-a, hit I this dog.  
 wot-en na ken pūs-a, hit I that dog (at some distance, but visible).  
 oyog' ò-na kisinwa nònèhi, seek I these men.  
 oyoxan-nan aman, seek me they.  
 tasin nan nònèi oyoxo, those me men seek.  
 kisik nan nònèi oyoxo, these-two me men seek.  
 tasin nan ins-in-g' òn, those me like.  
 ki talap, this bow.  
 nim talap, my bow.  
 kè-in nòno-in talap, this man's bow.  
 c.òopin nònèi, three men.  
 tixt-in-hin-na xat-mi xoi, sick-am I eating-from deer.  
 taiil-hin-na ukun-mu ilk-a, well-am I drinking-from water.  
 xòno na as tixt-in-g' o, constantly I (I) am-sick.  
 mi-na kin xat-en xoi, ama na tahan t-è-u-nim, shall I this eat deer, then I go  
 house-to my.  
 as-it-na puus-un, bitten I dog-of.  
 as-en-na-mam, bite-shall I you.  
 lai-it-na nòno-in, kicked-was I man-of.  
 kun-ut-na witèp-in, struck-was I child-of.  
 witèp-in sasa, child's eye.  
 nòno-in tinik, man's nose.  
 kainha-n sasa, woman's eye.

ki nan nõno cil-hin, this me man sees.  
 cil-hin na kin nõno-in, see I this man.  
 tixtin-hin-na cil-mi hitwaia-n, sick I seeing-from ghost.  
 tixtin-hin-na hitwaia-ni, sick I ghost-by.  
 hitwaia nan lihim-è-hen, ghost me run-made.  
 tosit-en-na-mam-hi, tell-shall I you shall.  
 pus-na-mam wiyaahin, kun-kun-ut-ni-hi, (!) I you told, struck-be I should.  
 kun-ut-na, I am struck one blow.  
 kun-kun-ut-na, I am struck many blows or all over my body.  
 cil-hin na maiek t-è-in, see I large house.  
 maiek pūs nan as-is-in, a-large dog me bit.  
 ki pūs kudjii, this dog is-small.  
 cil-hin na kodjè-n pūs-a, see I small dog.  
 ins-in-g' o-na-min ilk-a, like I your singing.  
 ponoi ilik, two songs.  
 walan-na ilek-àhin, yesterday I sang.  
 c-òopin nim hatim, three my dances, I have three dances.  
 ins-in-g' o na wiy-ain hat'm-a min, like I do-thus (the-way-of) dance your.  
 wī-ka, do-it-thus!  
 wiy-ain ilik-a, thus sing!  
 hawiyuk-min ilik, what-kind is-your song?  
 hawiyuk, how-does-it-look?  
 nè-ki, like this.  
 nè-pus, like a-dog.  
 cil-en-na-mam-hi hitsii, see I you shall to-morrow.  
 xat-atin-g' o na manèn, eat-like I much.  
 cil-hin-na xat-a min pus-a, see I eating your dog, I see you eating a dog.  
 xoi-n sasa, deer's eye.  
 puus-un sasa, dog's eye.  
 kainha-n t-inik, woman's nose.  
 mani witip-ats, many children.  
 sillil, rock.  
 silel-hal, rocky, a lot of rocks.  
 yet-yet-in nimògon tok xoi, one-each our kill deer.  
 pon-pèn-i nimògon tok xoi, two-each our kill deer.  
 bèpatiu ki-n lomt-o, top-at this mountain.  
 taud-ahin na kè-ni talap-ni, killed-(him) I this-with bow-with.  
 kopin ki-n deiwitc, inside this basket.  
 yèt-o nõnèi taud-a-t, all the-men were-killed (every man was killed).  
 yèt-o g' o-g' o nõnèh-in yet-yet-in t-i, every is men's one-each house.  
 yet-o g' og' o ta-s-in-w-in nõnèh-in t-i yit, all is of-those men's house one  
 (they have one house together).  
 yet-yet-n-am na amaminwa kun-kun-hun, singly I them strike.  
 witcet-al, many sticks lying about.  
 mi-na ki-n tot-i-li yet-yet-n-am witset, will I this break each-singly stick.  
 c-òp-c-epy-am aman taxan-an, three-at-a-time they came.  
 kè-u, here (from ki).  
 kè-u, there (from ke).  
 kè-u taxn-en, hither he-comes.

hiyok ma g'og'o, where you live?  
 hiye-t-uk ma tahan-an, whence you come? (hiye-t for hiye-nit before -uk).  
 hiye-nit na tauac tahan-an, somewhere-from I (?) come.  
 ki na tau g'og'o konon-on ponpon, this I there live falls snow.  
 bis nan ti hi watau as-en, ama na ta-n kun-on, if(?) me (?) will anyone  
 bite, then I him hit-will.  
 acwa-ma-nan as-as-âhin walan, kun-al-na-mam lac, if you me had-bitten yes-  
 terday, struck-should-have I you indeed(?).  
 acwa ma insis, wan-al-na mam nac kawaio-n, if you good, give I you indeed  
 (?) horse.  
 hot-è-g'on-na kun-on mi-hi ta-n, knew I hit you would him.  
 acwa ha ma walan taxan-âhin, wan-al na mam lac xat-ani, if (?) you yester-  
 day had-come, presented-should-have I you indeed(?) with-food.  
 acwa ma-nan walan kun-âhin, as-al-na-mam lac, if you me yesterday had-  
 struck, bitten-should-have I you indeed(?)  
 acwa ma t-è-u g'o-g'on, taxn-al na lac ta-u, if you at-home had-been, come-  
 should-have I indeed(?) there.  
 manè-in na at-in hites, anum na tumk-un-un, much I cut wood, that I warm-  
 will-be.  
 diln-au hiwet-in ki-n lomt-o, along walk this mountain.  
 koyoi-koyoi-wiy-âhin amin hoiin, zigzag-going his flight.  
 hoiin-hin tukal-iu, he-flies straight.  
 tukal witset, straight stick.  
 mi-na hiwet-an ayan-aya-wiya, shall I walk swaying-going.  
 hot-ònè-hin na, make-a-fire I, keep-up-a-fire I.  
 hot-òne-ls, fire-place.  
 palam-palam-wiy-an, flames (= are-flaming).  
 palam-am-wiy-âhin, flames (= were-flaming).  
 tul-ul-ul-wi oct-in, hissing of-fire.  
 tuk-tuk-wi oct-in, crackling of-fire.  
 salats-wiyan, daybreak.  
 xap-la yokots, angel (flying person).  
 taud-a-wis-in amak, kill-themselves they-two.  
 lap-i-lp-is-an amak, whip-each-other they-two.  
 tuy-n-ty-us-ahin amak, shot-each-other they-two.  
 tixt-in-hin-na min tui-t-un, sick-am I your being-shot-from.  
 tuy-ut-na, am-shot I.  
 tixt-in-hin-ma amin tui-t-un, sick-are you by-him being-shot-from.  
 moy-on-on na tui-tui-mu, tired I from-shooting.  
 hiem na moy-in-in nim ilek-i, now I am-tired my singing (of singing).  
 hiem na moy-in-in as-as-i nim, now I am-tired biting my (of biting).  
 hiem na moy-in-hin as-as-i nan, now I am-tired biting me (of being bitten).  
 moy-on-on na hiem kun-òw-i nan min, tired I now striking me of-you (of  
 being struck by you).  
 hiem na moy-in-hin kun-òw-i mam nim, tired I now striking you of-me (from  
 striking you).  
 wa mi-hi-tan lap-en, ta-na-mam as hi cil-en, (?) you will him strike, that I  
 you (?) shall see.

### III. OTHER DIALECTS AND COMPARISONS.

This third part of the present paper deals briefly and comparatively with all the Yokuts dialects on which material is available. As originally written, this part contained discussions of six or eight dialects besides Yaudanchi and Yauelmani. Subsequently an opportunity arose to make a special study of the territory, tribal divisions, and dialectic groups of the Yokuts family as a whole. This study was carried out in the early part of 1906, and included among its results about twenty vocabularies, of different dialects, available for systematic comparison. This increased body of material has made possible a determination of the principal divisions of the Yokuts family. While many dialects have become entirely extinct, it appears, from the information obtained, that none of those thus lost was sufficiently distinctive to exclude it from the several dialectic groups that have been established. In other words, these groups appear to represent all the principal divisions of the Yokuts language at the time of its first contact with white civilization, and the dialects that have been lost to differ from those known only in minor features.

The linguistic material obtained in the last study made was recorded at so many places, and from so many different individuals, that it was impracticable to extend it beyond vocabularies, and to enter into grammatical investigations, in the time that was available. Previous knowledge of the structure of Yaudanchi and Yauelmani however made it possible to determine certain structural features, such as the pronouns and the verbal suffixes, in many cases, and the morphological information secured in this way is sufficient, when combined with the more readily obtained lexical and phonetic results, to allow of a satisfactory general classification of all the dialects.

## DIALECTIC DIVISIONS.

As stated at the opening of this paper, the Yokuts dialects were numerous, each small tribe, of which there were about forty, possessing a dialect distinct, in at least some words, from all others. At the same time the differentiation of even the most diverse dialects was not very great. Barring two small specialized groups comprising together not more than three or four dialects, all the dialects were more or less intelligible to one another. Structurally they are very uniform, and even lexically they differ more conspicuously by the use of different stems to express the same idea than by serious modifications of the same stem. Altogether the dialects, including the two specialized groups just mentioned, fall quite clearly into two divisions, of which the Yaudanchi and Yauelmani that have been described are typical grammatical representatives. These two divisions have been called the Foot-hill and Valley divisions.

The relation of these two divisions to the topography of the Yokuts territory is, when particularly considered, quite striking. As has been stated, the Yokuts occupied the entire southern half of the San Joaquin-Tulare Valley, besides almost all the adjacent foot-hills. They did not reach high into the mountains, which were held everywhere by Shoshoneans and, in the south, by Chumash. The present Tule river reservation, which is situated on original Yokuts territory, is farther up in the mountains than almost any other habitat of even the Foot-hill tribes, a circumstance due probably to the presence in the Tule river region of a well marked secondary range of the Sierra Nevada, which served as a natural dividing line between the two stocks. Within the Yokuts family the dialectic distinction between the inhabitants of the plains and those of the foot-hills is equally sharp. Not only that adjacent tribes living respectively in the valley and in the hills spoke differently, but, with only two exceptions, all valley tribes everywhere belonged to one division, and all foot-hill tribes to another. These two exceptions were, first, at the extreme northern end of the Yokuts territory, on the San Joaquin and Fresno rivers, where dialects belonging to the Valley division, but forming a well-marked subdivision, were spoken in

the foot-hills as well as on the plains.<sup>1</sup> Second, at the extreme south of the Yokuts territory, two similar and much specialized Foot-hill dialects were spoken about Buena Vista and Kern lakes. While these lakes are in the great Tulare plain, and the tribes inhabiting their shores were separated from the other tribes of the Foot-hill division by the Valley tribes on Kern river and Tulare lake, yet the two lakes are comparatively close to the mountains that shut off the Tulare basin on the south; and, as these mountains, while forming part of the Coast Range, are also connected with the southern Sierra Nevada into one long continuous system swung about in a semi-circle, the habitat of this isolated lake group is not so diverse from that of the remainder of the Foot-hill division as at first appears.

In connection with the sharp differentiation of dialects spoken in the valley and in the foot-hills, it is to be observed that almost throughout the Yokuts territory, at least from the San Joaquin southward, the distinction is equally sharp topographically. The foot-hills end abruptly, in some cases quite boldly, at the edge of the plain, and a few yards, sometimes a single step, bring one clearly from one zone into the other. North of the San Joaquin river the physiography is usually quite different, as the foot-hills slope almost imperceptibly into the valley in a long peneplain. This is the character of the country among the northern Yokuts tribes that live in the foot-hills but speak Valley dialects. It is also the character of the country among the Miwok, the stock adjoining the Yokuts on the north, and it appears that in this family, although its range is much higher into the mountains than that of the Yokuts, there is no such marked division into Foot-hill and Valley dialects as exists in the latter.

#### VALLEY DIVISION.

The Valley division consists of two groups, a northern, and a principal one occupying most of the valley proper.

<sup>1</sup> The Northern group of dialects, while showing some unity and a number of stems peculiar to itself, appears to have consisted of two sub-groups, one comprising the tribes living in the plains, the other those in the hills. The dialects of the plains sub-group were the nearer to those of the southern Valley tribes. Thus even in this Northern group, which on the whole belongs distinctively to the Valley division, the distinction between Valley and Foot-hill dialects is to some degree maintained.

The Northern group comprised the tribes living directly on the San Joaquin and on the streams to the north, the Fresno and the Chowchilla. From this group material is extant from the Chukchansi, Kechayi, Dumna, and Chauchila dialects. The dialects of the adjacent Dalinchi, Hoyima, Heuchi, Pitkachi, Wakichi, and perhaps Toltichi, also belonged to this group.

The main Valley group extended over the territory from lower Kings river to lower Kern river, that is to say, the land bordering on these streams as well as on the lower courses of Tule and Kaweah rivers and the smaller neighboring streams, as also on Tulare Lake. This was the largest group of Yokuts dialects, and formed linguistically a close unit. It included Yaelmani, Wechikhit, Nutunutu, Tachi, Chunut, Wowolasi, and Choinok, from which there is material, besides Wimilchi, Apiachi, Telamni, Wowowali, Koyeti, Truhohayi, and probably others, all or most of which are extinct.

The Chulamni, or Cholvone, occupying a detached territory in the vicinity of Stockton on the eastern bank of the lower San Joaquin river considerably to the north of all the remaining Yokuts tribes, also spoke a dialect belonging to the Valley division. Its affinities are very markedly with Chauchila, the northernmost dialect of the Valley division, and which, while most closely allied to the Northern dialects in the foot-hills, such as Chukchansi, shows so many special affinities to the main Valley group as to make it nearly a transition between the two.

#### FOOT-HILL DIVISION.

The Foot-hill division occupied a smaller area than the Valley division, and the number of tribes included in it was smaller. The number of its subdivisions is however greater, and these subdivisions differ considerably more from one another. The Northern and Valley dialects of the Valley division are practically identical in structure and in phonetics, the differences being lexical. Among the four Foot-hill groups, however, there are grammatical and phonetic differences, besides lexical divergences considerably greater than those existing in the Valley division. The four foot-hill groups were spoken respectively on Kings



river, on Tule and Kaweah rivers, on Poso creek, and at Buena Vista and Kern lakes.

The Kings River group is the northernmost of the Foot-hill division, and in every way closest to the Valley division. It is, for instance, phonetically entirely similar to the Valley dialects. Structurally it also agrees with the Valley dialects in certain respects, although other features, and these apparently more numerous and distinctive ones, ally it with the adjacent Tule-Kaweah group of the Foot-hill division. Lexically, also, it shows many affinities with both the groups of the Valley division, but the body of its words it has in common with the other Foot-hill groups. The Chukaimina, Michahai, Aiticha, and Choinimni, as well as probably one or two other tribes living on the immediate Kings river drainage, such as the Toikhichi and Kochejali, from whom no material has been secured, formed this group. The Gashowu of Dry creek, the next stream to the north of Kings river, between it and the San Joaquin, also belonged to this group, although their dialect shows a number of special affinities with the adjacent Northern group.

The Tule-Kaweah group of the Foot-hill division comprised a small number of tribes: the Yaudanchi, Wükchamni, and possibly two or three others, such as the Gawia, Yokod, and Bokni-nuwad. In this group there appear for the first time the sounds *ö* and *ü* and the other impure vowels that have been encountered in Yaudanchi; also *ñ*, which may have been an original sound of the language lost in the greater number of other dialects; while *l* is changed to *d*. Lexically this group is more different than its northern neighbor, the Kings River group, from the Valley division, and the same is true of its grammatical features. Thus, while "his" in all Valley dialects is "amin," it is "imin" in the Kings River group, but "an" in the Tule-Kaweah group. This group is the central one in the Foot-hill division, and linguistically also intermediate between the less specialized Kings River group and the more specialized Poso Creek and Buena Vista Lake groups, and may be regarded as typical of the Foot-hill division. Accordingly Yaudanchi, which belongs to this group, and Yauelmani, which forms part of the principal Valley subdivision, are typically representative, although they are geo-

graphically almost in contiguity, of the two main branches of the Yokuts family.

A much specialized group of the Foot-hill division comprised the Paleuyami of Poso creek, and possibly one or two neighboring dialects, such as Kumachisi. This small dialectic group does not show the *ö* and *ü* and impure vowels of the Tule-Kaweah group, nor has it changed *l* to *d*, although it uses *ñ*. Its greatest divergence is lexical. It possesses many stems peculiar to itself, and where the stems which it uses are those of other dialects, they are usually phonetically altered in Paleuyami, the vowels being particularly modified. The pronouns are as divergent as those of any Yokuts group; the verbal forms resemble those of Yaudanchi. While the distinctness of this dialectic group is considerable, it clearly forms part of the Foot-hill division.

A fourth Foot-hill group, a small body on the plains around Buena Vista and Kern lakes, seems to have consisted of only two tribes, the Tulamni, and another the proper name of which appears to have been entirely forgotten and which is therefore designated by the term *Khometwoli*, meaning simply southerners, applied to it by its *Yauelmani* and other neighbors. This small Buena Vista Lake group is lexically still more distinctive than the Poso Creek group, especially in the number of its stems peculiar to itself. Both phonetically and structurally, however, it appears to be about as close to the remaining Foot-hill groups, especially the Tule-Kaweah, as the Poso Creek group. Like the Tule-Kaweah dialects it possesses *ö* and *ü* and *ñ*.

#### RELATIONS OF DIALECTIC GROUPS.

As can be seen, grammar, lexical content, and phonetics usually present about similar degrees of distinctiveness in these several dialectic groups, so that a natural classification presents no complexities. Such a classification is illustrated in the following three diagrams. The first of these, figure 226, indicates the degree of difference or similarity between dialectic groups by the relative linear distances between the figures representing these groups. This graphic method is of course more or less imperfect while confined to a representation in two dimensions. As

will be seen, the area occupied in this diagram by the four Foot-hill groups is much greater than that covered by the two Valley subdivisions, indicating a much greater divergence from one an-

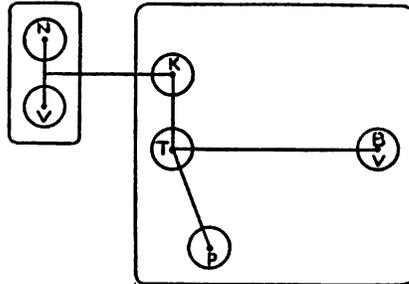


FIG. 226.

other of the former. This contrast is further accentuated by the fact that the closely similar Valley groups comprised a much greater number of dialects. If the extent of territory inhabited by the groups, and not the degree of their dissimilarity, had been indicated in this diagram, the Valley area would have been considerably larger than the Foot-hill area.

This first representation has the disadvantage that it shows only the actual degree of difference between dialectic groups, without any reference to the nature or cause of this difference.

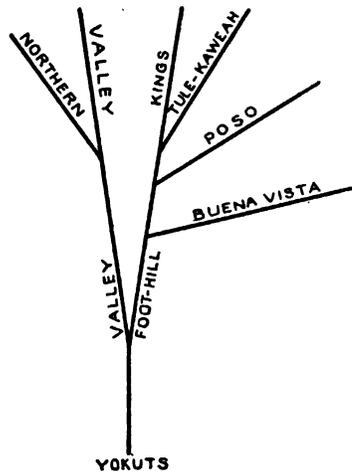


FIG. 227.

While, for instance, the Poso Creek and Buena Vista Lake dialects are perhaps more divergent even from their nearest ally, the Tule-Kaweah group, than this is different from all the other groups, even of the Valley division, yet it is not unlikely that these so divergent dialects are comparatively recent specialized offshoots from a former generalized Foot-hill branch, now represented more nearly in its early state by the Kings River or Tule-Kaweah subdivisions. With the probable original relation of the groups in view, a second diagram in the form of a tree of relationship has therefore been arranged in figure 227. This diagram expresses approximately the degree of similarity between dialectic groups by the distances between the ends of the lines representing them, while at the same time the branching of these lines illustrates the presumable origin and connection of the dialectic groups.

A third diagram, figure 228, has been arranged to show sche-

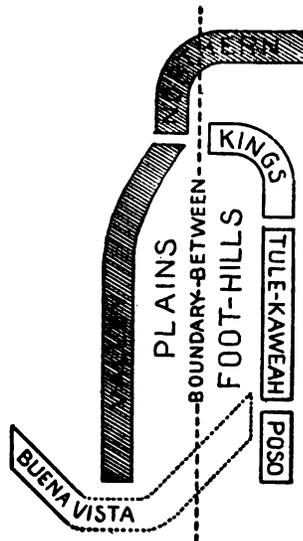


FIG. 228.

matically the relation of the dialectic groups to the Yokuts territory. If it is borne in mind that the geography of this sketch is only diagrammatic, and that the relationship of the dialectic groups is indicated by the chain of figures representing them, the meaning of the figure will be clear.

## LEXICAL RELATIONS OF DIALECTS.

The principal characteristic of the vocabulary of the Yokuts dialects is the great number of totally distinct stems used in different dialects for the same word. This feature is the more pronounced on account of the comparatively great uniformity of words when their stems do not change, and especially on account of the marked structural similarity pervading all divisions of the family. The diversity of dialects as regards stems becomes particularly apparent when, after having the conditions of Yokuts in mind, one turns for comparison to the larger families of the continent, as for instance Shoshonean. This family, adjoining the Yokuts on the east, has an immensely greater territorial extent, reaching from Wyoming to Southern California and from Oregon to Texas. Its dialectic groups are well marked; but as one turns the pages of a comparative vocabulary, he is impressed by the almost endless variability, time and again, of the same stem, with a persistence, however, of this stem through all or nearly all the dialects. In Yokuts the stems vary much less, and in fact are often identical; but instead, new radicals constantly appear as one passes from one dialectic group to another.

It is probable that a similar comparative phonetic uniformity but radical diversity characterizes many of the linguistic families of California, especially those in the large Central morphological group. This feature has been exaggerated by writers who have received impressions of the native languages by coming more or less in contact with the Indians without systematically collecting linguistic material; but, allowing for the necessary modification on this account, these impressions are nevertheless correct. Study shows conditions entirely similar to those of Yokuts to exist in Yuki, Pomo, and Costanoan. Dr. Dixon's recent study of the Shasta and Achomawi, as a result of which he has united these two groups into a single family, deals primarily with lexical similarities, but gives negative evidence of the great radical diversity that must exist in this now unified family. The miscellaneous published Maidu and Wintun vocabularies show quite clearly that the same conditions exist at least to a considerable degree in

these two stocks; precisely to what extent, remains to be seen. All these languages, with the exception in a measure of the Shasta-Achomawi, are phonetically very simple and clear. In none of them do radical syllables appear to contain two consecutive consonants; in all full, simple, and naturally produced sounds predominate greatly over impure, unusual, or phonetically idiomatic ones. In all there is very little phonetic modification, especially of consonants, upon contact of stems in composition or derivation. Even the vowels undergo little change in this way except for some phonetic harmony in Maidu and Yokuts. It is evident that with this quality of phonetic simplicity fundamentally impressed upon the consciousness or rather unconsciousness of these languages, extensive and complicated phonetic variations such as characterize Indo-European and some of the larger American families, cannot so well occur between dialects.

While the comparatively slight diversification of dialects through alterations in them of the same radicals, is thus causally directly connected with the phonetic character of the Central Californian languages—slight as compared with the total degree of differentiation of dialects,—the origin of the corresponding opposite characteristic of great radical diversity is less easily explained even in a general way. It is probable that this radical differentiation is due largely to the general tendencies which have resulted in the diversification of the languages of California into so many families or apparent families, so far as this diversification may have arisen within California and not be due to successive immigrations of already distinct stocks. But what those diversifying tendencies are is not yet known. All that can at present be conjectured is that they are connected, as they are co-existent with, the tendencies toward phonetic and structural simplicity that are so deeply impressed upon almost all the Central Californian languages.

Borrowing of words from other families will account for the radical diversities between dialects only to a slight extent. It is becoming evident that there has been more or less borrowing between almost all the families of the Central Californian group. In a few cases the number of stems held in common by two or more stocks is in fact so large as to raise the question whether it

does not point to their original unity. In most cases, however, the borrowed words constitute only a small portion of the total vocabulary of any family or dialect, and, what is more, they are as often stems denoting special ideas as they are words of more primitive meaning and considerable significance in linguistic comparisons. A second cause that has no doubt been operative in producing the differentiation of dialects, exactly to what degree is hard to determine, is the prevailing taboo of names of the dead. This in some cases probably has led to borrowing; but more frequently to the use of a stem properly belonging to a dialect and cognate in meaning to, but as a radical distinct from, the one which is temporarily or permanently dropped. This process, it will be seen, would explain a great number of diversities in Yokuts. It is however hard to imagine that this cause alone could have been productive even of only a large part of the extensive differentiation occurring. Where a single dialect shows a different radical from the other dialects of the same group, this explanation of the taboo as cause is reasonable enough; but when entire groups of dialects possess different radicals from other groups, it is evident that further factors must be taken into consideration. And these factors still remain to be discovered.

Numerous instances could be given of the disappearance of stems in one or more of the dialectic groups of Yokuts, and of the appearance in these dialects of other stems, often utterly unchanged from their forms in other groups but with a different meaning.

For instance, the usual Yokuts word for house is *t-i*, varied occasionally to *t-e* and *te-i*. In most Northern dialects this stem disappears and is replaced by *xo*. The usual meaning of *xo* is to be or live, which it appears to possess in all dialects. In addition it has probably given rise to the continuative suffix *xo* found in the Valley, Northern, and Kings River groups. In the Foot-hill dialects this stem *xo* acquires the additional meaning of sit, replacing entirely the Valley stem *huloc*.

The usual Foot-hill stem for sleep is *eñt-im*. In Paleuyami this is replaced by *k'enu*, which is nothing but the usual Foot-hill radical *k'ünü* or *k'aniu*, meaning to lie. In the Valley dialects sleep is expressed by *woi*, which is also the term for lie.

The usual Yokuts term for smoke is *mod-ak*. In most Northern dialects this disappears to be replaced by a stem *tsehan*, which reappears in Yaudanchi as *tceheñ* with the meaning of fog. The same stem, *tceheñ*, replaces the usual word for cloud, *k'üdai* or *k'ilei*, in Wükchamni, Aiticha, and Choinok, while in Tachi the stem *ceel*, which usually has the meaning of rain, appears for cloud. In place of this stem *ceel*, which is the customary one in the Valley dialects for rain, *xotoo* is characteristic of the Foot-hill dialects. But in certain special Foot-hill and Valley dialects, such as Tulamni, Gashowu, Tachi, Chunut, and Nutunutu, a stem *gono*, meaning fall, appears.

The usual stem for medicine-man is *ant-u*. The Northern dialects show a stem *teic*, which is the radical having in Yaudanchi, and apparently in most other dialects, the meaning of make. The medicine-man is he who makes.

In Paleuyami the usual Yokuts words for head and hair, *oto* and *dool*, are replaced by a form *t-uk*, which is nothing but the Foot-hill and Northern stem *teuk*, meaning in these dialects brain.

Such instances could be indefinitely multiplied, and were the Yokuts languages known more thoroughly an even greater number of radical diversities could no doubt be explained in this manner than is now the case. At the same time there is evidently a large element of diverse stems whose origin cannot be explained in this way. Such stems may also once have taken their rise through dialectic shifting of meaning, but the process and the fact can no longer be traced or determined.

To illustrate the degree of uniformity and diversity of the stems in the several dialectic groups of Yokuts, a comparative vocabulary of a few selected terms is here given. The fuller vocabularies from which this table is drawn will be presented in a future publication dealing specifically with the tribal divisions and dialects of the family.



	Four	Nine	Woman	Noose	Tongue	Blood	Snow	Fire
<i>Talamni</i>	tapañi	wutate	muk'ec	t-üñak	alädas	höpa	cawäyan	ucit
<i>Khometwoli</i>	tapañi	wutate	muk'ec	t-üñak	alädis	höp	cawäya	ucit
<i>Paleuyamä</i>	hetpeñi	lik'yï	xatneu	t-eñik	taläpis	hiba	cawäyin	ocot
<i>Yaudanchi</i>	hatpañi	nönip	muk'ec	t-üñäk	tadrat.	höpa	ponpon	ucit
<i>Wükhamni</i>	hatpañi	nönip	muk'ec	t-üñäk	tadxat.	höpa	ponpon	ucit
<i>Chukatimna</i>	hatpanai	nönip	mot.oihoi	t-inik	talxit.	höpa	ponpin	ucit
<i>Michahai</i>	hatpanai	nönip	mot.oihoi	t-inik	madat.	höpa	ponpin	ucit
<i>Atitcha</i>	hatpanai	nönip	mot.oihoi	t-inik	talxit.	höpa	ponpin	ucit
<i>Choinimä</i>	hatpanai	nönip	mot.oihoi	t-inik	madat.	höpa	ponpin	ucit
<i>Gashovu</i>	hatpanai	nönip	guyolum	t-inik	talxit.	höpa	ponpon	ucit
<i>Chukchansi</i>	hatpanai	nönip	muk'ëla	sinik	talxas	höpa	ponpon	ucit
<i>Kechayi</i>	hatpanai	nönip	muk'ëla	sinik	talxit.	päyax	ëni	ocit
<i>Dumna</i>	hatpanai	nönip	muk'ëla	t-inik	talxit.	päyax	ëni	ocit
<i>Chauchila</i>	hotponoi	sophonhot	muk'ëla	t-inik	talxat.	päyax	häyau	ocit
<i>Wechikhit</i>	hotponoi	sophonhot	muk'ëla	t-inik	talxat.	päyax	ponpon	ocit
<i>Natumtu</i>	hotponoi	sophonhot	muk'ëla	t-inik	talxat.	päyax	häyau	ocit't
<i>Tachi</i>	hotponoi	sophonhot	muk'ëla	t-inik	talxat.	päyax	camic	ocit
<i>Chunüt</i>	hotponoi	sophonhot	muk'ëla	t-inik	talxat.	päyax	häyau	ocit
<i>Wo'lasti</i>	hotponoi	sophonhot	muk'ëla	t-inik	talxat.	päyax	ponpon	ocit't
<i>Choinok</i>	hotponoi	sophonhot	muk'ëla	t-inik	talxat.	päyax	ponpon	ocit
<i>Yauelmami</i>	hotponoi	sophonhot	gäina	t-inik	talxat.	päyax	ponpon	ocit

	Rock	Wood	Dog	Grizzly	Eat	Run	See	Cry
Tulamni	xalu'1	te'imnat	teèses	biawas	luy	kütön	o'1	kehet.
Khametwók	odoxix	bònoc	teèses	dagatsan	luy	kütön	o'al	kehet.
Pateuyami	xelul	etis	teicuc	t'enei	na'	lohlin	dileu	ah-an
Yaudanchi	yakan	hüt'ac	teèje	ñhoo	duy	dawit	ñka	ah-in
Wüchamni	yakan	gòyote	teèje	ñhoo	duy	dawit	ñka	ah-in
Chukatimna	yakan	hit'ic	teèje	nohoo	naha	lawit	èka	waxil
Michakai	yakan	hit'ic	teèje	nohoo	naha	lawit	èka	waxil
Atticha	yakan	hit'ic	te'ècec	nohoo	naha'	lawit	èka	waxil
Choinimni	yakan	hit'ic	te'ècec	nohoo	naha'	lawit	èka	waxil
Gashowu	cillil	hit'ic	te'ècec	nohoo	naha'	yawite	èka	waxil
Chukchansi	cilel	hit'ec	teèxa	nohoo	xat	lihim	taic	[waxil]
Kechayi	cilel	hit'ec	teèxa	nohoo	xat	lihim	taic	waxil
Dumna	cilel	hit'ec	teèxa	nohoo	xat	lihim	taic	waxil
Chauchila	cilel	hit'ec	büuc	[nohoo]	luy	lihim	taic	[waxil]
Wechikhit	cilel	hit'ec	büuc	nohoo	xat	lihim	cil	waxil
Natunuts	cile'1	hit'e'c	büu'c	nohoo	xat	lihim	cil	waxil
Tachi	cilel	hit'ec	büuc	nohoo'	xat	lihim	cil	waxil
Chusut	cile'1	hit'ec	büuc	nohoo	xat	lihim	cil	waxil
Wo'last	yakan	hit'ec	büuc	nohoo	xat	lihim	cil	waxil
Choinok	yakan	hit'ec	teèje	nohoo	xat	lihim	[cil]	[waxil]
Yauelmami	cillil	hit'ec	büuc	nohoo	xat	lihim	cil	waxil

<sup>1</sup> Or biwacüf

Of about two hundred and twenty-five common words on which there is sufficient material for comparisons in the vocabularies obtained, one hundred and fifty, or fully two-thirds, show two or more distinct radicals in the totality of dialects. Of the remainder, forty-three, or barely a fifth, go back to the same radical in all six dialectic groups. In the case of about thirty words only one stem appears in the dialectic groups from which there is material, but information is lacking in regard to one or two groups. As these are usually the specialized Poso Creek and Buena Vista Lake groups, in which divergent radicals most frequently appear, a certain part of these thirty words would no doubt have to be added, were the information complete, to the one hundred and fifty showing two or more stems. In any case it is clear that at least two-thirds of the most common linguistic ideas, including nouns, verbs, adjectives, adverbs, and numerals, and excluding only personal and demonstrative pronouns, are expressed by diverse stems in one or more of the six structurally so closely united dialectic groups of Yokuts.

The respective proportion of words showing uniform and diverse stems is very different in the several classes of words. The figures are given in the accompanying table. It will be seen that the numerals are conspicuously uniform. Only the word for nine differs; but for this there are four distinct stems. Of next greatest uniformity are adverbial and interrogative pronominal stems. The proportion of uniform stems does not vary very much in the different classes of nouns and verbs, being twenty-seven per cent for verbs; thirty-two per cent, the highest proportion, for parts of the body; twenty-nine per cent for the names of a few of the more important artificial objects; twenty-four per cent for natural objects, including the cardinal directions and names of plants; and twenty-two per cent for mammals. Words denoting birds and animals other than mammals, indeed apparently show a very high frequency of uniform stems, amounting to about one-half, but this circumstance is due to two factors; first the accident of an unusually large number of gaps among these words in the vocabularies from the more specialized dialects; and second the greater predominance in this class than in others of onomatopoeic terms. It is notable that the proportion of

words derived from diverse stems is greatest in nouns denoting persons and in adjectives, in both of which classes the percentage of uniform stems is nothing.

	<i>Identical in all groups</i>	<i>Items in all so far as known</i>	<i>Different Stems</i>	<i>Percentage of total formed by identical stems</i>
<i>Numerals</i>	9	—	1	90
<i>Nouns</i>				
<i>Persons</i>	—	—	13	0
<i>Parts of the Body</i>	11	5	31	32
<i>Artificial Objects</i>	4	1	12	29
<i>Natural Objects</i>	6	3	29	24
<i>Mammals</i>	2	3	18	22
<i>Birds and other Animals</i>	3	16	20	49
<i>Adjectives</i>	—	—	9	0
<i>Adverbs and Interrogatives</i>	5	1	6	50
<i>Verbs</i>	3	1	11	27
<i>Total</i>	43	30	150	33

These proportions are of general interest in three points. First, in the comparatively small number of uniform verbal stems, showing that verb stems in this language are not more primary, original, or less subject to change than noun stems. Second, in the fact that the uniformity of stems in words denoting parts of the body is not materially greater than among nouns of other meaning, which is contrary to the usual supposition, which is no doubt often correct, that terms denoting parts of the body are less subject to alteration in dialectic differentiation than are other classes of substantives. Third, in the great uniformity existing among the numerals. This uniformity among numerals is indeed paralleled by the conditions existing in many languages, but is exceptional for California.<sup>1</sup>

The principal words found which go back to a single stem in all the Yokuts dialects are the following: The numerals from one to eight, ten, ear, eye, nose, mouth, eyelid, tooth, beard,

<sup>1</sup>In Costanoan and Yuki the numerals vary enormously in different dialects, and in Pomo, Chumash, and other families there are also great variations of a radical nature. Many of these variations are due to the composite nature of the numerals above three, and occur most frequently in languages whose numeral system is quinary or quaternary. The decimal system of Yokuts, like most decimal systems, is less transparent as to origin. It is however noteworthy that those of the Yokuts numerals that are clearly derivative, such as four and five, show as great a uniformity in the various dialects as those that go back directly to a simple radical.

woman's breast, bone, tears, sweat-house, boat, road, north, south, night, fire, water, panther, skunk, condor, goose, fish, louse, far, who, what, where, drink, give, and laugh. The following are radically alike in all the dialectic groups from which there is information, but may show different stems in those groups which are not represented in these words in the vocabularies: Lips, navel, ankle, faeces, urine, sinew, arrow-point, hail, star, leaf, tobacco, plains oak, manzanita, polecat, otter, beaver, bald eagle, magpie, blackbird, bluejay, mountain quail, pigeon, woodpecker, yellowhammer, road-runner, crane, kingsnake, lake trout, spider, up, and stand. As stated, most of the names of birds are onomatopoeic. The words which show radically different stems in one or more of the dialectic groups are too numerous to be listed, but include nine, person, man, woman, child, old man, old woman, father, mother, chief, friend, head, hair, tongue, neck, hand, fingernail, belly, back, foot, heart, blood, liver, brain, skin, house, bow, arrow, pipe, meat, name, west, sun, moon, day, cloud, rain, snow, smoke, ash, ice, earth, world, stream, mountain, rock, salt, wood, willow, tule, dog, bear, coyote, wolf, fox, wildcat, deer, elk, antelope, hare, rabbit, ground-squirrel, gopher, raccoon, badger, bird, eagle, buzzard, horned owl, raven, crow, humming-bird, quail, lizard, frog, fly, worm, white, black, red, large, small, good, bad, all, much, down, to-morrow, yesterday, no, eat, run, dance, sing, sleep, talk, see, kill, sit, lie, walk, and cry.

To determine the relative degrees of affinity or specialization of the several dialectic groups, computations have been made of the number of stems they respectively have and have not in common with other groups. The Kings River group of the Foot-hill division shows similarities to the Valley division, and was therefore compared with both the groups of this division as well as with the nearest group, the Tule-Kaweah, of the Foot-hill division. Excluding on the one hand words possessing identical stems in the four groups, and on the other hand words showing stems peculiar to the Kings River group, the Kings River group agrees with the Tule-Kaweah group fifty-four times and differs from it thirty-three times; and agrees with the Northern and the principal Valley groups respectively thirty-five and thirty-three times and differs from them fifty-two and forty-eight times. The

proportion of words of the Kings River group going back to the same stem as the corresponding words in the Tule-Kaweah group is thus about sixty per cent., whereas the proportion between Kings River and the two Valley groups is only forty per cent. While the Kings River group makes the nearest approach within the Foot-hill division to the Valley division, it thus clearly belongs with the Tule-Kaweah group to the former.

Within the Kings River group the Gashowu, spoken on Dry creek, between Kings river and the San Joaquin, shows the most specialization, and many of its differentiations are in the direction of the forms found in the Northern group, which is on the San Joaquin. A computation, however, shows forty-six stems agreeing with Kings River forms and differing from Northern forms, and only twenty of opposite affinity. While Gashowu therefore has something of a transitional character, and must be regarded as the one of all the Foot-hill dialects approaching most nearly to the Valley division, it yet belongs distinctively to the Kings River group.

Chauchila, which, as the only plains dialect in the Northern group from which there is material, may be taken as representative of these, differs in a number of cases from the foot-hill dialects in this group, and in these cases almost always agrees with the forms of the main Valley group. The proportion of its agreements and disagreements with these two groups—the main Valley and the Northern as typified by the dialects spoken in the foot-hills—is nearly equal, but somewhat in favor of the Northern group by about nineteen cases to fifteen. The sub-group of Northern dialects spoken in the plains, to which besides Chauchila the isolated Chulamni of the region about Stockton is known to have belonged, as well as probably Hoyima, Heuchi, Pitkachi, and Wakichi, thus formed a true transition between the principal Valley group and the sub-group of Northern dialects spoken in the foot-hills: Chukchansi, Dalinchi, Kechayi, and Dumna. Of course all these groups and sub-groups, the principal Valley, the Northern of the plains, and the Northern of the hills, belong to the Valley division.

The Northern group, including both its plains and foot-hill sub-groups, shows the following result on comparison with the other five groups of the family:

*Northern Group.*

<i>Group</i>	<i>Identical stems</i>	<i>Different stems</i>	<i>Percentage of identical stems</i>
<i>Buena Vista</i>	16	55	23
<i>Poso Creek</i>	24	47	34
<i>Tule-Kaweah</i>	35	58	38
<i>Kings River</i>	54	37	59
<i>Valley</i>	61	27	69

In addition there are thirty-six words in which the majority of the Northern dialects show stems peculiar to themselves. It is evident from this table that the Northern group forms part of the Valley division, that within the Foot-hill division its nearest relative is the Kings River group, to which it is contiguous; and that the Buena Vista Lake group is apparently the most specialized of all Yokuts groups.

Finally a computation was made as to the respective degrees of specialization of Poso Creek and Buena Vista Lake, the most modified groups, and their relationship to other groups. Paleuyami, representing the Poso Creek group, showed thirty-eight words radically distinct from the corresponding words of other dialects, or, if words are excluded which were not represented in all groups, thirty-two. The two dialects representing the Buena Vista Lake group showed sixty-seven words of radical distinctness, or, omitting the words not fully represented in all dialects, fifty-five. The relation of these two groups to the other groups of the family is shown by the following table. In this table the thirty-two to thirty-nine and fifty-five to sixty-seven stems peculiar respectively to the two groups in question, have been included in the series of figures expressing the number of words found showing stems different from those of the other dialects.

	<i>Buena Vista</i>			<i>Poso</i>		
	<i>Stems in Common</i>	<i>Stems Different</i>	<i>Percentage in Common</i>	<i>Stems in Common</i>	<i>Stems Different</i>	<i>Percentage in Common</i>
<i>Buena Vista</i>				29	71	29
<i>Poso</i>	29	71	29			
<i>Tule-Kaweah</i>	36	83	30	54	55	50
<i>Kings</i>	24	93	21	43	67	39
<i>Valley</i>	18	95	15	38	66	37
<i>Northern</i>	12	105	10	29	78	27

It will be seen that the proportion of stems held in common with other groups is throughout higher for Paleuyami than for the Buena Vista Lake dialects. The order of affinity is the same in both cases, namely, first with Tule-Kaweah, next with Kings River, and then with the two groups of the Valley division, the principal Valley group coming before the Northern. As regards the relation of the two dialects to each other, while the percentage of stems held in common by the two is of course the same for both of them, their position toward each other in their respective ranks of affinity is different. To the Poso dialect the Buena Vista group is among those presenting the fewest similarities, showing in fact, next to the distant Northern, the smallest number of stems held in common. This fact must be interpreted as proof of a really great divergence from each other of these two specialized groups. To the Buena Vista group, on the other hand, the Poso Creek group ranks very high in the scale of affinities, the proportion of common stems being almost as great as with the Tule-Kaweah group, which is the Buena Vista group's nearest relative. This apparently contradictory circumstance is due to the fact that the great degree of specialization of the Buena Vista group has lowered the proportion of all its other similarities, thus giving Poso Creek an unduly high apparent degree of resemblance to it. The number of stems common to the two groups and peculiar to themselves is only six. If the two groups were a common offshoot from the main Yokuts stock, and only of comparatively late differentiation from each other, the number of such stems would certainly be very much greater.

It thus appears that the Poso Creek and Buena Vista Lake groups are independent divergences from the Foot-hill division of the Yokuts family and probably from the Tule-Kaweah group or its progenitor; that they have comparatively little in common with each other; and that Buena Vista is the more specialized of the two, differing more than any other group in its lexical content from the remaining Yokuts groups.

In all the above computations words showing the same stem in all dialectic groups have been entirely excluded from consideration.



## PHONETIC RELATIONS OF DIALECTS.

The phonetic changes and equivalences of the Yokuts dialectic groups are few and simple. There are only three affecting entire groups with any frequency. These are, first a change of usual *l* to *d*, confined to the Tule-Kaweah group, within which it is universal; second the occurrence of *ö* and *ü* in the Tule-Kaweah and Buena Vista groups; and third the occurrence of *ñ* in the Tule-Kaweah, Buena Vista, and Poso Creek groups. It will be seen that all these phonetic specializations are confined to the Foot-hill division and that the northernmost group within this division, the Kings River, is free from them and agrees phonetically with the groups of the Valley division. While the first of these three mutations, the change of *l* to *d*, holds universally in the dialects in which it occurs, the substitution of the other sounds, *ñ* for *n* and *ö* and *ü* for *e* and *i*, is only partial in the dialectic groups in which they appear. But obversely *ñ*, *ö*, and *ü* are universally replaced by *n*, *e*, and *i* in those groups in which they do not appear.

The change of *l* to *d* in the Tule-Kaweah group requires no particular discussion. The fact that it is confined to only one of the six groups in the family, and that one a small group, shows this *d* to have been almost certainly a comparatively late development from a more original *l*. It is possible that this change of *l* to *d* is due to Shoshonean influence, for the Mono division of the Shoshonean family entirely lacks *l*. The case for this supposition is however not very strong, for the Kings River and Northern Yokuts groups are also in contact with the Mono and have retained *l*, whereas within the Tule-Kaweah group, which has made the change to *d*, only the tribes on Kaweah river, such as the Wükchamni, are in contact with Shoshoneans of the Mono division, the Tule river tribes, such as the Yaudanchi, having been in closer touch with the Shoshoneans of the distinct Kern River group, whose dialect contains *l*.

Of course *d*, corresponding to *t* as *g* does to *k*, appears in all Yokuts dialects irrespective of whether or not they possess *l*.

As regards the second principal phonetic peculiarity, the appearance of *ö* and *ü* and the so-called impure vowels in the Tule-Kaweah and Buena Vista groups, it is almost certain that Shoshonean influence must be reckoned with. This *ö* and *ü*, and perhaps other impure *o* and *u* sounds, are characteristic of the Shoshonean family, being found in all its dialectic branches except the southernmost of those in southern California. The Shoshonean family occupies almost the entire territory extending along the eastern side of the Sierra Nevada, and thence south and westward through southern California to the ocean. The four purely Californian families with which the Shoshoneans come in territorial contact along this stretch, the Maidu, Miwok, Yokuts, and Chumash, all show these impure *ö* and *ü* sounds. Moreover these four families are, so far as known at present, the only ones in California that possess these sounds. The case could not well be stronger for the territorial continuity of characteristics due to interinfluence. It is rendered still stronger by the circumstance that one division of the Miwok or Moquelumnan family, which is separated from the remainder of the stock, and out of reach of direct Shoshonean influence, in the northern Coast Range of the state, appears to lack these *ö* and *ü* sounds in question. Yokuts would appear to have been influenced less than the three other stocks, since the great majority of its dialects, including many of those in the foot-hills in direct contact with Shoshoneans, lack the *ö* and *ü*. The two dialectic groups possessing *ö* and *ü* probably had closer relations with the neighboring Shoshoneans than any other groups excepting that on Poso creek. The Tule-Kaweah group was in contact with both the Mono and Kern River divisions, and the Buena Vista group in close proximity to the Kern River, Kawaisu, and Serrano divisions, besides being in direct contact with the northeasternmost Chumash. Why the Paleuyami of Poso creek, who were probably more intimately associated with Shoshoneans than any other Yokuts group, should lack these sounds is difficult to understand. The Paleuyami dialect, however, often pronounces its vowels, especially *i*, *e*, *o*, and *u*, with a quality somewhat different from that which they have in other dialects; *i* and *u* especially are open to the point of sounding impure. In the dialects lacking *ö* and *ü*, *e* and *i* always

replace them. The other impure vowels, which, as has been stated of Yaudanchi, are frequently only induced by *ö* and *ü*, are replaced by the ordinary simple vowels in other dialects. Whether *ö* and *ü* are original in the words in which they occur, or only subsequent modifications of *e* and *i*, is not certain; but the great preponderance of dialects lacking *ö* and *ü*, and the proximity of the dialects possessing these sounds to Shoshonean territory, makes the latter explanation more probable; so that in this respect also the Valley and Kings River dialects seem to represent a more original state of the language than the southern Foot-hill groups.

The sound *ñ*, occurring in the three southern Foot-hill groups and replaced in all others by *n*, is the most difficult to understand. The evidence for influence of other families is not very strong. Mono and the other Shoshonean divisions in contact with the Yokuts, excepting the Kern River group and some of the southeastern Mono, all lack *ñ*, as does Chumash. This fact would accord with internal circumstances which tend to show that this sound is an original one in Yokuts. If this is the case, the *ñ* occurring in the Kern River division of Shoshonean is probably due to Yokuts influence.

Whereas *ñ* is invariably replaced by *n* in the Valley and Kings River dialects, *n* of these dialects is replaced by *ñ* in only a certain number of words in the three southern Foot-hill groups. Of a hundred Valley or Kings River words containing *n* medially, about forty southern Foot-hill words have *ñ*; of one hundred containing *n* finally, about twenty-five in the Foot-hill group replace it by *ñ*; of one hundred beginning with *n*, not more than five or ten show initial *ñ* in the southern Foot-hill groups. While there is thus a marked tendency for *ñ* to appear finally and especially medially, it is clear that its appearance is not entirely or directly due to its position in words. An examination of its relations to the vowels of the words in which it appears also brings out no definite conclusions. There is thus no apparent internal cause for the appearance of *ñ*. This circumstance, coupled with the fact that a stem containing *ñ* and appearing in several of the Foot-hill dialects invariably shows *ñ* and not *n* in all the dialects of these groups in which it occurs, makes it probable that this

sound goes back to the period when these three groups, and perhaps all the groups of Yokuts, were not yet fully differentiated. As the three southern Foot-hill groups are now so much specialized, they cannot have been separated very recently. It is therefore clear, first that *ñ* is almost certainly a sound of some antiquity in the dialects in which it occurs, and second that it may have been an original general Yokuts characteristic which has been lost in those three of the Yokuts groups that now contain the greater number of dialects.

Other than these three dialectic equivalences there are none in Yokuts that are general enough to be of much comparative significance in our present knowledge of the language. In a few words *l* and *y* correspond interdialectally. Usually the Valley group shows *y*.

<i>English</i>	<i>Poso</i>	<i>Buena Vista</i>	<i>Tule-Kaweah</i>	<i>Kings</i>	<i>Northern</i>	<i>Valley</i>
where	heli-	hel	hide-	hile-	hile-	hiye-
tooth	tile	teli	tedi	teli	teli	teyi
white			teodod	teoyoyi	(djolol)	djolol
tule	kololis				koyis	
buzzard					Chunut:	got-ela
					Yauelmani:	kot-eya
bow			dayap	dalip		t-alap

There is some irregular accordance between *t*, *t*, and *tc*. Some of the principal instances are shown in the following table. It will be seen that the Valley dialects show most tendency to palatalize *t* sounds formed at the teeth in other dialects. While *t* and *t* sound much alike to the untrained Indo-European ear, they are quite distinct to the Yokuts, and it seems strange that these equivalences between them should exist. It is however significant that these equivalences of *t*, *t*, and *tc* are on the one hand infrequent and on the other hand not always in the same direction, although in the case of any one word all the dialects of one group are usually a unit in regard to the sound they show.

<i>English</i>	<i>Poso</i>	<i>Buena Vista</i>	<i>Tule-Kaweah</i>	<i>Kings</i>	<i>Northern</i>	<i>Valley</i>
one	yit	yit	yet	yete	yet	yet, yete
belly	t.ot	tcote	t.ot.			tot.
bow			dayap	dalip <sup>1</sup>		t-alap
earth				xotol	xotsoi	xot-oi
sweat			dumkun	t.umun	teumak	t.opox
rabbit	tiu		tiu	teu	teu	teiu

<sup>1</sup> Some dialects: d-alip.

Several instances of equivalences of *t*, *t*, and *tc* between Yaudanchi and Yauelmani have been given in the discussion of the phonetics of the latter dialect.

There are some correspondences between *s* and *t*. In most words there are only one or two dialects which sporadically show one of these sounds in place of the other.

Mouth: *cama*; Gashowu, *t-ama*.

Eye: *caca*; Gashowu, Choinok, *t-at-a*.

Nose: *t-inik*; Chukchansi, *sinik*.

Beard: Southern Foot-hill, *d-amoc*, *djamoc*; Kings River group and Valley division, *damut*.

Testicles: Tule-Kaweah, *hoñoc*; Valley, *honot*, *honoc*.

Badger: *t-aniau*, *t-anau*; Choinimni, *sanau*.

Fish: *lopit*; Chukchansi, *lopis*.

In a few cases *x* and *k* correspond. The usual form for fingernail, *xeix*, becomes *kecik* in the Tule-Kaweah group. Horn, usually *koyec*, is *xoyec* in Gashowu and Dumna. In the Valley division the demonstrative stems indicating proximity are *hi* and *ki*, in the Kings River group of the Foot-hill division *ke*, and in the three southern Foot-hill groups *xi*, or *xe* and *xi*.

As has been said in the discussion of Yaudanchi, it is not quite clear whether *s* and *c* are two distinct sounds in Yokuts or only one. If distinct, the two are certainly much alike. There is some individual variation. Women especially are apt to pronounce *s* and *ts* much more sharply and clearly than men, from whom *c* and *tc* are more frequently heard. There is probably also some slight dialectic difference in this respect, as in certain Valley dialects, such as Yauelmani, *s* and *ts* are almost always heard.

While, as has been shown, radical differences between dialects are much more conspicuous in Yokuts than phonetic ones; and while regular phonetic mutations between dialects are but slightly developed; there yet are, as might be expected, many stems that, in an apparently irregular fashion, assume more or less different forms in the six groups and even in individual dialects. Only, these differences are neither very striking nor of such nature or degree as to have any appreciable significance in the present state of the study of the language. The kind and

extent of these "irregular" differences are represented in the selected comparative vocabulary given. Onomatopoeic words seem particularly liable to such irregular and certainly often meaningless modification, as a few examples of names of animals will illustrate.

Hummingbird: *bèmamgute*, *dèmamtcui*, *dèmamuku*, *dèmaitecu*, *bèmanduts*, *bèmamtcui*, *bèmax*, *gūmax*. The accent is in all forms on the first syllable.

King-snake: *godoñkid* = *golonkil*, *golonki*, *gololki*, *golonti*, *golwonti*, *golontil*.

Species of lizard: *kondjedja*, *kondjedjwi*, *kondjodjuwi*, *kondjedji*, *kondjowi*.

There are a few cases, but only a few, where the initial consonant of stems becomes lost or altered in certain dialects, so much so that the identity of the stem could not be asserted were it not for transitional forms in other dialects. The principal instances observed of this nature are the following.

Forehead: Valley, *pit-iu*; Poso Creek, *peleu*; other Foot-hill groups, *tiliu*.

Tongue: Northern and Valley, *talxat*; Tule-Kaweah, *tadxat*; Poso, *talapis*; Buena Vista, *aladis*; Kings, *madat*.

Belly: Northern, *balik*; Kings, *olok'*; Gashowu, *luk'in*.

Brains: Northern, Tule-Kaweah, Buena Vista, *teoga*, *tcok*; Chauchila, *oka*; Kings, *hoga*; Valley, *hop*, *hup*.

Saliva: Poso, *kelyi*; Buena Vista, *gūlüyi*; Kings *kilet*, *kelit*; Choinok, *helawat*; Northern, *hedjil*; Gashowu, Chauchila, *hexil*.

Bear: Dumna *uyun*; Chauchila, Tachi, *ului*; Choinok, *Yauelmani*, *moloi*.

#### GRAMMATICAL RELATIONS OF DIALECTS.

As has been said, a comparative grammatical examination of the Yokuts dialects closely corroborates their classification on lexical grounds. There is evident the same primary distinction between Foot-hill and Valley dialects, with a greater diversity in the former and with particular specialization in the Poso Creek and Buena Vista Lake groups. The structural features most readily available for comparison are, first, the pronouns,

especially the personal ones; and, second, the verbal suffixes of mode and tense.

PERSONAL PRONOUNS.

In at least seven-eighths of the Yokuts dialects the personal pronouns are remarkably uniform, the extent of the variations being shown by the two full tables previously given of the Yaudanchi and Yauelmani forms. In the great mass of dialects there are no variations of moment from these forms, and the more elementary forms, such as the subjective, objective, and possessive of the singular of the first two persons, *na*, *ma*, *nan*, *mam*, *nim*, and *min*, are absolutely identical. The third person shows more variation. In all dialects it lacks subjective and objective singular forms. The possessive, *his*, in all Valley dialects is *amin*, clearly related through analogy to the possessive of the second person, *min*. In the Foot-hill division the Kings River dialects show the form nearest the Valley form, namely, *imin*. The Tule-Kaweah group has *an*, made familiar from Yaudanchi, while the Poso Creek and Buena Vista forms are not known. There is a further difference between the Valley and Foot-hill divisions in that the former possesses subjective forms of the third person in the dual and plural, *amak* and *aman*, which at least the Tule-Kaweah group of the Foot-hill division lacks. These subjective Valley forms of the third person are, however, not true pronouns. They are not used as the equivalent of English "they," but merely as an indication of number, frequently with nouns as well as verbs, so that they equal in function the Yaudanchi number-particles *tik* and *tin*.

The Poso Creek and Buena Vista groups show the greatest peculiarities in the forms of their pronouns. Their singular subjective and objective forms are indeed identical with those of all other dialects: *na*, *ma*, *nan*, and *mam*; but their possessive forms vary from the usual ones,—principally through the introduction of a *k* sound into the forms for the first person. Poso Creek says *gen* for "my," Buena Vista *mik*. Poso Creek has *men* for the possessive of the second person, while the Buena Vista group has the usual *min*. It will be seen that while the forms used in these two groups vary from all others, and from

each other, there yet is within each dialect a parallelism of form between the first and second persons, similar to the parallelism existing in all other dialects: Poso Creek, *gen* and *men*; Buena Vista, *mik* and *min*; other groups, *nim* and *min*.

The *k* appearing in the possessive pronoun of the first person of these two southernmost groups is interesting because it would seem to be due to the influence of extraneous linguistic stocks. *K* is the radical element expressing the first person in the Chumash languages, with which the Buena Vista dialects were in immediate territorial contact. *K* is also found in the pronouns of the first person in the Kern River branch of the Shoshonean family, the branch of the family with which the Paleuyami of Poso creek were undoubtedly in closest relation. The general Shoshonean radical indicative of the first person is *n*, which appears in the Kern River dialects with the addition of *k*: *nögi* or *nöki*, instead of usual *nü*. It is scarcely to be supposed that the two southern Yokuts groups directly borrowed their *k* pronominal forms from the adjacent Shoshonean and Chumash stocks. Such borrowing is both highly improbable on general grounds and unlikely because these Yokuts dialects show the *k* only in the possessive pronoun, the subjective and objective elements of the first person being the usual Yokuts *n*. It is rather to be imagined that acquaintance with languages of contiguous families, and the unconscious influence of these, stimulated or reawakened a tendency that led to the use of these *k* forms in the affected Yokuts dialects. While such tendencies may seem intangible and vague, and it must be admitted that we as yet know practically nothing of their real nature, there nevertheless is evidence that they exist. It is well known, for instance, that the great majority of the numerous linguistic families of North America have either *n* or *m* or both for the roots of their pronominal stems of the first and second persons. This wide-spread agreement can scarcely be interpreted as an indication of original relationship of these families, many of which are as utterly distinct in fundamental structure and general phonetic character as they are totally diverse in their words. Neither can the phenomenon be attributed to accident, for the number of cases is far too great. It can also scarcely be imagined that pronominal



forms are above all others particularly liable to direct borrowing in American languages. It is accordingly necessary to conceive of a certain deep-seated tendency, not yet well understood, which either results in the production of pronominal forms in *n* and *m* by most stocks, and their adherence or reversion to such forms; or which renders most stocks particularly susceptible to external influence in the phonetic shaping of their pronominal stems. Conditions are certainly very remarkable in California as regards this wide-spread uniformity, as has been previously pointed out.<sup>1</sup> Of twenty-one families now recognized, seventeen or eighteen have *m* as the primary constituent of their pronominal stem denoting the second person; nine, or nearly half, show *n* in the first person, and four show *k*. The distribution of these four families is also instructive. They are Miwok, Costanoan, Salinan, and Chumash, occupying a continuous area in central California practically enclosing the Yokuts territory. As to these four families must be added the contiguous southernmost dialectic groups of Yokuts, and the also contiguous Kern River Shoshonean dialectic group; and as the sound *k* does not elsewhere in California appear as an expression of the first person, except that in Yurok, far in the north, it is used in combination with *n* in the form *nek*; it is evident that this occurrence of *k* to denote the first person is not accidental, but due to the inter-influence of territorially adjacent stocks. Even if it is held that this argument is weakened by the probable superficiality of the diversity of the families at present recognized as distinct in California, the explanation of this *k* as due to an original identity of the several stocks possessing it, cannot be accepted, for while some or many of the Californian linguistic families may ultimately prove to be related, this can safely be affirmed not to be true of the stocks here in consideration. Chumash and Salinan are in morphological type and phonetic character quite distinct from Costanoan, Yokuts, Miwok, and the remaining families of California.<sup>2</sup> The large and well defined Shoshonean family can also certainly not be regarded as genetically related to the minor and diverse Californian stocks. It is therefore clear that at least

<sup>1</sup> Amer. Anthr., n. s. V, 17, 1903.

<sup>2</sup> Ibid., 18.

part of the occurrence of *k* stems to denote the first person in California is due to the influence upon each other of distinct but geographically adjacent families.

#### DEMONSTRATIVES.

The demonstrative forms are also a ready means of distinguishing the Yokuts dialectic groups. The indefinite demonstrative *ta*, expressive of reference rather than of distance, but when referring to distance indicating remoteness and not proximity, seems to be used in all dialects without variation; but the forms of the several stems more or less definitely expressing distance vary phonetically. The usual stem of the demonstrative specifically indicating remoteness without invisibility is *ka*, found probably in all the dialects of the Valley division and in the Tule-Kaweah group of the Foot-hill division. In the Kings River group of the Foot-hill division the similar form *gai* is used. The two southern Foot-hill groups show somewhat aberrant forms, Poso Creek *ko*, and Buena Vista *xuntu*. The demonstratives indicating propinquity are sometimes one and sometimes two in number, but in the latter case always quite similar in form. The fundamental form is perhaps *ki*, corresponding to the *ka* indicating remoteness. The Valley division shows two forms, *hi* and *ki*, the former apparently indicating greater nearness. The principal Valley differs from the Northern group in using the *hi* stem in reduplicated form. In the Foot-hill division the Kings River group has *ke*. The three southern groups of this division all show *xi*, with the addition at least in Tule-Kaweah of *xe*. The relation of these forms indicating proximity may be briefly expressed thus: *xi* forms in the three southern Foot-hill groups are replaced by *ki* and *hi* forms in the most northern Foot-hill group and in the Valley division.

#### VERBAL SUFFIXES.

The structural factors most important in the classification of the Yokuts dialects are the tense and mode suffixes of the verbs. Prominent among these, both on account of the uniformity with which it coincides with the divisions and on account of the readiness with which it is obtained in securing information, is the

imperative. When asked to translate an English verb stem into their language, the Yokuts, like people of many other linguistic stocks, are likely to give the imperative form. Accordingly, once the imperative ending is known, almost any Yokuts vocabulary containing half a dozen verbs, no matter how inaccurately rendered, is almost certain to be sufficient to show to which division of the family the dialect in question belongs. The Valley dialects throughout use a form *-ka*, while the Foot-hill dialects all lack any suffix. So far as known this rule suffers no exceptions. The *-ka* ending, as has been brought out in the discussion of Yaudanchi, does not, like the usual *a*-suffixes, affect the quality of the stem vowels of the verb. There is therefore some reason for regarding it as being an enclitic particle in the inward consciousness of the language, rather than a true suffix. The *-ka* ending itself is subject to but little dialectic modification, other than becoming *-ga* in some dialects, or lightening its vowel until its form is almost *-k*. Of the known dialects Chauchila alone shows a tendency to vary the *a* of this ending to harmonize with the vowels of the stem of the verb: *-ka*, *-ku*, *-ki*, etc.

The true tense and mode suffixes of Yokuts are of two kinds. First those which like the future and present *-in*, the reflexive *-wic*, and the agentive *-itc*, appear to be found in all dialects with no alteration except slight phonetic modification; and second the remainder, of which each is confined to certain groups of dialects. Of this class the most prominent are the past suffixes *-ji* and *-ac* and the continuative *-ad* or *-al*, which are characteristic of the Foot-hill division, and the past *-an* and continuative *-xo* characteristic of the Valley division. The scant Poso Creek material does not show the continuative *-al*, but on the other hand there is no evidence that it is absent. The only exception to the general appertinment of these suffixes respectively to the two divisions is that the Kings River group lacks the *-al* continuative of the other Foot-hill groups and replaces it by the typical Valley form *-xo*. In addition to these two classes of suffixes corresponding to the two divisions of the family, there is a verbal form *-am*, or *-mi*, of a significance not yet determined, which is characteristic of the Northern and probably also the Kings River dialects, but is lacking in the main Valley and the Tule-Kaweah group.

A means of determining whether any dialect belongs to the Foot-hill or Valley division, with apparently as much certainty and readiness as by the imperative suffix, is furnished by the negative, *no*. All Valley dialects have the form *ohom*, all Foot-hill dialects *k'amu*, except that the Buena Vista group shows *u<sup>h</sup>hu<sup>n</sup>* or *a<sup>h</sup>ha<sup>n</sup>*.

#### COMPOSITION AND DERIVATION.

In the discussion of Yaudanchi a particular point was made of the apparent scarcity of evidences of composition and derivation in this dialect, although many of its words were of several syllables and of a length and appearance which in other linguistic families would be almost *prima facie* evidence of their derivative nature. The statement to this effect was written when but few of the dialects of the family were known to the writer. As the subsequent accessions of material have brought the number of dialects represented by considerable vocabularies to more than twenty, and as these have been systematically compared, it might be expected that evidence of the composite structure or derivative nature of many stems had thereby been obtained to a sufficient degree to necessitate a modification of the statement previously made. This is however not the case, for the collation of the various vocabularies not only fails to explain the origin of the Yaudanchi words, but makes it clear that derivative processes are of small significance in the etymology of all the branches of the Yokuts family. Three or four derivative suffixes are indeed visible in the compared vocabularies; but these suffixes are nearly all derivable from an inspection of the Yaudanchi material alone, are of indefinite significance, are applied to a comparatively small number of words, and make the original meaning of the stems to which they are appended, many of which are polysyllabic, no clearer than before. As has been said before, the lexical differentiation of the Yokuts dialects takes place primarily through the employment of radically different stems, and secondarily through minor phonetic modifications which are clearly not of structural or derivational significance. Etymological differences between dialects are so few because derivation is a factor of negligible significance in Yokuts.

A striking instance of the failure of dialectic comparisons to shed any light on the origin of Yokuts words is furnished by the numerals four and five. These words are undoubtedly derivative, four, *hat-pañi* or *hoto-ponoi*, being certainly formed from *poñoi* or *ponoi*, two, and *yit-cinil*, five, from *yet*, one. This being the case, it might be supposed that in so great a number of dialects as have been examined, and these belonging to six distinct groups, there would be a certain number which showed forms for four and five containing the elements two and one in combination with other elements than the dialects previously known, or containing the same elements in a phonetic form that would make them identifiable with stems of known significance. This supposition is however not a fact. The twenty-one dialects show forms for these two numerals that are in their elements absolutely identical and that present variations which are clearly only phonetic, that is to say, in themselves meaningless. It is therefore clear that, while it cannot be doubted that these two words are composite in origin, this original composition yet goes back to an earlier stage of the language; and that in its present stage, as proved by their unity in the most diverse dialectic groups, these composite forms are regarded and treated by the language purely as radical stems. The same fact is emphasized by the words for fourteen and fifteen, which are formed from the abbreviated stems for four and five by the addition of the suffix *-am*. As stated in the presentation of *Yaudanchi*, the abbreviation of these two numerals before this decimal suffix runs counter to their etymology, the second element of each being, as it were, deliberately cut in two and the final portion lost before the suffix. *Hat-pañi* becomes *hate-p-am*, and *yit-cinil* *yit-c-am*. These two forms *hate-p-am* and *yit-c-am* have been found not only in *Yaudanchi* but in five other dialects, representing all the principal groups of the family; and their forms in these six dialects are, except for variations in the quality of their vowels, absolutely identical. Here again it is clear that the derivational process has long since become crystallized, and that the derived form is treated by all dialects alike as a radical unit. In other words, while there is some etymological derivation in Yokuts, the process is a completed rather than an active one, and the fluidity of

elementary parts and the possibility of their free combination so characteristic of many American languages, is entirely wanting.

The following are the principal derivational suffixes apparent in the comparative vocabularies.

*-atc, -itc*, diminutive; Yaudanchi *-hac*, apparently a plural of adjectives when used substantively.

akd-atc, child in Michahai, Choinimni, Gashowu, and Dumna, from axid, daughter, child.

got-etc, small in Northern dialects, from got-i, large.

mets-ots, small in Buena Vista, from stem met, large.

gu-itc, beads in Wükchamni.

*-ic, -uc*:

Tail: Foot-hill, gut; Valley, gut'-uc.

Liver: dip; Kings River, dalap-ic.

Arrow: t'uy-oc; t'ui, shoot.

Woman: Valley, muk'-èla; Foot-hill, muk'-ec.

Tongue: talxat; Poso and Buena Vista, talap-is, alad-is.

Thigh: k'oh-ic, k'ow-i, gow-i.

Sun, moon: Valley, o'p; Kings and Tule-Kaweah, up-ic, up-uc.

Wood: hit'-ec; hit'-el, ash.

Ash: Tule-Kaweah and Poso, hap-ac.

Sand: Tule-Kaweah and Kings, wak'-ac.

Digger-pine: ton, Tule-Kaweah, toñ-ac.

*-il, -ul*:

awaic-il, awatc-il, chin; some dialects, awac, awadji.

tcimec-il, eyebrow; some dialects, d-imit.

gepc-il, shoulder; some dialects, gapsai.

kuyo-c-il, knee; kuyo, ankle.

cayat-el, foot, in Paleuyami.

hacp-el, Choinok; hacpay-al, Yauelmani; has-oski, Tachi: lungs.

getsñ-il, gatsñ-il, bow, in Paleuyami and Buena Vista.

humn-ul, quail.

hit'-el, ash; hit'-ec, wood.

*-ui, -tcut*:

Navel: teutkuc; Buena Vista, tsotus; Yaudanchi, teudoc-ui.

Knee: upuc; Choinimni, poc-ope-ui.

Kidney: tsiliuxai; Tachi, tsilang-ui.

Hummingbird: bêmamgute, etc.; bêmam-te-ui, dêmam-te-ui; Tachi, ho-ho-te-ui.

Butterfly: wal-ap-te-ui, dab-â-dap-te-ui; wal-wal, butterfly, dap-dap, leaf.

-na:

Snake sp.: delits-delits-na.

Hummingbird: kum-kum-na.

Horned owl; hi-hi-na.

The most conspicuous indications of composition or derivation other than by these suffixes are found in the following words:

Four: hat-pañi, hoto-ponoi; poñoi, ponoi, two.

Five: yit-cinil, yit-icnil; yit, yet, one.

Man: Buena Vista, kohote; Tule-Kaweah, kouhte-un; Kings, bute-on.

Woman: Foot-hill, muk'-ec; Valley, muk'-ëla

Girl: Northern and Valley dialects, various, gai-na, woman, girl, gai-ta, girl, little girl.

Old man, old woman: mox-elo, mok-djo, mok-nite, mote-atc, mote-odo; Poso, nem-halateci, nem-a, large.

Father: no-pop; Tule-Kaweah, na-tet; no- is possibly originally the possessive pronoun of the first person; cf. mother, no-om, na-joj.

Sweat-house: moc; Poso, muc-añ.

Pipe: baum, etc.; Poso, bam-uñ; other dialects, cuk-ut, cuk-mai.

Belly: balik, olok', luk'-in.

Sun, moon, day; o'p, op-odo, up-ic, op-di, ob-ol-iu.

Snow: ponpon; some Valley dialects, hayau; Poso and Buena Vista, caway-an.

Large: Tule-Kaweah, met; Valley, mat-ek, may-ek.

Jackrabbit: Poso, tok-coc; Yaudanchi and Yauelmani, tuk-uyun; tuk, ear.

Rabbit: tiu, teiu; Poso, yem-tseu.

Flat tule: got; Poso, gats-wei; Buena Vista, gats-iwi.

Dog: teec-ec; Northern, tce-xa.

## REDUPLICATION.

The failure of extended comparative material to show any considerable processes of derivation by composition or affixation in Yokuts is repeated in the similar failure of this material to throw much light on processes of derivation by reduplication. A considerable number of duplicated and reduplicated words are evident, but in a very great majority of the cases these retain their reduplicated form, often with more or less phonetic modification, through all the dialectic groups. Where such a reduplicated form is not shown by one or more groups, it is usually the stem itself that fails to appear in these groups, not the reduplication of the stem. *Dul-ul*, mountain, and *inc-ic*, good, exist in these reduplicated forms in all dialects in which they appear at all.<sup>1</sup> In the dialects in which they are not found, they are replaced by the entirely distinct stems *lomit* and *met*, or similar forms. It is evident that reduplication like composition is no longer an active word-forming process in the language, but that the forms which it has produced are usually treated by the language as simple stems.

Of course the purely grammatical process of reduplication in the numeral and verb to express distribution and iteration, which can be applied at will to any stem of these two parts of speech provided that its significance allows, is of a different character from the etymological reduplication here discussed, and must not be confused with it.

The etymological reduplication found in the Yokuts dialects takes several different forms. First there is simple duplication, usually of monosyllabic stems, as in *dapdap*, leaf. Second there is a form resembling this, in which the first syllable of a disyllabic or polysyllabic word is repeated, including at times the consonant following as well as preceding the vowel of the duplicated syllable. If the words in which this form of reduplication occurs can be regarded as composite, then the first monosyllabic constituent of the words is entirely repeated, and the process must

<sup>1</sup> At the same time there are found such unreduplicated forms of the same stems as the objective *inic-ya* and the locative *dul-au*. Similar forms, such as *sil-iu* from *sil-il* and *nat-umduwic* from *nat-et*, are evidence of some tendency especially for final reduplication to disappear before suffixation.



be considered as a duplication of an entire stem or word-element. If however such words are not composite, then the process is to be regarded as merely a phonetic reduplication of the first syllable of a word. Such forms as pud-pud-ui and yip-yap-ut are examples. Third, there occurs a process that has the appearance of final reduplication. This differs from the two preceding methods in that the reduplicated portion of the word seems never to contain more than one consonant, whether this be initial or final. Thus we have inc-ic and wile-li. Fourth and finally, there are a few words showing duplication or initial reduplication with a shifting of the vowel of the second of the reduplicated syllables to a position between the two duplicating syllables. Thus poc-o-pe-ui, knee, undoubtedly related to a form upuc found in other dialects; and dab-ā-dap-teui, butterfly, probably related in origin to dap-dap, leaf. This form of reduplication also occurs, as has been mentioned, in connection with grammatical reduplication in the verb. It is infrequent as an etymological factor. Reduplication of the first two types, or full duplication and initial reduplication, is the most frequent, thirty-five or forty instances having been noted, mostly of the first of these two classes. Final reduplication has been found in about twenty-five words.

*Duplication.*

Man: nò-no, V, N.  
 Eye: ca-ca.  
 Heart: hon-hon, hoñ-hoñ.  
 Arrow: g'el-g'el, P.  
 Earthquake: yel-yal.  
 Cloud: p'ia-p'ai, BV.  
 Snow: pon-pon.  
 Ice: gañ-geñ, P.  
 Ocean: hòu-ho, N.  
 Leaf: dap-dap.  
 Duck sp.: k'ui-k'ui.  
 Snake sp.: dèlam-dèlam.  
           delits-delits-na.  
 Butterfly: lau-lau.  
           wal-wal.

Worm: k'ewas-k'ewas, N.  
 wek-wik, V.  
 Hawk sp.: wate-wate.  
 Mallard duck: wat-wat.  
 Duck sp.: con-cen, P.  
 Duck sp.: ox-ox, BV, ox-ux-um, P.  
 Road-runner: oi-ui.  
 Goose: la'la'.  
 Bluejay: tai-tai, etc.  
 Horned owl: him-him, etc.  
 Magpie: otc-otc.  
 Walk: tiu-tiu, P.

*Initial Reduplication.*

Lips: yip-yap-ut, yibebit, yebit.  
 Lower leg: pud-pud-ui, bul-bul-ui.  
 Long beads: tca-tca-yal, BV.  
 Thunder: mi-mi-at.  
 Stand: wo-wu-l.  
 Turtle: koi-koy-ot.  
 Bird: we-wu-tsoi, V, wi-wi-tsi, P.  
 Horned owl: hi-hi-na, him-him.  
 Small owl: gu-go-teup.  
 Hummingbird: kum-kum-na, K, ho-ho-teui, Tachi.  
 Duck sp.: ox-ux-um, P, ox-ox, BV.

*Final Reduplication.*

Father: no-p-op, na-t-et.  
 Mother: na-j-oj.  
 Throat: so-lo-lo, K, N.  
 Fingers: xal-al-nit, xal-il-it, K; xapal, V, T, BV.  
 Foot: dad-at (†).  
 Mountain: dul-ul, dul-au; gop-up-at, BV.  
 Plain: wal-al, V.  
 Rock: sil-il, N, V, P; odox-ix, BV.  
 Tule sp.: kol-ol-is, P, koy-us, koy-is, N.  
 White: djol-ol, teoy-oi.  
 Good: ine-ic.  
 Lie: ban-an-.

Dog: tcec-ec, FH.  
 Weasel: cam-im, N, K.  
 Duck sp.: tco-gu-gu, to-gu-gu, V.  
 Lizard sp.: kon-dje-dja, etc.  
     wi-le-li, wu-lo-lu.  
 Frog: o-gu-ku.  
 Butterfly: wo-ge-gi.  
 Woodpecker: pal-ad-at, pal-ag-ak.  
 Small owl: co-li-li.  
 Ground owl: we-dji-dji.  
 Hummingbird: bem-am-guts, etc.  
 Dove: up-la-li, up-ya-yi.

*Reduplication with Change of Vowel.*

Knee: poc-ope-ui, K.  
 Wood-rat: dum-ò-dum-ute, T.  
 Snake sp.: cap-ā-cip-itc, lap-a-lip-it.  
 Butterfly: dab-ā-dap-teui.

SUMMARY.

For convenience, the principal phonetic and grammatical differences and correspondences of the six dialectic groups are reviewed in the following table.

	FOOTHILL				VALLEY	
	<i>Buena Vista</i>	<i>Poso Creek</i>	<i>Tule-Kaweak</i>	<i>Kings River</i>	<i>Northern</i>	<i>Valley</i>
l	l	l	d	l	l	l
ñ	ñ	ñ	ñ	n	n	n
ö, ü	ö, ü	e, i	ö, ü	e, i	e, i	e, i
Imperative	—	—	—	—	-ka	-ka
Preterite	ʔ	-ji	-ji	-ji	—	—
Preterite	-ac	ʔ	-ac	-ac	—	—
Preterite	—	—	—	—	-an	-an
Continuative	-al	ʔ	-ad	—	—	—
Continuative	—	—	—	-xo	-xo	-xo
Fut., Partic.	-in	-in	-in	-in	-in	-in
Reflexive	ʔ	ʔ	-wic	-wic	-wic	-wic
Agent	-ite	-ite	-ite	-ite	-ite	-ite
My	mik	gen	nim	nim	nim	nim
Thy	min	men	min	min	min	min
His	ʔ	ʔ	an	imin	amin	amin
This	} xi	xi	xe	} ke	hi	hihi
This		ki	ki		ki	
That	runtu	ko	ka	gai	kaʔ	ka
That	ta	ta	ta	ta	ta	ta
Where	hel	heli-u	hide-u	hile-u	hile-u	hiye-uk
No	a'ha'	k'ami	k'amu	k'amu	ohom	ohom

## THE VARIOUS DIALECTS.

## PALEUYAMI.

Phonetically, Paleuyami is much specialized. Its vowels particularly have been affected, and with an apparent perversity that has an aspect of unconscious deliberateness. Words containing two similar vowels in other dialects, often have one altered in Paleuyami so as to contrast with the other: *ilik* becomes *elik*. On the other hand in a smaller number of words diverse vowels are assimilated in Paleuyami, usually to *i*: *tc'olipi* becomes *tc'ilipi*. Metathesis of vowels is frequent: *xecix* becomes *xisex*. Finally there are simple changes of single vowels. The most frequent of these changes is to *e*, most often from *a* or *i*. The contrary changes, to *a* and *i*, are few; *o*, or *i* following *o*, sometimes becomes *a*, and *e* followed by *a* becomes *i*. Between *o* and *u*, change to the former is more frequent, just as *e* is favored over *i*. *U* followed by *i* becomes *o* followed by *o*.

## Similar vowels differentiated in Paleuyami:

yet-sili	yit-sinil
t-eñik	t-inik, t-üñük
piete	piic, pöötc
elik	ilik
xelul	silil
tihet-	tihit-
t-epid	t-ipdi, tcipit
piel	pi'l
tcicuc	tcecec
t-iel	t-eel, t-ööd
hoñheñ	hoñhoñ, honhon

## Different vowels assimilated in Paleuyami:

tc'ilipi	tc'olipi
minits	menit-
wihicit	wehecit, wöhöcit
wiwitsi	wewutsoi
opt-o	apt-u

## Metathesis of vowels in Paleuyami:

menuc	munac
t-eiu	t-ieu
weteip	witcep
teimicel	teimecil
tilei	teli
xisex	xecix
ecil	icel, <i>ücad</i>
k'eli	k'ilei, k'ü dai
isen	esin, <i>ösün</i>
heliu	hileu
etis	hit'ec, hüt'ac, hit'ic
wexi	wüxe, wixe
dibek	tepiik, töpük

## Paleuyami changes to e:

sextel	sitxil
keiu	kaiu
wiwel	wowul
wa'en	wa'n, wan
k'eneu	k'aniu, k'ünü
det-i	dot-i
wetek	watak
eñt-eu	ant-u, añt-u
ceca	caca
cema	cama
gepcil	gapcai
keyu	kuyu, kuyo
meñal	manal
xowet	xowot
djamec	d-amoc
hetpeñi	hatpañi, hotoponoi

## Paleuyami changes to o:

tok	tuk
got	gut, gut'uc
xo	ka
tsoyotis	teayatac, tcoitoc
xocom	xucim, xucum
opoc	upic, upue
ocot	ucit, ueut, ocit

Paleuyami changes to i :

hiba	hèpa, hōpa
hig'a	hèxa
gixa	gèxa, k'ōxa
yit	yet
k'ami	k'amu

Paleuyami changes to u :

nut	not, notu
mut-ka	mod-ak
humñol	humnul

Paleuyami changes to a :

lopat·	lopit·
lomat	lomit
comat	comot
xotai	xotoi
gats-wei	got·

*Grammatical Forms.*

Pronouns :

S 1	na, na'en, poss. gen.
S 2	ma, ma'en, poss. men.
D 1	mak
P 1	mai

Demonstrative forms :

xi, xiu, xeu, xien ; ko, xota, go-awe ; ta, ta-in (or ta-en, his).

han-ta, what ?

wat-entex, who ?

Verbal forms :

hiem toyon-si, it is (already) night.

na-an ti ma, will you eat ?

tsaa na na-an, I will eat.

hel ma tawaca, are you thirsty ?

ama na tawaca, I am not thirsty.

heliu ma tanāwi, where are you going ?

k'eneu-ji, xai-si.

lolh-in.

wod-oyits, hatam-its, dancer, singer.

ui-ui-wil-eits, road-runner.

ho', wiwel, tiutiu, sit, stand, walk !

**Miscellaneous:**

kumui-tcin, all; waxe-tcin, many.  
 notci-gen, my friend.  
 tok-men, your ear.  
 citcil-hal, deer.

**BUENA VISTA GROUP: TULAMNI AND KHOMETWOLI.****Pronouns:**

S 1	na	nan	mik
S 2	ma	mam	min
D 1 ex.	nak		
D 1 in.	mak		
P 1 ex.			nimak
P 1 in.	mayi		
P 2	man		
P 3	aman		

Aman, they, is a Valley form. Yaudanchi lacks it.

**Demonstratives:**

xi, this, plural xi-san; xi-ts, here, xi-ten, there.  
 xuntu, that, plural xunto-s-an; xuntu, xonto, and xata were  
 also given as equivalents of Yauelmani ke-in, this one's, his.  
 ta, that.  
 han-wil, what?

**Forms of nouns:**

sas, sas-al, eye, probably eyes, in other dialects caca.  
 suk'-al, "ear," probably ears; in other dialects tuk.  
 This -al is evidently the occasional Yauelmani plural-collec-  
 tive suffix of inanimate nouns -hal.

Cases: locative, hulas-iu, tsidjests-iu, teapan-au; possessive,  
 got-eya-n.

**Verbal forms:**

lui', eat! (imperative).  
 luy-on, biy-en.  
 luy-os, tawate-ac.  
 haa-l, tana-al, tawate-al, xahayaw-al, oho'-l, gune-al.  
 ma'lac-itc, hiwet-atc.

## WUKCHAMNI.

Except for some lexical differences, this dialect is practically identical with Yaudanchi.

Pronouns: na; nim, min, an.

Demonstratives: xi; ka; ta-ñ; han.

Adjectives: puunun, pudjidj, little.

Nouns: t-i, t-eu.

Verbs: wokiy-ad, tan-āad, taut-a-d; daid-ji; duy-on; hai-wuc, hoyo-woc; cañ-cañ-wid-eite, kux-wud-eite.

The locative mam-au, at you, is used in the phrase xi-mamau, this, or here, near you. A form xi-ne-u, here, differs from Yaudanchi xe-u, but has northern analogues.

## CHUKAIMINA AND MICAHAI.

Pronouns: na, nim; ma, mam, min; imin; mak.

Demonstratives:

ke, this, locative keu, keua, possessive kin.

kai, gai, that, locative kau, gau, possessive kan.

ta, that.

han, what?

Nouns:

nihin-au, dul-au.

Numerals:

yetc-am, eleven, poted-om, twelve, etc., as in Yaudanchi.

Verbs:

tah-an, nah-an, xo-on.

tawat-a, dead.

yuwanwaca, marry.

hayu-ac, waxal-ac, tawat-ac.

laha-ite, moccasins.

## AITICHA.

Pronouns:

S 1	na	nan	nim
S 2	ma		min
S 3			imin



## Demonstratives:

ke, this, objective ki-n.  
 gai, that, possessive ka-n.  
 ta, that.  
 han, what?

## Verbs:

hoiteuc, tawat-a-c.  
 ukun kin, drink this!

## CHOINIMNI.

## Pronouns:

nim-a, my [*sic*]; min-a, thy [*sic*]; imin, his.

## Demonstratives:

ke, this, ke-u, here.  
 gai, that, ganiu, there.  
 ta, that, tau, there.  
 han, what?

## Numerals:

The suffix -am is used for eleven to nineteen as in Yaudanchi.

## Verbs:

wan-āc, elk-ac, xahi-ac, ikā-ac, taut-a-c, wowol-ac, k'anuw-ac,  
 waxal-ic.  
 xoot-xo, dau'hali-xo.

## GASHOWU.

## Pronouns:

S 1	na	nan	nim
S 2	ma	mam	
S 3			amin
D 1 ex.			nimgin
D 1 in.	mak		
P 1 in.	mai		main
P 2	man		
P 3	aman		

Cf: wixi aman dumna, many the (lit., they) Dumna.

The form for his, amin, is that of the Valley and Northern dialects; the Kings River dialects have imin.

## Demonstratives:

ke, this, obj. kin, poss. kèin, loc. ke (for keu?).

gai, that, loc. gani, ganiu.

ta, that.

han, what?

## Numerals:

yetcam, eleven; potedom, cophiom, hatepam, yit-team, teol-pom, nomtcom, muntcom, nonpom, twelve to nineteen.

## Verbs:

tah-an.

wan-aac, wan-ci; ika-ac, eka-ci; hatam-ic, xahi-ac, hoite-ic, tauta-c, xoo-oc, k'anuw-ac, heut-ic, waxal-ic, ukn-ac, nah'-ac, pan-ac, lok'òn-oc (luk'in).

daw'hali-xo.

haya-wic-ac, tcaplu-wic.

kam-ini, teic-ini.

xo-mi, wowul-mu, banana-mi.

## KECHAYI.

Of the few pronominal forms obtained, the one of most interest is amungun, their.

Demonstratives found were hi, plural hi-c-in, locative he-u, and gi, locative g-eu.

The imperative shows the ending -ka or -ga.

## DUMNA.

## Pronouns:

S 1	na	nan	nim
S 2	ma	mam	min
S 3			amin
D 1 in.	mak		
P 1 in.	mai		
P 2	mān		

## Demonstratives:

hi, this; heu, here.

ki, gi, this; geu, here.

kini, this (?); kineu, geneu, here (?).

hān, what?

## Nouns:

ton, digger-pine, plural tun-āa; ut'u, tree, ut'ò-a, timber. These plurals of inanimate nouns are unexampled in all other dialects that are grammatically known. Nònei, plural of nòno, man, occurs in other dialects also.

cutcon-au, (in the) brush.

ak'd-atc, child; poyod-atc, old man.

## Adjectives:

got-etc, small, apparently from got-i, large.

## Numerals:

yetcam, eleven, potedom, twelve; copiom, hate'pam, yit'tcam, tcolpom, nom'tcom, mun'tcam, non'pom, thirteen to nineteen.

## Verbs:

lihim-ga, run, holoc-ga, sit, wowul-ga, stand, ugun-ga, drink, wan-ga, give, yet-ka, speak—all imperative.

ogon-an, drink, wiy-an, say, tac-an (taic), see.

tanyuc-a-xon.

tcapli-wic, moccasin; dat-la-wac, stepping-ceremony.

hacaw-ana, dead.

ma ti-ma wihi, did you say it?

## TOLTICHI.

A divergent northern dialect, which has become extinct, was the Toltichi, spoken by the Yokuts tribe living farthest up the San Joaquin river. The last person actually using this dialect, a woman, is said by the Yokuts informants to have died thirty years ago. She was related to the old woman from whom the Dumna material used in the present paper was obtained, and from this Dumna informant a brief vocabulary of the Toltichi dialect was secured. This vocabulary, however, raises some doubts, and for this reason the dialect has not been included in the general consideration of the others. The fifty or sixty Toltichi words obtained show forms that go back quite clearly to stems characteristic of the northern Yokuts group. There are however two marked peculiarities, one phonetic, the other lexical. First, there are uniform consonant changes: s, c, and h to x, and

n, l, y, tc and sometimes t to w. Second, the numerals are peculiar in not being Yokuts at all, nor Miwok or Shoshonean nor apparently of any other known linguistic family. These divergent numerals render the Toltichi dialect very puzzling. It is beyond doubt that the set of numerals obtained existed somewhere in this region, for a second informant among the northern Yokuts was sufficiently acquainted with the series to state that it was correct. On general grounds, however, it seems highly improbable that a dialect differing from the other northern Yokuts dialects principally only in regular phonetic mutations should possess a numeral system radically peculiar to itself. It is possible that this numeral system belonged to a distinct linguistic family on the upper San Joaquin, almost extinct at the coming of the whites, and that these people, through intercourse with the neighboring Yokuts, were familiar also with Yokuts, which, on account of the phonetic characteristics of their own language, they barbarously distorted; but there is no direct evidence whatever to support such a conjecture. A further complication is caused by the fact that the phonetic mutations characterizing the bulk of the Toltichi material obtained are so extreme and consistent that they differ totally in nature from all known phonetic equivalences and changes of Yokuts dialects and dialectic groups. The informant evidently held a strong impression of the phonetic peculiarity of the language, particularly its roughness, for she pronounced its k's as far back in the throat as possible and emphasized as strongly as possible both the guttural and the spirant character of the x with which she replaced the s of her own dialect. As she spoke this it still bore some audible resemblance to s, and was formed with the lower lip drawn into the mouth. It seems very unlikely that any language was actually thus spoken. It must therefore be concluded that the phonetic peculiarities of this dialect have been exaggerated in the record obtained. Once this exaggeration is accepted, it becomes doubtful to what extent it was carried. It may be concluded that the dialect differed from the neighboring Yokuts dialects in the directions indicated by the material obtained; but whether only slightly, or to the degree shown by this vocabulary, must be doubtful.

If, accordingly, the Toltichi were Yokuts,<sup>1</sup> and not people of another linguistic family whose distortion of Yokuts has been imitated in the scant material secured, they must be regarded as a specialized offshoot of the northern group. If their language is at all fairly represented by the vocabulary, it possessed sufficient distinctness to entitle it to be regarded as a separate branch, and the number of Yokuts dialectic groups would have to be increased from six to seven. After all considerations, however, the internal nature of the information secured raises so many doubts, that it has seemed best to regard the available material as only tentative, and to refrain from definitely regarding the Toltichi as forming a distinct Yokuts dialectic group.

The material obtained is here given, together with the Dumna equivalents. It will be seen that the presence of the imperative suffix *-ka*, and of the form *amin* for the possessive pronoun of the third person, if correct, place Toltichi close to the other northern Yokuts dialects.

<i>English</i>	<i>Toltichi</i>	<i>Dumna</i>
1	nās	yet
2	bis	punoi
3	nayo	sōpin
4	āmin	hatepanai
5	hie	yitecinil
6	otol	te'olipī
7	makate	nomte'in
8	te'eitemak	mon'oc
9	wā'dite	nōnip
10	wadī'te	ts'ieu
person	wokote	yokote
men	wo'wèi	nōnei
woman	mok'èwa	mok'èla
child	k'ow-ite	ak'd-atc
ear	xuk <sup>a</sup>	tuk
eye	xaxa	sasa
nose	winik'	t-inik
mouth	xama	cama
hand	p'oñox	b'onoc
foot	ta'wau'	dad.ats
back	katauw <sup>a</sup>	gadai, cotox

<sup>1</sup> It may be said that several northern Yokuts informants were unanimous in declaring the Toltichi to have been a Yokuts tribe, and the one farthest up the San Joaquin river.

<i>English</i>	<i>Tottichi</i>	<i>Dumna</i>
house	cāmc, xāmx	sāmic
acorn	k'imin	k'inim
berries sp.	waxato	taxāti
sun	xapiu (hot)	xapil, op
fire	ocit, oxit	ocit
water	iwix	ilik
creek	wak'ai	wakai
earth	xowai	xotsoi
world	ho'gli	holki'
dog	kèxa	tcèxa
grizzly bear	wox'o	nohoo
coyote	x'aiu	kaiu
deer	xow	xoi
elk	xoxgoi	sorxgoi
eagle	wo'ucul	wi'usul
buzzard	x'ots	hots
rattlesnake	wat-it.	nat-it.
small fish	wopit.	lopits
salmon	gāwaxit	gāyaxit
eat	xat-ga	xat-ga
drink	ugun-ga	ugun-ga
sleep	woxi-ka	woi-ka
talk	wat-ka	yet-ka
run	wuxim-ka	lihim-ga
stand	xwoxwul-ka	wowul-ga
sit	howox-ka	holoc-ga
greeting	xawaxan	hawaan
where?	xiw'eu	hileu
where are you	xiw'eu ma	hileu ma tāne
going?	tan'i(n)	
his	am'in	amin

## CHUKCHANSI.

## Pronouns:

S 1	na	nim	nan-au
S 2	ma	min	
S 3		amin	amam-au
P 1 in.	mai		
P 3		amungun	

The locatives nan-au, by me, and amam-au, at him, were translated "here" and "there." It is not probable that the hypothetical objective of the third person singular, amam, to which amam-au points, has any actual existence. Yauelmani

amam-in-wa, them, has the same hypothetical base, and this base does not occur in Yauelmani.

**Demonstratives:**

hi, locative he-u.

[ki, not obtained], locative ki-n-eu.

**Nouns:**

op-in, sun's.

nasi-n, rattlesnake's.

hoyim-h-an, of the Hoyima.

teaucil-h-an, of the Chauchila.

The locative in -u, -au, -iu is frequent.

**Verbs:**

-ka, imperative: winis-ka, hulos-ka, xat-ka, woi-ka, gun-ka, taic-ka, adj-idj-ka; heu-ne-k, pana-k.

-xon, continuative: yuncun-xon, quakes, honhon-xon, breathes, paix-im-xon, menstruates (honhon, heart, payax, blood).

-an, past: tac-an, panai-an.

-it, passive: tuy-han-it, be shot.

-wic, reflexive: dani-wis-an, dui-wac, puxpux-wac.

-in, intransitive: heu-n-en, thus, heu-ne-k, do thus!

**CHAUCHILA.**

**Pronouns:**

S 1	na	nan	nim
S 2	ma	mam	min
D 1 in.			magin
P 1 in.	mai		main

**Demonstratives:**

he, this, poss. he-n-in, loc. he-u.

ke, that, loc. k-eu.

wat, who, some one.

hileu, where?

**Nouns:**

nopop-in father's.

## Verbs :

- ka, imperative.
- in, future-present.
- am (ʔ)
- xo, -è-xo, continuative.
- wic, reflexive.

The vowels of the three suffixes -ka, -in, -am are assimilated to the vowels of the stem. This is exceptional in Yokuts. Usually it is the stem-vowels that are affected by the suffix. When the suffix vowel is altered, in other Yokuts dialects, it is as frequently to contrast with the stem-vowels as to agree with them. The assimilation of the vowel of the imperative -ka is especially noteworthy, as in Yauelmani and other dialects this ending appears to be an enclitic rather than a true suffix, and fails to affect the vowels of the stem as a-suffixes do.

- ka : lui-ku, ukun-ku, tui-ku, gun-ku, lihim-i-ki, cilit-ki.
- in : ac-ac-an, woy-on, hiwet-en, ciel-en, tay-en.
- am : dauc-am, thirsty ; wok-om, kill.
- xo : etil-xo, tay-e-xo.
- wic : wok-woc, hoyo-wuc, lon-i-wic.

## HOYIMA.

A few phrases of this dialect were given by Chauchila and Chukchansi informants. They appear not to be strictly accurate.

helo naxon dut, Chauchila hileu nexo ux (ʔ), what do you say (ʔ)

hauen dut, Chauchila hileu nen ux (ʔ), Chukchansi ha weta, what do you say ?

etel-am na, Chauchila etil-xo na, I am hungry.

haul ma dut, Chukchansi haul ma du, when was that ?

wiy-en, Chukchansi heu-n-en, thus.

## WAKICHI.

A few Wakichi phrases were obtained from the Dumna informant. The differences that these show from the equivalent Dumna phrases have probably been exaggerated.



wi-hin, say.

wiy-āahin, said; Dumna, wiy-ān.

ut-upa ma wi-hin, Dumna ma ti-ma wi-hi, did you say it?

hau hin duta, Dumna hawā an dita, what is the matter?

Wakichi, Pitkat-i, and Hoyima were said to use buuc, not *tcèxa*, for dog. This would include them with Chauchila, Chulamni, and probably Heuchi in the valley half of the Northern group, as contrasting with Chuckchansi, Dalinchi, Kechayi, and Dumna of the foot-hill half of the same group.

Pronouns:

WECHIKHIT.

S 1	na	nim
S 2	ma	min
S 3		amin
D 1 ex.		numògin
D 1 in.	mak	
P 1 in.	mai	
P 2	mān	

Demonstratives:

hehi, this, hetam, here; ga, that, gau, there; wat-oku, han-uku, hiye-uku or hiye-uk, who? what? where?

Nouns:

p'an-in, world's.

Verbs:

holuc-k, sit! wan-ka, give!

taut-a-xo, kill; tcow<sup>u</sup>-xo, work.

tān, go.

-in suffix: xat-en, lihim-en, hatm-en, wipil-en, texal-en, sil-en, ugn-on, woy-on, wow'l-on.

-wic reflexive: tanyu-wis, hoyo-woc, dat-la-wac.

NUTUNUTU.

Pronouns: na, ma, mak, nim, min, amin.

Demonstratives: hehe-n, apparently possessive; heham, here; gau, there.

Verbs: xat-k, ugun-k, cil-k; wooi-an, huits-in, tsow-on.

## TACHI.

S 1	na	nan	nim
S 2	ma	mam	min
S 3			amin
D 1 in.	mak		making
P 1 in.	mai		

## Demonstratives:

hihi, hehi, this (near).

ki, this, poss. ke-in, loc. ke-u.

ka, ga, that.

wat-uk, who?

han-uk, what?

haucun-uk, how many?

hiye-uk, hiye-k, where?

## Numerals:

11	yètc-am	16	teolp-om
12	batsd-om	17	nomtc-om
13	copi-om	18	munc-am
14	hotep-om	19	coponhot-min
15	yite-am		

## Nouns:

tatei, pl. tateètcayi.

t-uxoxi, pl. t-uxòxayi.

teunut, pl. teunòtati.

(wimiltei), pl. wimèlatei.

(wetcixit), pl. witecèxatei.

(wowol), pl. wowòwoli.

(nutunutu), pl. nutant-ic-a.

witep, child, pl. witip-atc, witip-hat.

Possessive: -in.

Locative: -u.

Instrumental: -ni.

## Verbs:

Imperative: -k, -g.

Continuative: -xo, -e-xo.

Preterite: -ahin.

Future-present: -in.

Agent: -ite.  
 (Future passive): -nite, -nit.  
 Reflexive: -wic.  
 Causative: -la.  
 Future particle: mīn.  
 Negative particle: ohom, òm.

## Tachi phrases:

kè-in pūuc	his dog.
puuc-un dadat.	dog's foot.
mīn mai oy-in āwo	shall we move across, we shall move to the other side.
hilata òm na min hot'è-xo hoyowoc	(?) not I your know name.
hie <sup>k</sup> ma xo hêtci	where you live now?
kè-u na xo toxil	there (this-at) I live west.
òm na mam cil-ahin hiāmi	not I you saw long.
hie <sup>k</sup> ma ta	where you go?
kè-u na tan nim tce-u	there I go my house-at.
hīk min tci	where your house?
kè-u na xò-n nibet.-in nim tce-u	there I live older-brother's my house-at.
òm nim t-a witip-hat nèec	not my (?) children younger-brother's.
c.oyòl-in pīl	antelope's road, milky way.
yokote	person.
yokteo-lis	somebody.
nòtco-in, mokela-n	man's, woman's.
xocima-n	of the northerners.
tèc-ite	a kind of medicine man (maker).
xohot-ite	ceremonial clown.
yèt-au	all (one-at).
dat-la-wac	rattlesnake ceremony (making-step, = dai-da-fite).
munoī	jimson-weed (tanai).
munuy-uwuc	jimson-weed-drinking ceremony (tany-uwis).

## CHUNUT.

Pronouns: na, I, ma, thou, mak, we two.

Demonstratives: hetam, here, apparently from stem hi; ki, this, ke-u, there; ga, that; wat-uk, who; han-uk, what, hiye-uk, where.

Nouns: toino-in op, night's luminary, moon.

Verbs: The imperative ending was usually heard as -ga. The continuative -xo appears in oho-xo na I like; -an in tah-an; -wic in hoyo-woc; -ite in tsalai-wiy-èits.

## WO 'LASI.

Pronouns found are na, ma, mak, nim, min, amin.

The demonstrative ta appears as ta-n, him, ta-in, his.

Who? is wat-uk; where? hiye-uk or hiyòku.

The imperative usually ends in -k, sometimes in ka or ke.

## CHOINOK.

## Demonstratives:

ki, this; ka, that; hiy-uk, where?

## Verbs:

xat-ka, ukun-ka, woi-ka, tui-ka.

taut-a-k, tcowo-k.

got-on, strike.

gon-in-hin, fall.

san-san-wi-èitc, tree-squirrel.

## TEXTS IN VARIOUS DIALECTS.

The following short texts have three sources. Numbers 1 to 27 are all transcriptions of phonographic records of songs obtained from Peter Christman, the principal Yaudanchi informant employed. Many of the songs were said by him to be in Yauelmani, Tachi, and other dialects. How far they may be mixed with Yaudanchi forms, or translated into the latter, is in many cases not certain; so that they can be used as material for a comparative study of dialects only with reservations. Numbers 28 to 35 were obtained from an old man called Chalola, by birth half Wowol, but speaking the Yauelmani dialect. The first five of these, numbers 28 to 32, are songs from a myth, and were recorded without the aid of a phonograph; the last three, numbers 33 to 35, are prayers or ceremonial speeches. All the material from this informant is good Yauelmani. Lastly, numbers 36 to 38, three short ceremonial speeches, are Tachi, obtained from a Tachi informant named Tom. The transcription and translation of the texts resemble those of the Yaudanchi texts. Translations in parentheses are given on the authority of the informant.

## 1. Mourning-ceremony song.

yèwò yèwò  
ahanè

## 2. The same.

yò waxāle  
ahanè

## 3. The same. Last song of the ceremony.

yōuyahè  
wiāhè

Ah is Yaudanchi for crying in mourning, waxil in other dialects; yōuyahè is said to be from yuy, to thrust or motion toward, as during this song the dancers motion toward the fire; wiāhè is said to be from the stem wi, to say.

## 4. Ohowish ceremony song. Wükchamni.

wita	t'öpük	yo	nahaate	
said	beaver	and	otter	
wita	tañ	wo	ohòwite-u	t'uiju
said	him		ohowish-medicine-man	shot
ama	ohòwite	maya	ma-nan	t'uiju
then	ohowish-medicine-man	self	you me	shot

## 5. Rattlesnake ceremony song.

wita	tan	goloñkil	t·ööd
told	him	king-snake	to-rattlesnake
am-nan	pitciu <sup>1</sup>		
not me	touch		
a-ma	haa	hawad'i	
not you	anything	can-do	
dok'on	teixac		
belly-full	(lie)		
doxmadhin	t·ööd		
(rock-pile)	rattlesnake		
am-nan	pitciu		
not me	touch		
wita	a-ma	haa	hawad'i
said:	not you	anything	can-do
tiñelhan	ma	t·ööd	
squirrel-hole-many	you	rattlesnake	

<sup>1</sup> Handle, catch, take, stop.

dok'on	tcixac-ma	
belly-full	(lie) you	
am-nan	pitciu	
not me	touch	
ma	ti-nan	haudihi
you	(what) me	can-do?
yapkanhin	t·ööd	
many-trees	rattlesnake	
te'ineu	tcixac	
shade	(lie)	
a-ma	haa	hawad'i
not you	anything	can-do
am-nan	pitciu	
not me	touch	
am-nan	pīciu	
not me	touch	
te'odwouhin	t·ööd	
plains	rattlesnake	
te'ododin	ma	caca
white	you	eye
opodnid	min	
sun-shines-on	your	
am-nan	pitciu	
not me	touch	

The language is Yaudanchi. Several interesting forms occur. Opodnid is perhaps the continuative of an intransitive derivative from the word sun: opodo, -in, -ad. The collectives in -hin and -han have not been found otherwise in Yaudanchi, but recall the inanimate collective -hal of Yauelmani. The informant once said tiñel-hal for tiñel-han. The latter he translated "squirrel town." In addition to the forms given in the song, namely, yapkan-hin from yapkin, and doxmad-hin and te'odwon-hin, he also used the word bokdo-hin, "where many springs." As spring is bokid, the ending -hin is in this word added to the locative suffix. None of the nouns in question are capable of taking an ordinary plural. The forms -hin and -han have some appearance of being possessives.

## 6. Dancing song, said to be in archaic Chunut dialect.

wèhè      yōhō  
 wehe      yoho

na      kiiteau      hoyoji      p'ana  
 I                      named                      earth

kalagawiw  
 (invisible)

widāta      not'  
                     east

walan-iho  
 yesterday

## 7. An old dancing song of the Tachi Indians.

hanuk-u      teipin-ēwe  
 who                      brave†

yèha  
 yeha

xomòt-i      māy-a      tān-iyō  
 south                      we                      go

yèha  
 yeha

pinèt'iux      na      teay-e  
 ask                      I                      down-feather

Teipin, Yaudanchi t'ipni, is wonderful, supernatural.

## 8. Said to be a Tachi song.

xami      xami      wuala      kè      na  
 (come!)      (come!)      stand      (this)      I

nan      ki      ma      panahin      tcipni  
 me      (this)      you      (arrive)      supernatural-power

nāyu  
 nayu

## 9. Said to be a Tachi song.

wèhè      yoho  
 wehe      yoho

nan-a      ge      ma      ha      wiihin  
 me                      you                      (do not mind)

èkak      tean-a      witecèpa  
 see      (that-distant)      child

A very barbarous Tachi. Ekak is the Yaudanchi stem ōka, not found in the Valley dialects, with the imperative ending -ka

or -k found only in the Valley dialects. Child in Tachi is not witcep but witep. Tean-a seems to be similarly formed, by substitution of te for t, from tan, Yaudanchi tañ, objective of ta, that.

10. A medicine man's song for dancing. He dreamed that his father said to him :

lanaka      nan-a  
listen      to-me

mayèmai  
(name of the composer of the song)

notu      na      keu  
east      I      there

teicin-è      wèhè  
shall-emerge      wehe

wè      mukulau  
we      (turning)

hi      sonolo      wèhè  
hi      hand-feather-ornament      wehe

11. From the informant's grandfather.

yò-nono      pana  
again      (pursues)

pīwaca      nan      yo-nona      pana  
grizzly-bear      me      again      (pursues)

For piwaca compare the Tachi form biwacū and Tulamni bīawas. For pana compare song 8.

12. Dreamed by a man the night after he had seen a water monster.

watin      xe      t'uit'ai      dupit·  
whose      this      shoot      fish?

wi      xi      min      ta      watcam      ahādad  
well,      this      your      that      feather-hand-ornament      is-panting

13. Grizzly-bear-doctor's song, learned from the bears by the informant's father-in-law.

mèedjin      xoldnon  
(noise of scratching)

teyuak      ma      ha      tala      taaji  
(even if you enter)

yakiuhaaliu  
at the rocks

tā-na-mam      otokotooji  
that I you      (raise)



Yakuhaaliu is the locative of the collective -hal, which has so far been found only in Yauelmani, suffixed to the Yaudanchi stem yakau, rock, for which Yauelmani uses silil. The l in this and other words points to a Valley dialect.

14. Eagle song, for dancing. Dreamed by the informant's grandfather. Clearly a Valley dialect.

yileyalè		
earthquake		
silika	nim	teican
see	my	emergence-at
walāliu	teoxil-a	māyu
at-open-place	eagle	

15. Dancing song. The informant's grandmother dreamed that she learned it from a coyote.

mam	wiliteyan	muyukun		
you	(in-front-of)	whirl		
yèhā				
yeha				
nyayet	ke	teèkèya	māyin	p'aanin
(mourn-for)	that	string	our	world's

Said to be Yauelmani; and in fact teikei, string, and ke, that, are Yauelmani but not Yaudanchi forms. Cf. l in wiliteyan.

16. Coyote song. For dancing.

na	kaiu		
I	coyote		
naan	kaiu		
we	coyotes		
ama	p'an	widji	tacki
then	earth	told	those
ama	p'an	widji	
then	earth	told	
a-ma-nan-hi	k'uyak'tad		
not you me will	scratch		

17. Coyote song. For dancing.

kaiiu-na	yawud		
coyote I	(do-thus)		
ama	na	t-ipinit	lòlènac
then	I	from-above	(twirled)
kaiiu-na	yaud		
coyote-I	(do-thus)		

## 18. Coyote song. For dancing.

kaiiu wita  
 coyote said  
 hanham-na kaiiu-na  
 what-am I! coyote I  
 wi idkau-un na  
 well, water-in I  
 hanham-na  
 what-am I!  
 kaiiu-na  
 coyote I

This song is said to be from the Kings River or Northern Yokuts.

## 19. Coyote song. For dancing. The deer says :

xeu nan t'ui cik'an-nim  
 here me shoot side-in my  
 kaiyuwin mam ta t'uyoc  
 coyote's you that arrow

## 20. Dancing song; about the deer.

wat-a nan  
 who me  
 t'uyon  
 shoots!  
 t'ipinit  
 from-above  
 t'uyon  
 shoots!  
 yèiteai  
 once  
 t'uyon  
 shoots!  
 wèhèn  
 wehen

## 21. Dancing song about the deer.

xuyiu naan  
 return we  
 nòtu naan xuyiu  
 east we return  
 tahitcipau  
 to-Tehachapi  
 p'aanin  
 land's

## 22. Mountain-sheep song.

hiyeu-na	ukunumū		
or: hideu-na	ukun		
where I	drink-will		
wa	na	dòmto	ukun
far	I	mountain-at	drink-will

23. Ground-squirrel song. When the ground-squirrel, pohad, eats buckeyes, it becomes crazy.

ama	watcimji	otcote	t·ipin
Then	swung-in-his-hand	magpie	high
muyukju			
whirled			
watcimin	otcoteo		
swinging-in-his-hand	magpie		

Watcam is a feather ornament held in the hand, watcim is to hold or move it; otcote, magpie, appears to mean magpie feathers.

24. Road-runner's song. Yauelmani or a Valley dialect. The Yaudanchi equivalent words as given by the informant are added.

oyuoyu	nan	he
oyuy	nan	xe
road-runner	me	here
limini	mai	
dawit-sa	mak	
let-run	us-two	
hiam-ā	na	teokonit
hiam	na	teokit
now	I	am-hit
teokunau	nim	
teoxñau	nim	
feather-belt-in	my	

## 25. Otter song. Yaudanchi.

.nahait·	hāhi	dawit	yaudau
otter	(said):	"run	in-brush!"
dañaad-na	yaudau	dawit	
hear I:	"in-brush	run!"	

26. Water's song. Dreamed by a female relative, of his grandfather's generation, of the informant. The present version is in Yaudanchi. The original song is said to have been in the

Yokol dialect. In this the first line ran: yo ki-mi-nana taxenen, and the last: tolomit na ilekin.

yo	ti-ma	taxin	
again	do you	come!	
wa	ha	mai	kitewin
far	something	we	will-go
wa	na	kitiu	
far	I	go	
todomit	na	idkin	
do-not-find	I	water's	

27. Pleiades song. Dreamed by a relative of the informant's father.

guyèpa	nana	guyèpa
(spin-around)	we	spin-around)
hāini	hamāna	
(fly	what-we?)	
mòxumxai		
(Pleiades)		

Said to be in Paleuyami dialect.

28. Song from a myth about the prairie-falcon.

xoiyu	nan	
return	to-me! (we!)	
xoiyu	nan	
return	ibid	
ama	nim	hūwut·
then	my	gambling
t·awe	nan	
beat	me	
dokoi-nim		
game my		

29. Another.

hiwèti	go
yo na	again I
hiwèti	go
naamtayo	
lanīyo	
hilalèkiyo	
t·awat·e	beat

## 30. Another.

yahī lulumai  
yahīmai lulūmai  
sawawa kanama  
tanīyo  
yapīwipiwimai  
tawana tsiniyo  
hilalīkiyo  
t·awat·i t·awat·

## 31. Another.

hila ma tā	you
hayāwiyu	(ridicule)
lòkoyowani	(ignorant)
waatin	whose
humuyu hile	

## 32. Another.

hòsīmi	cold
hòsīwimīne	cold
wanit wilima	from-far (†)
lanā-na-ma	hear
hòsīmi	cold

33. A prayer for good fortune. Yaelmani. Evidently a fixed formula. Spoken rapidly, rhythmically, and monotonously, with motions of the arms, alternately and together, to the heart and out again. Seven deities are addressed. The impure vowels found in the names of these deities do not occur in Yaelmani. The r occurring in pitsuriut is not a Yokuts sound at all.

silkawil	nan
see-ye	me
silka-nan	tōuciut
see me	name (=maker)
silka-nan	bamāciut
see me	name
silka-nan	yoxāxait
see me	name (=crusher?)
silka-nan	etcèpat
see me	name

silka-nan	pitsuriut		
see me	name		
silka-nan	tsukit		
see me	name		
silka-nan	ukat		
see me	name (=looker?)		
yèt·a	man	amlin	nan
together	ye	help	me
nim	yèt·au	t·ikexo	texal
my	together	is-tied	talk
maiayiu	lomto		
with-the-large	mountain		
maiayiu	silehaliu		
with-the-large	rocks		
maiayiu	witsetalu		
with-the-large	trees (woods)		
yèt·au	polut-nim		
together	body my		
ueuk-nim			
heart	my		
yèt·au-ma-nan	amalan		
together ye me	help		
t·èpani			
supernatural			
yò-ma			
and you			
daak			
day			
yò-ma			
and you			
toino			
night			
yet·a-man			
together ye			
nan-silèxo			
me see			
yò			
and			
yet·au	ki		
together	this		
p'aan			
world			

34. Prayer to the panther for success in hunting deer. Yaelmani. Down and kasyin seeds are deposited on the ground during the prayer.

ya wehèsit	ya, panther
wökitska-nan t-iimi	(give) me (now)
wehèsit	panther
hanas	hunter
ma	you
yiitsa	alone
wökitska-nan t-iimi	(give) me (now)
wehèsit	panther
ma	you
yiitsa	alone
hanas	hunter

35. Speech made by the old man in charge of the tanyuwis, the jimson-weed ceremony, to the novices. With each phrase he motions with the basket of liquid as if to give it. After the third phrase he hands the basket. Yaelmani dialect.

ukunka	kin	ilka	tōusyutin	
drink	this	water	for-Tōushiut	
ukunka	kin	ilka	kèin	bamasyutin
drink	this	water	for-that	Bamashiut
ukunka	kin	ilka	kèin	yuxaxaitin
drink	this	water	for-that	Yukhakhait

36. Tachi formula spoken when one comes to strange water. When this formula is said, the beings in the water allow one to take of it.

mak	heham	xoin	hiamu	pāna
we	here	live	long	world
hehi	makin	ilik		
this	our	water		

37. Tachi formula, sung, accompanied by dancing, by an old woman at an eclipse of the sun.

heucitka-nan	mitèni	opòni	
leave me	with-a-little	sun	
anè nan	yèt·au	teomeot'k (or teom'k)	
(not) for-me	altogether	eat-it	
heucit	nan	mitèni	
leave	me	with-a-little	

38. Tachi formula spoken to the dead, to prevent their return as ghosts.

miin	ma	ðyin	lakil	p'aana
	you	go	(another)	land
huyeteim	tan	p'aan		
(like)	that	land		
ohom	ma	heha	xoyi	
not	you	here	live	

#### STATUS OF YOKUTS AMONG THE LANGUAGES OF CALIFORNIA.

From what has been said, most fully of Yaudanchi, it appears that Yokuts forms one of a group of linguistic families occupying the greater part of the state of California, especially its central region. This group of families, which has been defined in a general discussion of the types of structure of the languages of California,<sup>1</sup> is marked by simple phonetics, the lack of incorporation, the presence of cases, and a simple transparent structure, and in addition to Yokuts includes Costanoan, Esselen, Maidu, Wintun, Yuki, Pomo, and perhaps other languages, besides showing certain general resemblance of type to Shoshonean, Lutuami, and Sahaptin. In certain respects Miwok or Moquelumnan, bordering Yokuts on the north, seems also to belong to this type. Chumash and Salinan, however, which are territorially in contact with Yokuts, occupying the adjacent coast, belong to another group, the Southwestern, which comprises only these two families and is marked by disagreement from the large Central Californian group in all the points that have been mentioned as typical of this.<sup>2</sup> The characteristics that probably distinguish the morphology of Yokuts most sharply from that of the other linguistic families belonging to the same Central group, are its development of systems of vocalic mutation as an

<sup>1</sup> R. B. Dixon and A. L. Kroeber, *The Native Languages of California*, *American Anthropologist*, n. s. V, 1, 1903. The families in one group are not etymologically or genetically related, but are structurally similar.

<sup>2</sup> *Ibid.*, and *Languages of the Coast of California South of San Francisco*, p. 48 of this volume.



accompaniment or means of grammatical expression, the predominance of polysyllabic stems, and the slight development of derivation by affixion and composition. It seems that these three features are all more or less related. Most of the other languages of the group of which it forms part show no vocalic mutation other than perhaps an occasional harmonizing of vowels. Esselen and Costanoan are probably,<sup>1</sup> and Yuki and Pomo certainly, free from any developed vocalic mutation. The last two languages are characterized by great distinctness of stems, which are in large measure monosyllabic. This distinctness is not so apparent to the ear as it becomes visible on analysis. Most Yuki and Pomo words are actually composed of several stems, either independent or affixes, which scarcely affect each other's phonetic shape by being brought in contact, other than perhaps for insertions of euphonic vowels. In consequence, the words of three or four syllables in Yuki and Pomo almost always differ from those of equal length in Yokuts in being built up of a number of constituent parts, but on account of the comparative phonetic immutability of the parts the structure of the words remains transparent. Maidu shows vocalic harmony to a considerable extent and it will be interesting to know whether the scope and forms of this are similar to those of Yokuts harmony, especially as there seems to have been some borrowing of words between the two languages, indicating the possibility that they may at some time have been in closer contact. Maidu, however, appears to resemble Yuki and Pomo in that its words possess a transparent though sometimes elaborate structure. Wintun is too little known to allow anything definite to be said about it in this regard, but it seems that its structure, like that of Esselen and Costanoan, is simple, or if complex, clear, and that vocalic mutation is not developed. In its grammatical cases Yokuts resembles the other families of the Central group except in that it possesses only one local case that is specific, the ablative, whereas in the other languages a large number of specialized locative cases are usually found. A considerable diversity exists among the languages of the Central Californian group in regard to the expression respectively by characterizing affixes, or by descriptive phrases, of ideas

<sup>1</sup> Pp. 49, 69 of this volume.

of shape, motion, direction, or instrument. The former method is found in a number of languages outside of California. Within the state it is known to occur in Washo, Maidu, and Pomo; and, on account of its intermediate geographical relation, it is not unreasonable to look for this feature also in Wintun. On the other hand some languages of the Central group do not show such affixes. This is certain of Yokuts and Yuki, and probable of others. The extent of the development of the plural in Yokuts is very similar to that occurring in certain other families in the Central Californian group, such as Yuki. Some families, such as Pomo, show practically no plural, and others, like Miwok, a considerably more extensive one than Yokuts. The importance of reduplication is also about the same in Yokuts and in the other families of its type. The same may be said of such features as the absence of articles and the frequency but grammatical indefiniteness and unimportance of demonstratives. The resemblances between distinct families belonging to one morphological type can of course be only general. With this in view, it is clear that Yokuts forms part of the Central Californian group of languages, its most marked peculiarity within this group being its correlated features of vocalic harmony, polysyllabic stems, and lack of structural composition.



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