

# THE GEOGRAPHY AND DIALECTS OF THE MIWOK INDIANS.

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## INTRODUCTION.

Of the many linguistic families in California most are confined to single areas, but the large Moquelumnan or Miwok family is one of the few exceptions, in that the people speaking its various dialects occupy three distinct areas. These three areas, while actually quite near together, are at considerable distances from one another as compared with the areas occupied by any of the other linguistic families that are separated.

The northern of the three Miwok areas, which may for convenience be called the Northern Coast or Lake area, is situated in the southern extremity of Lake county and just touches, at its northern boundary, the southernmost end of Clear lake. This

area has been described and bounded in detail in "The Ethno-geography of the Pomo and Neighboring Indians" which constitutes a part of the present volume.

The second of the three areas lies on the northern shore of San Francisco bay, and comprises Marin county together with a small portion of the southern part of Sonoma and a very small part of Napa counties. Within this area are two dialectic divisions. The smaller, which may be conveniently termed the Western Coast or Bodega dialectic area, comprises a very small territory immediately about the shores of Bodega bay. The larger division may be termed the Southern Coast or Marin dialectic area, and occupies the remainder of the area. These two dialectic areas have also been described and bounded in the paper referred to above.

The third or main area occupied by people belonging to the Moquelumnan or Miwok stock comprises, generally speaking, that portion of the western slope of the Sierra Nevada mountains which extends from Cosumnes river on the north to Fresno river on the south.

Information concerning the two smaller Moquelumnan or Miwok areas in the Coast region was obtained, together with the other information embodied in "The Ethno-geography of the Pomo and Neighboring Indians," during the years 1903-6. The information here given, concerning the main or Sierra area, that inhabited by the people usually specifically known as the Miwok, was obtained during the summer of 1906, both investigations being made as part of the Ethnological and Archaeological Survey of California conducted by the University of California through the generous support of Mrs. Phoebe A. Hearst. The more recent investigation of the Miwok proper was combined with other work to which it was to a certain extent subsidiary. With a large area to be covered and limited time available, it was impossible to go into great detail in the determination of boundaries and sub-dialectic differences. Sufficient information was however obtained to make possible a classification of the Miwok language into dialects, and a reasonably thorough determination of the boundaries of the family and of these dialectic divisions. As is almost always the case in working over the ethno-geography

of a large area at the present time when certain regions have been for many years uninhabited by the Indians themselves, there are portions of the boundaries which it is possible to determine only approximately. The doubt in respect to these lines has been noted both in the text and on the map.

As before stated, the main Miwok area, the one here considered, lies chiefly on the western slope of the Sierra Nevada mountains, the only exception being at its northwestern extremity, where it extends out into the broad plain of the San Joaquin valley. Generally speaking, the Miwok territory extends on the north to Cosumnes river, on the south to Fresno river, on the east to the crest of the Sierra Nevada mountains, at least for the greater part, and on the west to the eastern edge of the broad plain which forms San Joaquin valley, except in that portion of the territory lying north of Calaveras river, where it extends out into the plain itself. This large area comprises, in whole or in part, Sacramento, Amador, Calaveras, San Joaquin, Stanislaus, Tuolumne, Mariposa, Merced, and Madera counties, and covers the greater part of the drainages of seven large rivers: the Cosumnes, Mokelumne, Calaveras, Stanislaus, Tuolumne, Merced, and Fresno. Thus this main Miwok area, extending from the crest of the Sierras westward into San Joaquin valley itself, reaches over three physiographic divisions: the high ranges of the Sierra, the foot-hills, and at least a section of the plain of the San Joaquin valley itself.

The climate and environment of this area are very varied. In the high mountain region along the headwaters of the rivers, most of which head above the snow line, the severity of the winters prevents a perennial occupation. This whole high Sierra region is covered with several feet of snow through a considerable part of the year, and almost all the higher peaks and ranges have perpetual snow. This snow covering renders even the lower altitudes of the high Sierras uninhabitable in the winter. Yosemite valley and other valleys of even lower altitudes were in former times abandoned by the Indians with the approach of winter. The high mountain region was, however, rich in certain vegetable foods. The vast ranges of this region were covered with conifers of many species, many of which, such as the sugar pine, furnished

a very important part of the native vegetable food. In addition to the many food-bearing conifers, there were a number of species of oak, which here as almost everywhere else in the northern and central parts of California furnished the chief food supply, the acorns of almost every species of oak being put to use. In addition to these large trees, there were many smaller nut and berry bearing trees and shrubs, and many species of small plants bearing bulbs and tubers, as well as a great quantity of seed-bearing grasses and other plants. All of these were turned to good account in furnishing the aboriginal food supply of the region. This almost limitless and varied supply of vegetable foods naturally attracted the Indians from the lower altitudes to the higher mountains during the summer months. Game was also abundant. Many species of animals and birds, such as deer, elk, and quail, wintered in the plains and foot-hills but moved to the higher mountains during the heat of summer. Fish were also abundant in the streams at this season. All these circumstances, combined with the excessive summer heat of the lower foot-hill region, tended to induce the Indians to move to the higher altitudes wherever possible.

The foot-hill region, however, was not at all lacking in its food supply, particularly in the higher foot-hills. Here conifers were chiefly lacking, but there were various species of oak. There were also many smaller berry and nut bearing trees and shrubs, which, when combined with acorns, always the chief resource, and the bulbs, tubers, and grass seeds of the open meadows and hillsides, provided an abundance of vegetable foods. In the lower foot-hills trees of any size are few in number, being replaced by great areas of brush and open grassy meadows. As before mentioned, many of the animals and birds are driven from the high Sierras by the winter snows to the foot-hills and to the plains of San Joaquin valley, where they furnished a good supply of game during that season. Fish were, of course, abundant in the many rivers and creeks which water this portion of the area.

In the southern part of the main Miwok area, the foot-hills rise quite abruptly from the San Joaquin plains. This abruptness grows less and less toward the north, until, in the vicinity of Calaveras river and northward, there is a long, very gentle

rise from the plains through the foot-hills to the higher Sierra. In fact it is difficult in certain northern parts to say definitely where the plains end and the foot-hills begin, so gentle and undulating are the first rises. It is here that the Miwok extended out into the San Joaquin and Sacramento plains, reaching to the edge of the tule marshes that border the delta of the San Joaquin, and to the easternmost of the several mouths of the Sacramento. This plains region is almost without trees of any kind, except a very few immediately along certain water courses. Otherwise, its vegetation is almost entirely confined to seed-bearing grasses and flowering plants. In temperature, the foot-hill and plains regions differ very little, the temperature in the summer often reaching one hundred and ten degrees Fahrenheit and sometimes even going higher. Of course, as the higher Sierra ranges are approached through the foot-hills, this extreme summer temperature decreases, until in the mountain valleys such as Yosemite the summer temperature never rises to an uncomfortable point. Snow almost never falls in the plains and but rarely in the lower foot-hills. There is however a moderate rainfall during the winter in both regions.

With its abundant food supply, this large territory should have been able in aboriginal times to support an extensive population, and from all the information that can be gathered from the Indians, and from the evidences of old village sites, there is every reason to believe such to have been the case. At present, of course, comparatively few Indians remain. These live on small homesteads owned by themselves, or on ranches by permission of the white land owners. There is but one small government reservation for any of these people, about four miles east of Jackson in Amador county; but there are not on the average over a dozen or so of Indians on this reservation at any one time. Those who do occupy the reservation receive almost no aid or rations from the government. It may therefore be said almost without qualification that all of the surviving Miwok are self-supporting. In some cases, families seem to be quite comfortably situated on quarter-sections of land belonging to themselves, though the majority are by no means so fortunate. That but few of the Miwok survive, and that these now find themselves

more or less dependent upon white land owners, may be the more easily understood if it be recalled that immediately north of this area, on American river, gold was first discovered in 1848. With the gold excitement, and the rush of 1849 and following years, there was hardly a foot of gravel along the many streams in the whole Miwok area that was not panned or sluiced. With this sudden rush of many thousands of gold seekers, many of them with but very little respect for the rights of their fellow white men, and most of them with no respect for the rights of the Indians, it is little wonder that the latter soon found themselves dispossessed and that they rapidly decreased in numbers.

Culturally, the Miwok, of course, are in a broad sense a unit with the Indians of the remainder of northern and central California. Among the Miwok there are certain cultural differences which, while of comparatively little importance in themselves, serve to separate the people into two divisions. These may be called the northern and the southern, with the region between Stanislaus and Tuolumne rivers as a sort of neutral ground where the special features of both north and south are found. In the northern of these cultural divisions, that portion of the Miwok territory north of Stanislaus river, the predominant form of cradle is made of small wooden cross rods lashed to two vertical sticks, the upper ends of which are bent over into bows in such a manner that they will support a flexible protection, such as a dressed skin, over the child's head. The cradle of the southern region is woven of many small vertical rods and has a regular hood of bent rods woven together in the same manner as the body of the cradle itself and lashed to it at the top and at the sides. The utensil used for stirring mush in the northern division is a paddle, whittled from a solid piece of wood, usually oak. That in the southern region is a loop of bent wood, usually an oak branch. Throughout the whole Miwok area, almost the only twined baskets made are the conical burden basket, the elliptical seed beater with a handle, and the triangular scoop-shaped basket used for winnowing and as a general receptacle. These baskets differ very little in the northern and southern areas, but in coiled basketry there is a marked difference between the two regions. In the north the foundation is usually of either one or

three rods of willow, hazel, or other slender wood. In the extreme south, these wooden rods are almost entirely supplanted by a multiple grass foundation.

The woven hooded cradle, the looped stick mush-stirrer, and the grass-foundation coiled basketry of the southern Miwok, they share with their neighbors of different family, the Yokuts and Shoshonean Mono. The peculiar cradle, wooden mush-paddle, and rod-foundation basketry of the northern Miwok, are found among the Maidu adjacent to them. It is therefore evident that the difference in regard to these implements can not be ascribed to independent cultural differentiations among the Miwok, but must be regarded as part of larger developments of culture affecting a region of which the Miwok held only part.

These three examples are among the most striking differences between the two divisions of the Miwok, and grow to be particularly noticeable in traveling through this region. A fuller investigation of Miwok implements, customs, and beliefs would very probably show other differences between these northern and southern regions. In the neutral region between Stanislaus and Tuolumne rivers both types of each of the above-mentioned utensils are found. While the grass-foundation basket is typical of the southern area, it should not be understood that the willow or rod-foundation basket is not made. In fact it really predominates, the grass-foundation basket being the most common in point of numbers only in the extreme southern part of the Miwok area, in and about Mariposa. Likewise, the wooden cradle with cross rods is more particularly characteristic of the extreme northern region.

It has been impossible to investigate very fully such matters as ceremonial practices and mythology; but from information obtained on these points it seems probable that on fuller investigation along these lines considerable differences will be found to exist between the northern and southern Miwok in these respects also, no doubt with influence from the peoples to the north and to the south. As to the influence of the stocks to the east, the Washo and Shoshonean, and the northern branch of the Yokuts to the west, too little information is now available to make comparisons possible; in the case of the Washo and Shoshonean

Indians because very little systematic work has yet been done among them, and in the case of the northern Yokuts because they are at present almost entirely extinct.

Professor A. L. Kroeber<sup>2</sup> has shown that the Yokuts who formerly occupied the greater part of the San Joaquin valley proper and a portion of the adjacent foothills toward its southern end, have a social organization which is most unusual among the people comprising the various stocks confined entirely within the limits of California. These immediate neighbors of the Miwok had a true tribal organization, the whole stock being divided into at least forty small tribes. This, however, is the only case thus far reported among California peoples of such tribal organization. The Miwok, like the remainder of the Californian stocks, lack any true tribal organization, as that term is generally understood with its political signification, though there are certain endings to place names: -umni, -amni, -emni, and -imni, which are identical with those found on some Yokuts tribal names, such as "Telamni," "Choinimni," "Wükchamni." This fact was noted by Professor Kroeber in discussing "The Dialectic Divisions of the Moquelumnan Family in Relation to the Internal Differentiation of the Other Linguistic Families of California."<sup>3</sup> Therefore, with this fact in mind, and at the same time knowing that these particular endings were found also among the Maidu as parts of certain place names, such as Sekumne and Yalisumni,<sup>4</sup> an especial effort was made during the progress of the present investigation to discover the exact use of these endings among the Miwok and to determine whether they had any real connection with a true tribal organization as among the Yokuts, or whether they were endings of mere place names as among the Maidu. The latter was found to be the case, the signification of the ending apparently being in all cases, "people of." This ending is always found upon such terms as *ō'teex* or *o'tce*, the name of a village site a few miles west of Galt, and *mō'kel*, the name of a site near Lockford; the addition of the ending resulting

<sup>2</sup> The Yokuts Language of South Central California, Univ. Calif. Publ. Am. Arch. Ethn., II, 169, 1907.

<sup>3</sup> Amer. Anthr., n. s., VIII, 652-663, 1906.

<sup>4</sup> See the map accompanying Professor R. B. Dixon's "The Northern Maidu," Bull. Amer. Mus. Nat. Hist., XVII, 125, 1905.

in the names applied to the people of the villages, respectively *ōtceha'mni* and *mōke'lūmni*, signifying in full, people of *ō'tce* or *ō'tceex* and people of *mō'kel*. Notwithstanding the obvious similarity between these and the Yokuts tribal names, there is an essential difference between the two. Whereas the Yokuts tribal name with its -umni ending appears to be very strictly applied to the people themselves of a certain community, it was quite independent of the name of the village in which they lived. For instance, the Choinimni now live at *tice'tcū* in the edge of the foot-hills on King's river. Further, these tribal names are a part of the inheritance of the individual, and attach to the person belonging to the tribe no matter where he may be or how far he may move from the home of the remainder of his tribe. On the other hand, the Miwok employed such names as *mōke'lūmni* entirely with the signification of "people of" the village of *mō'kel*; and should an individual permanently change his residence to *ō'tceex*, he would then be referred to as an *ōtceha'mni*, the idea being that when he changes his place of actual residence he loses all connection with the name by which he has formerly been known. In this respect the Miwok resemble most if not all of the peoples of central and northern California, except the Yokuts.

The only general names applied to people by the Miwok were terms formed upon the names of the cardinal points. Examples of such names are: *ta'mūlekō*, northerners, from *ta'man* or *tama'lin*, north; *hī'sōtoko*, easterners, from *hī'sūm*, east; *tcū'metoko*, southerners, from *tcū'metc*, south; and *olowitoko*, westerners, from *olo'win*, west. This ending, which is equivalent to "people of," takes the following forms: *oko*, *ok*, *k*. That these names have no tribal signification is clearly shown by the fact that each is applied not to any particular people but to all people, no matter how near or remote, living in the given direction to which the name refers. These names, as also the terms applied to the cardinal points, vary according to the laws of phonetic change in passing from one dialect to another. There are also certain different endings used by different individuals speaking the same dialect. For example: the people living to the south are called *tcū'metoko*, *tcū'mmetok*, and *teumtē'ya*, those to the east are called *hī'sōtoko* and *hīsū'wit*. In the last term the ending -*wit* is really a directive with the signification of towards.

These different renderings of the same name have been taken by some early writers as the names of distinct, so-called, tribes. Powers in his "Tribes of California"<sup>5</sup> notes that the greater number of the terms used by the Miwok to designate peoples are formed from the names of the cardinal points, but at the same time states that they also have certain names which they apply without reference to the cardinal points. Among these he mentions "Chum-te-ya" as a people living on the middle Merced river, and the "Heth-to-ya" as a people living on the upper Chowchilla river. The former of these two names is *tcūmtē'ya*, above mentioned, and the latter is simply a different form for *hī'sōtoko* or easterners. This term is still used by the Miwok, having been obtained recently by Professor Kroeber among the Indians in the extreme southern end of the area.

In the same connection Powers mentions certain other names of peoples which appear to be simply place names, in some cases with endings added. Such is "A-wa-ni," which is simply the name for Yosemite valley. Powers' term "Wal-li," which he gives as the name of a people on Stanislaus and Tuolumne rivers, and which he explains as derived from *wallim*, meaning down low, is really only the Miwok term signifying earth or ground, though *wallim*, really "toward the earth," is used with the signification of low or down.

There is still another set of names applied to various peoples, those names derived from other than Miwok sources. These are very few, but there is one which is commonly used by the Miwok in the vicinity of Ione and Jackson in Amador county as a name for themselves. This term, *kōnī*, has been mentioned by Powers<sup>6</sup> and by Professor Kroeber.<sup>7</sup> It is the name originally applied to these people by the Maidu to the north, and for some reason has come to be used by themselves. Also "Po-ho-no-chi," which Powers gives as the name of the Miwok in the extreme south and which is at present quite commonly applied to them, particularly by the Yokuts to the south, may be a name not referable to Miwok origin. The term is apparently

<sup>5</sup> Contributions to North American Ethnology, III, 349, 1877.

<sup>6</sup> Op. cit., p. 349.

<sup>7</sup> The Dialectic Divisions of the Moquelumnan Family, etc., op. cit., p. 660.

not used by any of the Miwok as a name for themselves, and the only derivation which could be obtained for it from them was that it comes from *pōhō'nō*, the name of Bridal Veil Falls in Yosemite valley, and *teī*, an ending signifying location or origin. That this derivation is probably correct seems likely from the fact that the ending *-teī* occurs quite frequently, used in the same manner with place names, in the southern part of the Miwok territory, though it was not met with in the northern and central parts of the region. An ending *-teī* is also frequently found on true tribal names among the Yokuts immediately to the south.

The importance of the name Yosemite makes it worthy of mention in this same connection. This great valley with its wonderful scenery is known the world over under the name of Yosemite, but to the few survivors of the Indians who once inhabited it and the surrounding territory, it is known by its original name, *awa'nī*. This name itself still survives in Ahwahnee, a settlement down on Fresno river some forty miles southwest of the valley to which the name rightfully belongs. The original name of Ahwahnee was *wasama*. That the name Yosemite is incorrectly applied to this valley has been pointed out by Powers<sup>8</sup> and others, and various explanations and derivations have been offered for it. So far as could be learned from the Indians who formerly lived in the vicinity of this valley, Yosemite is a corruption of *ūsu'matī* or *uhu'matī*, the term applied to any species of bear and particularly to the grizzly. The derivation of the name of the valley from that of a former captain or chief named *yosemite* or *ūsu'matī*, who was noted for killing bears, seems, however, to be doubtful.

While the Yokuts to the south were divided into forty or more small tribes, each occupying one or more villages and independent of all the remaining tribes,—this independence even extending to the matter of language, so that each village-tribe had its own dialect,—inquiry failed to disclose any such condition among the Miwok. Here, notwithstanding the fact that the territory occupied by the stock is a very large one, there are but four dialects, many separate villages speaking the same dialect. There appear to be certain slight sub-dialectic differences, but

<sup>8</sup> *Op. cit.*, p. 361.

these are not at all marked, and no clear differentiations of speech are recognized and no definite territorial limits are stated for such sub-dialects by the people themselves. There seems to be a total lack of anything resembling true tribal organization. Even a federation of villages does not appear to have existed. Each village appears to have had its captain or head man who exercised very limited powers of government over his people. The people of the particular villages kept for the most part to themselves except upon the occasion of the celebration of some ceremony or in case of war. In the case of the celebration of a ceremony, a difference of language in this region, as elsewhere in California, proved no barrier to association, since people not only of different dialects but also of entirely different linguistic families associated quite freely with one another upon such occasions. In the event of war among the Miwok, two or more villages might temporarily join in a common cause, in which case the captain or chief of the village which was instrumental in bringing about the federation took the lead and acted as the head of the united forces. In property rights also these Miwok villages were entirely independent, each having its own special territory with its hunting grounds, fishing streams, and food-gathering ranges, of which the last seem to have been divided, to a certain extent at least, into individual or family sections. The territory thus controlled by such a village was separated by certain well understood natural boundaries from the territories of adjacent villages. In these respects also, the Miwok resemble quite closely the Maidu and other north-central California stocks. Thus, on the whole, in matters of political organization and dialectic subdivision, the Miwok show practical identity with the great bulk of the central California stocks and are quite different in these respects from the Yokuts to the south.

#### TERRITORIAL BOUNDARIES.

The Moquelumnan or Miwok and Costanoan families were first classed as the same, being called the Mutsun,<sup>9</sup> named after a village at or near the mission of San Juan Bautista. The large Mutsun territory was made to comprise two areas, the

<sup>9</sup> See map accompanying Powers' "Tribes of California."

larger reaching from the crest of the Sierras to the sea coast and extending from Cosumnes river and San Francisco bay on the north to Fresno river and the region between Monterey and Point Sur on the south. The smaller, equivalent to that now recognized as occupied by the Marin and Bodega dialectic divisions, lay along the northern shore of San Francisco bay and was separated from the larger only by this body of water. Subsequently, however, it was found that the Mutsun was not a single stock but comprised two, which were given, according to Powell's system of priority, the names Costanoan and Moquelumnan.<sup>10</sup> As then determined, the Moquelumnan territory comprised two detached areas, the larger lying on the western slope of the Sierra Nevada mountains and in the eastern part of the lower San Joaquin valley; the smaller lying immediately north of San Francisco bay and comprising a territory slightly larger than Marin county. Recent investigations, however, have discovered a third and still smaller detached area, occupied by the dialect which has for convenience been designated as the Northern Coast or Lake dialect, situated in southern Lake county.<sup>11</sup> The geographical relations of these three detached Moquelumnan or Miwok areas, as at present determined, may be seen upon the small sketch map of California which has been placed in a corner of the map of the main Miwok area accompanying this paper. The larger of the two areas north of San Francisco bay is occupied by peoples speaking two slightly different dialects which for convenience have been designated, as before stated, the Western Coast or Bodega dialect and the Southern Coast or Marin dialect. Concerning the resources, topography, boundaries, and village sites of these three dialectic areas in the Coast region, nothing need here be said, as the subject has been fully treated in "The Ethno-geography of the Pomo and Neighboring Indians."

The remaining area, the one which may be called that of the Miwok proper, or the main Moquelumnan area, lies, as before stated, almost wholly on the western slope of the Sierra Nevada

<sup>10</sup> See J. W. Powell's map of the "Linguistic Stocks of American Indians North of Mexico," 7th Ann. Rep. Bur. Amer. Ethn.

<sup>11</sup> "A New Moquelumnan Territory in California." *Amer. Anthr.*, n. s., V, 730, 1903.

mountains and reaches from Cosumnes river on the north to Fresno river on the south. The only exception to this mountain habitat of the **Miwok** is the northwestern extremity of their territory, which extends down into the broad plain of the San Joaquin valley and reaches almost to San Joaquin and Sacramento rivers themselves near their junction. In fact it does actually extend to the easternmost of the several mouths of the Sacramento. A comparison of these limits of the **Miwok** area with those they present on older maps shows considerable differences, particularly in the eastern and western boundaries. The northern and southern boundaries remain very nearly as when first mapped. The details of these differences will be discussed after the exact boundaries as determined during the present investigation have been outlined.

Beginning at the confluence of Cosumnes river with Sacramento river, the northern boundary of the main **Miwok** area very probably follows the course of the former up to the junction of the middle fork with the main stream, where it probably takes the course of the middle fork up to its head, and thence on up through the higher mountains to a point a short distance west of Silver lake. This northern boundary of the **Miwok** is probably the correct one, though it should be noted that **Miwok** informants differ concerning certain parts of it, and that as no opportunity was found to question any of the Maidu living north of this line, no first hand evidence from that source can here be given. One informant maintained that the **Miwok** held the territory for a short distance north of the mouth of Cosumnes river, placing their northern limit a few miles north of the town of Elk Grove. Other informants, however, maintained that the **Miwok** held no territory whatever north of Cosumnes river, which information seems to agree with that given by the Maidu to Professor R. B. Dixon though, as stated in his paper on "The Northern Maidu,"<sup>13</sup> his informants left some doubt as to the boundaries in this vicinity. Again, certain **Miwok** informants claimed that the territory in the immediate vicinity of Plymouth, nearly south of the confluence of the forks of Cosumnes river, was part of the territory of the Maidu. Others, however, claimed that it belonged to the **Miwok**,

<sup>13</sup> *Op. cit.*, p. 125.

but differed in opinion as to whether it belonged to the Plains or the Amador dialect. That this vicinity was held by the Miwok there seems little doubt, though it can not be definitely stated to which of the two dialectic areas it belonged. In respect to the eastern part of this northern boundary, the bulk of Miwok information gave the south fork of the Cosumnes as the northern limit of Miwok territory. This information, however, does not agree with that obtained from the Maidu by Professor Dixon, who places this portion of the Maidu-Miwok boundary definitely at the middle fork instead of the south fork. Therefore, since Professor Dixon's information on this point appears to be quite positive, and since a considerable amount of similar information was obtained from the Miwok in the course of the present investigation, it seems highly probable that the middle fork does mark the boundary in this region.

From the point just west of Silver lake the boundary runs in a southerly direction through the mountains and across the head of Mokelumne river, where it takes a more westerly course and runs to the vicinity of Big Trees, otherwise known as the Calaveras big tree grove. Here it turns quite sharply to the south for a few miles and then to the east, going across the northern headwaters of Stanislaus river, and thence up the range separating Aspen Creek from the middle fork of Stanislaus river, to the crest of the high Sierras, which it then follows, with its general southeasterly trend, to a point at or near Mt. Lyell. Both Miwok and Washo informants were questioned concerning the boundary between their territories and all agreed that the Washo owned the region for some distance down on the western slope of the Sierras, and that they held a narrow strip of territory down to the vicinity of Big Trees. The Washo placed the line definitely about three miles west of Big Trees, while some of the Miwok placed it between Big Trees and Gardner's about three or four miles to the east. Neither Miwok nor Washo inhabited the very high mountains during the colder season, but during the summer both camped there and seem to have been on very friendly terms. It also appears that although the ownership of the respective territory of each was fully recognized by the other, there were no exacting restrictions placed by either upon the other in their

territory. The same conditions apparently did not obtain immediately to the south of this region. There was hostility between the Miwok and the Shoshonean "Paiutes" along the portion of their boundary line at the southern head of Stanislaus river, although still farther to the south, in the vicinity of Yosemite valley and southward, the people of the two stocks were on very friendly terms, making amicable trading trips both ways across the summit of the Sierras.

At Mt. Lyell the boundary turns in a southwesterly direction and follows the divide between the headwaters of San Joaquin and Merced rivers to the head of Fresno river. It then follows, in a general way, the course of this stream with its northeasterly and southwesterly trend down, at least, to a point a few miles west of Fresno Flat. Here it probably makes a slight swing to the south to include the vicinity of what was formerly known as Fresno Crossing, then returns to the river itself and continues down it to a point about due south of Raymond. The northeastern part of this portion of the boundary separates Miwok from Shoshonean territory, while the southwestern part separates it from Yokuts territory. There is a possible deviation from the southern boundary as here given, in the vicinity of Ahwahnee. According to certain informants the boundary left the river here and ran for a short distance to the north, including Ahwahnee and vicinity in Yokuts territory. However, the bulk of the information obtained places Ahwahnee in Miwok territory and runs the boundary between the Miwok and Yokuts directly on Fresno river itself, except, as above mentioned, where it swings to the south to include the vicinity of Fresno Crossing, at which point it was asserted by both Miwok and Yokuts informants that the Miwok occupied both banks of the river for a few miles.

The western boundary of the Miwok territory is not as yet absolutely settled, but according to the best information obtainable it follows the western edge of the foot-hill region—the actual meeting place of the broad plain of the San Joaquin valley with the foot-hills themselves—from the point above mentioned on Fresno river south of Raymond, to Calaveras river, down which stream it runs to a point a few miles northeast of Stockton. Here it turns in a general northwesterly direction and follows the

edge of the tule marsh east of San Joaquin river to the easternmost of the several mouths of Sacramento river, up which it runs to the point of origin, the confluence of Cosumnes river with Sacramento river. As above mentioned, this western boundary is not yet definitely settled, but it is very probable that the limit here outlined is the correct one, as will be shown later.

There are certain points wherein the boundaries here given for the Miwok differ from the limits formerly assigned to them. Formerly, the Miwok were supposed to have inhabited an area extending to the summit of the high Sierras throughout the whole north and south range of the stock, but it appears from information obtained from both Miwok and Washo informants that the Washo owned a considerable area about Silver lake and the headwaters of Mokelumne and Stanislaus rivers, their territory extending in a sort of narrow tongue even as far west as the vicinity of the Calaveras grove of big trees.

Concerning the western boundary of the Miwok area only Miwok information is available. All Miwok informants do not agree as to the language spoken by the people occupying the plains of the valley along San Joaquin river. The best information at hand, however, places the boundary at the eastern edge of the plains as far north as Calaveras river, thus bringing it thirty miles or more farther toward the east than has formerly been reported. In view of the fact that Miwok informants are not fully agreed upon this subject and also in view of the fact that it has formerly been supposed that the western boundary of the Miwok territory, throughout the greater part of its extent, was San Joaquin river itself, diligent search was made for some individuals who formerly inhabited this portion of the San Joaquin plains and from whom information concerning this subject might still be obtained today. However, owing to the early settlement of this region, most of which is rich agricultural land, and the consequent diminution and dispersion of its aboriginal population, no such individual was found, and it seems very unlikely that it will be possible in future to collect evidence from this source. In addition to the statements made by certain Miwok informants to the effect that the edge of the San Joaquin plains was the western limit of Miwok territory,

they were able to specifically name certain village sites; as, for instance, in the vicinity of Snelling on Merced river and in the vicinity of Oakdale on Stanislaus river, each lying but a few miles from the foot-hills. These village sites the informants definitely knew to have been formerly inhabited by people speaking the Yokuts language. In particular, two informants, now old people, one whose home before the coming of the whites was in the vicinity of Merced Falls on Merced river, and the other whose old home was near Knight's Ferry, on Stanislaus river, both of whom therefore should be most likely to know definitely concerning the peoples formerly living in the plains but a few miles distant, stated very positively that the plains in these two regions were held by people speaking the Yokuts language; and they were able to give short vocabularies of the language used by their plains neighbors. In addition to these Yokuts villages in the plains of the immediate vicinity, these informants were also able to locate many of the Miwok villages among the foot-hills along the lower courses of these rivers. These and other informants maintained that the entire plains region east of San Joaquin river was occupied by the Yokuts, but that in the plains to the west of the San Joaquin a language entirely different from either Yokuts or Miwok was spoken. This would be Costanoan.

In respect to this last statement, it would be of course quite unsafe with but this as evidence to assume that the Costanoan stock reached to the west bank of the San Joaquin. But this statement, meager as it is, adds a certain weight to those already published and placing the eastern Costanoan boundary on the San Joaquin. On the other hand, it must be remembered that the Yokuts were primarily a valley or plains people, that they held the plains on both banks of the San Joaquin, in the lower or northern end of the valley, and practically all of the plains on both sides of the river and about Tulare lake in the upper or southern end of the valley. In view of these facts it would be an unusual distribution to have Costanoan territory reaching to the river bank along this central part of the San Joaquin while practically all of the remainder of this great valley was, so far as is now known, in possession of the Yokuts. Therefore, although the evidence so far published points to the occupation of this

central portion of the San Joaquin plains lying west of the river by Costanoan people, the possibility of a Yokuts occupation of the whole plains region extending along both banks of the San Joaquin river should not be overlooked.

In corroboration of the newly found continuous northern extension of the Yokuts territory east of San Joaquin river, it should also be noted that, as has been shown by Professor Kroeber,<sup>15</sup> the dialect spoken by the Yokuts formerly living in the vicinity of Stockton was very closely related to the Chauchila dialect spoken in the vicinity of the river of the same name, which is a number of miles north of Fresno river. Further, recent information kindly furnished by Professor Kroeber is to the effect that his Yokuts informant living farthest north in San Joaquin valley, namely, near Raymond in Madera county, stated that the territory of the Yokuts extended, in the plains, beyond Chowchilla river, which stream lies itself north of the limits formerly assigned to that stock. No definite statement could be obtained from this informant as to the northernmost limits of the Yokuts territory, but she was certain that the Yokuts held both sides of Chowchilla river in the plains. Thus it would appear that while it is now impossible, on account of their probable total extinction, to obtain vocabularies and further direct evidence from the people who actually inhabited this section of the San Joaquin plains, there is little room for doubt that they were Yokuts, and that the Yokuts occupied a continuous area stretching from near Tehachapi on the south to the vicinity of the confluence of San Joaquin and Sacramento rivers on the north, thus making the territory of this stock one of the most extensive in California.

This change of the western boundary of the Miwok from the San Joaquin river itself to the eastern edge of the plains of the San Joaquin valley, very greatly reduces the total area formerly accredited to the Miwok. In addition to this reduction of the Miwok area on the west, it is still further diminished in the northern part of its eastern border, where a considerable area on the headwaters of Mokelumne and Stanislaus rivers which was formerly accredited to the Miwok has been found to belong to the

<sup>15</sup> *The Yokuts Language of South Central California*, Univ. Calif. Publ., Am. Arch. Ethn., II, 311.

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 439

LECTURE 1

THE CLASSICAL LIMIT

1.1. THE CLASSICAL LIMIT

1.2. THE CLASSICAL LIMIT

1.3. THE CLASSICAL LIMIT

1.4. THE CLASSICAL LIMIT

1.5. THE CLASSICAL LIMIT

Washo, the greater part of whose territory lies about Lake Tahoe and on the eastern side of the Sierra Nevada mountains.

On the other hand, there are almost no parts of the Miwok boundary which have been extended so as to include more territory than formerly. The recent map of the Bureau of American Ethnology, showing the "Linguistic Families of American Indians North of Mexico,"<sup>16</sup> gives a detached northern Yokuts or "Mariposan" area which is made to include practically all of the plains of the San Joaquin valley lying between Cosumnes and Calaveras rivers, although the Bureau's earlier map of the same title<sup>17</sup> shows this territory as Moquelumnan. Information obtained in connection with the present investigation shows the earlier map to be more nearly correct and that the greater portion of this territory between Cosumnes and Calaveras rivers was part of the Miwok area. Further, there is now added to the Miwok territory a very small area in the vicinity of what was formerly known as Fresno Crossing on Fresno river, just west of Fresno Flat. Of these two areas the latter only, which is insignificantly small, may be considered as an actually newly determined addition to the Miwok territory, since the earlier map of the Bureau of Ethnology has the Calaveras-Cosumnes plains region properly included in Miwok territory. Thus it appears from the present investigation that the territory of the Miwok proper is smaller by a very considerable amount than was formerly supposed, and that, while it has lost considerable areas on the west, and northeast, it has gained practically nothing along any of its boundaries.

#### DIALECTS.

Within the main Miwok area, there are four markedly distinct dialects spoken, none of which have names given to them by the Indians. It has already been pointed out that the designating of people by the Miwok is done in two ways: either by a general name compounded from the term used for a given cardinal direction, this name referring to all people living in that direction, regardless of linguistic or other affinities; or by a local name,

<sup>16</sup> Accompanying Bulletin 30.

<sup>17</sup> Accompanying the Seventh Annual Report.

formed upon the name of the particular village in which the people spoken of reside. The same terms are used by them in reference to language, it being said of an individual that he speaks the language of the easterners or that he speaks the language of the certain village in which he lives. They do, of course, recognize a difference between dialects of their own language and also a still greater difference between the speech of themselves and their neighbors of different linguistic stock. But in neither case do they have any name specifically applied to a language or dialect as such. For convenience in referring to the dialects of the Miwok, it will thus be necessary to arbitrarily select names for them. The dialect spoken in the northwestern part of this area and lying chiefly in the plains of the San Joaquin valley may be designated as the Plains or Northwestern Sierra dialect. That spoken in the area immediately east of the last may be designated as the Amador or Northeastern Sierra dialect, and the dialects spoken in the remaining two areas may be designated as the Tuolumne or Central Sierra dialect and the Mariposa or Southern Sierra dialect. The word Sierra is here introduced into the names of these dialects in order to make more clear the distinction between the dialects of the main Miwok area situated in the region of the Sierra Nevada mountains, and the remaining three dialects which are spoken on or comparatively near the shore of the ocean and which have, therefore, been designated as the Northern, Western and Southern Coast dialects.

Professor Kroeber in his paper on the "Dialectic Divisions of the Moquelumnan Family"<sup>18</sup> makes a tentative separation of the language spoken in the main Miwok area into three dialects, which he does not definitely name or bound, employing so far as possible names already in use in reference to the language spoken in the various parts of the Miwok area. The vocabulary given by him under the name Mokelumni is of the same dialect as that here designated as the Plains dialect. The Amador dialect is called Koni, with which he classes an Angels Camp vocabulary. In the south he places his Yosemite and Pohonichi vocabularies as practically identical. These two correspond to what is here designated as the Mariposa dialect. Professor Kroeber notes

<sup>18</sup> *Op. cit.*, pp. 659, 660.

that there are certain slight differences between the Koni and the Angels Camp vocabularies, and again between those from Yosemite and the Pohonichi, but with the limited lexical material then available does not feel warranted in making definite separations of dialects in these cases. With the present vocabularies at hand it appears that the Koni or Amador and the Angels Camp or Tuolumne are separate though closely related dialects. On the other hand it was observed in the course of the present investigation that the language spoken in Yosemite valley and that spoken in the lower foothills about Mariposa were slightly different. This difference however does not appear to amount to more than a sub-dialectic one, and these two regions have therefore been classed together as possessing essentially the same speech, the Mariposa dialect.

Owing to the different orthographies used in recording the vocabularies accompanying Powers' Tribes of California<sup>19</sup> it is difficult to determine precisely to what one of the Miwok dialects each belongs. Of the twelve vocabularies given under the title of "Mutsun" eight are Miwok. Of these, five are from the dialects of the Sierra group and three are from those of the Coast group. Following Powers' numbering of these vocabularies, they belong to dialects as follows: number one, Amador; numbers two and nine, probably Tuolumne; number eight, Mariposa; and number eleven, Plains. Those belonging to the Coast group of dialects are numbers four, ten, and twelve. The first two seem to resemble the Marin dialect slightly more than the Bodega, while the last seems to be nearer the Bodega. The differences between the Marin and Bodega dialects are, however, so slight that it is impossible to determine definitely to which any one of these three vocabularies belongs. Among these vocabularies there is none from the Northern Coast or Lake dialect.

The Plains dialect is separated from the Amador dialect by a line probably running, in a general southwesterly direction, from the point at which the north, middle, and south forks of Cosumnes river meet to form the main stream, to the vicinity of the junction of Sutter and Jackson creeks at a point a few miles

<sup>19</sup> Cont. N. A. Ethn., III, 535 seq.

west of Ione, where it turns in a southerly direction and runs to Calaveras river which it strikes at a point at or near where the boundary between Calaveras and San Joaquin counties crosses it, three miles or so down stream from the town of Comanche. From this point, it follows Calaveras river down to the point where the western interstock boundary comes to that stream. There is some doubt as to the location of the northern portion of this dialectic boundary, as the Indians differ in their opinions as to the dialect spoken at the town of Plymouth and in that vicinity, even as far south as Drytown. Some claim that the Amador dialect extended some miles west of Plymouth, while others claim that the Plains dialect extended a short distance east of that place. Still others maintain that the language spoken in the vicinity of Plymouth was not Miwok at all, but Maidu. This, however, seems quite doubtful, as the majority of the Miwok claimed the territory in this section as far north as Cosumnes river and the Maidu, according to Professor Dixon, claimed only as far south as the middle fork of Cosumnes river. The Plains dialectic area is practically surrounded on three sides by the territories of Indians belonging to entirely different linguistic stocks. On the northwest are the Maidu, on the west the Yokuts and possibly a small body of the Wintun or Maidu, and along a portion of the southern boundary the Yokuts also. Along the eastern part of its southern boundary, and along the entire length of the eastern boundary, the territory of the Plains dialect is contiguous to that of the people speaking the Amador dialect.

The boundary between the Amador and the Tuolumne dialectic areas extends from the eastern Miwok inter-stock boundary, at a point in the mountains just north of the Calaveras grove of big trees, along the mountains to the north of the southern head waters of Calaveras river, passing about half way between El Dorado and Sheep Ranch, and thence on toward the southwest until it intersects the western inter-stock boundary probably at a point about southwest of Harmon peak. That this boundary passes over or near Harmon peak was definitely stated by informants, but it was impossible to obtain definite information concerning the extreme western end of the line. This dialectic

area is adjoined on the north by the territory of the Maidu, on the east by that of the Washo, on the south by the Tuolumne dialectic area, on the southwest by the territory of the Yokuts, and on the west by the Plains dialectic area.

The Tuolumne dialectic area is separated from that of the Mariposa dialect by a boundary line beginning at or near Mt. Lyell, and following quite strictly, as nearly as could be ascertained, the water shed between Tuolumne and Merced rivers, thus passing north of Yosemite valley and including this in the Mariposa area. The western extremity of this inter-dialectic boundary could not be definitely determined, but all indications point to the range separating the drainages of Tuolumne and Merced rivers in this western extremity as well as throughout the remainder of the line. The Tuolumne dialectic area is adjoined on the northwest by the Amador dialectic area, on the east by Washo and Shoshonean territory, on the south by the Mariposa dialectic area, and on the west by the territory of the Yokuts.

The Mariposa dialectic area in turn is adjoined on the north by the Tuolumne dialectic area, on the southeast partly by Shoshonean and partly by Yokuts territory, and on the west also by Yokuts territory.

## DIALECTIC RELATIONS.

### LEXICAL.

The vocabularies here given consist of lists of words obtained in each case from several informants speaking the same dialect and residing in different parts of their particular dialectic area. The only exception is that of the Plains dialect where it was possible to find but a single informant. He spoke what he called the Mokelumne dialect. His vocabulary is, however, corroborated by a short list of *ōtceha'mni* terms obtained in 1904 by Professor Kroeber from several informants.

Lexically the four dialects spoken in the Sierra Miwok area form a unit as compared with those spoken in the Coast Range region north of San Francisco bay. There are, however, very considerable differences in the roots found in the various dialects, the percentage of roots common to the four Sierra dialects in the accompanying vocabularies being as low as 35.

The limited number of words in these vocabularies makes it impractical to attempt to determine the exact mathematical relations existing in respect to the number of stems held in common among all the dialects or between any two of them. Certain general relations are, however, evident.

From an inspection of the list it appears that the four Sierra dialects fall into three groups: Plains, Amador-Tuolumne, and Mariposa. Of these the Plains dialect is the most distinct from the others, having fully 40 per cent of stems entirely peculiar to itself. The Amador and Tuolumne dialects are quite closely united, having about 80 per cent of their roots in common. The Mariposa dialect is removed by a considerable degree from the Amador-Tuolumne group, having only about 60 per cent of stems in common with it. It is, however, much more closely related to the Amador-Tuolumne group than is the Plains dialect.

Among the three Miwok dialects spoken in the Coast range mountains, the adjacent Marin and Bodega dialects are very closely related to each other. The connection between these two is on the whole even closer than that between the two members of the Amador-Tuolumne group.

The northern Coast or Lake dialect is, however, different from the other two Coast dialects, and probably stands farthest removed of any from the typical Miwok stem.

The dialects of the Coast group are apparently slightly more related to the Plains dialect than to the others of the Sierra region. The territory of the Coast dialects is geographically nearer to the area in which the Plains dialect was spoken, which fact, together with the somewhat closer lexical relationship, might be taken to indicate a former actual connection between the people of the two regions, with a subsequent intrusion of Wintun, or with a Miwok migration, as the cause of separation. However, the coast dialects contain so many totally different root forms from those found in the dialects of the Sierra group, that whatever the cause of separation may have been, it seems probable that the separation itself has been of long standing.

In both the Coast and the Sierra groups there are a few terms borrowed from surrounding languages, but their number

is so small as to be negligible in a consideration of the causes of divergence between the two groups.

#### PHONETIC.

The vocabularies here given contain too small a number of terms to make it possible to determine at all accurately the phonetic changes which occur in passing from one to another of the Miwok dialects. The following may, however, be taken as indicative of what will probably be found when fuller lists of words are available and longer study has been made.

On account of the small proportion of terms which the Plains dialect has in common with the others, it is specially difficult to gain any idea of the phonetic relation of this dialect to the others. It appears, however, that the dialect is phonetically as well as lexically more different from the remaining three Sierra dialects than these are from one another.

The sound *u* or *u* is of frequent occurrence as a final sound after certain sounds, particularly *s* and *t*, in the Amador, Tuolumne, and Mariposa dialects, but is almost never so used in the Plains dialect. So marked is this difference, that as one travels through the Miwok territory it is one of the most noticeable changes in passing from the region of the Plains dialect to any of the others.

The only phonetic changes which appear at all constantly in the short list of words here given are two, the change of *t* in the Amador, Tuolumne, and Mariposa dialects to *s*, *c*, or *k* in the Plains dialect, and the change of *s* in the Plains, Amador, and Tuolumne dialects to *h* in the Mariposa dialect. The latter equivalence is a very frequent one. There are no conspicuous changes occurring between the Amador and Tuolumne dialects.

These three examples, the only ones which have appeared with any constancy, indicate that with fuller material several regular changes would become sufficiently evident to clearly distinguish the four dialects phonetically. Here, as well as in the lexical consideration, the Amador and Tuolumne dialects seem to group themselves together, the Mariposa dialect to be somewhat removed, and the Plains dialect still more distinct.

## ALPHABET.

The characters used to represent the various sounds found in the Miwok dialects are as follows:

## Vowels.

|    |  |
|----|--|
| a  | as in father.  |
| ai | as in aisle.   |
| ē  | as in obey.  |
| e  | as in net.   |
| ī  | as in machine.   |
| i  | as in pin.   |
| ō  | as in note.  |
| o  | English aw.  |
| ū  | as in rule.  |
| u  | as in put.   |
| û  | as in but.   |
| u  | is made with the lips considerably rounded. There is no exactly equivalent sound in English.                                 |
| ü  | Similar to <i>u</i> but with lips more rounded. This sound approaches the French <i>u</i> , but is of less definite quality. |
| u  | An obscure sound.  |

The apostrophe (') following a vowel or consonant indicates a pronounced aspiration.

## Consonants.

|               |   |
|---------------|---|
| p,b,w,m,n,y,h | as in English.  |
| k             | is a symbol which has been used to represent two different sounds: the post-palatal and the medio-palatal voiceless stops, the value given it in any case being governed by the tongue position of the vowel with which it is associated. |
| g             | is the sonant of <i>k</i> and its positions are varied by the vowel with which it is associated in the same manner as in the case of <i>k</i> .   |

- t, d            alveolar stops, voiceless and voiced respectively.  
The latter occurs rarely in the Sierra group of dialects.
- t                voiceless dental stop. In making this sound the tongue tip rests against the backs of the upper teeth.
- T                voiceless interdental stop.
- ñ                nasalized post-palatal sonant; like English ng.
- x                has a sound usually approaching Spanish jota, but is sometimes distinguishable from h only with difficulty.
- g'                the sonant of x.
- c, j              open prepalatal consonants, voiceless and voiced respectively.
- s, z              open alveolar consonants, voiceless and voiced respectively.
- s                This peculiar voiceless continuant is made by protruding the lower jaw to a considerable extent and retracting the edges of the tongue to an almost prepalatal position.
- l                as in English let.
- L                This is a voiceless stop made with the tip of the tongue on the alveolar arch. The closure is followed by only a slight explosion, the air being allowed to escape laterally. This sound has not so far been met with among the Sierra dialects and only occasionally among the Coast dialects.
- l                the sonant of L.
- L                resembles L except that the tongue is somewhat more retracted, and more relaxed so that there is almost no explosion as the air escapes over the sides of the tongue. The sound resembles that of hl. This also has not so far been found among the Sierra dialects and is found among the Coast dialects more rarely than is L.

tc as in church.  
 ts as in sits.  
 dj as j in jury.

## SOUNDS.

The following are the sounds found in the four Sierra Miwok dialects.

## Vowels:

a, ai, ē, e, ī, i, ō, o, ū, u, û, u, ü, u.

## Consonants:

|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| k | g |   | t | d | t | r | p | b |   |
|   | ñ |   |   | n |   |   |   | m |   |
| x |   | c | s |   |   |   |   |   | w |
|   |   |   | s |   |   |   |   |   |   |
|   |   |   |   | l |   |   |   |   |   |
|   |   |   |   | l |   |   |   |   |   |

y, h, tc, dj.

The following are the sounds found in the three Coast Miwok dialects.

## Vowels:

a, ai, ē, e, ī, i, ō, o, ū, u, û.

## Consonants:

|   |    |   |   |   |   |  |   |   |   |
|---|----|---|---|---|---|--|---|---|---|
| k | g  |   | t | d | t |  | p | b |   |
|   | ñ  |   |   | n |   |  |   | m |   |
| x | g' | c | s |   |   |  |   |   | w |
|   |    |   | s |   |   |  |   |   |   |
|   |    |   |   | l |   |  |   |   |   |
|   |    |   |   | L |   |  |   |   |   |
|   |    |   |   | L |   |  |   |   |   |

y, h, tc, ts, dj.

## VOCABULARIES.

|              | <i>Plains</i><br>( <i>N. W. Sierra</i> ) | <i>Amador</i><br>( <i>N. E. Sierra</i> ) | <i>Tuolumne</i><br>( <i>Cent. Sierra</i> ) | <i>Mariposa</i><br>( <i>S. Sierra</i> ) | <i>Bodega</i> <sup>28</sup><br>( <i>W. Coast</i> ) | <i>Marin</i><br>( <i>S. Coast</i> ) | <i>Lake</i><br>( <i>N. Coast</i> ) |
|--------------|--|--|--|---|--|-------------------------------------|------------------------------------|
| 1 person     | miu-ko                                   | miu-w-k                                  | miwu                                       | miwu                                    | ula-mitea ?  | mitca-kō                            | xōtsaxō                            |
| 2 man        | sawe                                     | naña                                     | naña                                       | naña                                    | tai  | taiyis                              | tai                                |
| 3 woman      | úsutú                                    | osa                                      | osa  | oha                                     | kulēyī   | kulēyis                             | pōtsi                              |
| 4 boy        | salñnai <sup>20</sup>                    | naña-tī                                  | naña-tī                                    | naña-teu                                | hēna   | henas                               | hēna-pūtū                          |
| 5 girl       | ūmūnai <sup>21</sup>                     | osa-tī                                   | osa-tī                                     | cha-teu                                 | koya   | kōya                                | kōla-pūtū                          |
| 6 child      |  | ehēlu                                    | esellu                                     | esellu                                  |  |                                     |                                    |
| 7 infant     | ōki, pūnne                               | hiki-me <sup>22</sup>                    | hiki-me                                    | esellut-kī                              | ūtī  | ūtī                                 | pūtū                               |
| 8 old man    | ūtūm-teī                                 | ūya-tī                                   | ūya-na                                     | hamelet-kī                              | ōyī  | ōyis                                | nawa                               |
| 9 old woman  | ūtū-ya                                   | ona-tī                                   | on-oso                                     | onoteōt-kī                              | kūyēyī   | pōteis                              | hūkūyū                             |
| 10 father    | appa                                     | upu                                      | upa-tī                                     | upu                                     | apī  | apī                                 | apī                                |
| 11 mother    | āka                                      | uta                                      | uta-tī                                     | uta                                     | ūnū  | ūnū                                 | ūnū                                |
| 12 white man | ūuten-ko                                 | allēni-k                                 | ūyeyū                                      | ōyeyai                                  | tōtai  | pōtōla-kō                           | ūtēl-kō                            |
| 13 head      | tolo                                     | hana                                     | hana                                       | hūkū                                    | mōlū   | mōlū                                | Lūbūddūk                           |
| 14 hair      | tolo                                     | hana                                     | yūse                                       | hīsok                                   | mōlū-ñkateen                                       | kōlē-mōlū                           | sapa                               |
| 15 eye       | welai                                    | sawu                                     | sūntu                                      | hantu                                   | sūt  | sūt                                 | sūt                                |
| 16 ear       | coloto, alok                             | tokosu                                   | tokosū                                     | tolko                                   | alōk   | alōk                                | alōk                               |
| 17 nose      | hūnk                                     | hūku                                     | nīto                                       | nīto                                    | hūk  | hūk                                 | hūk                                |
| 18 mouth     | hūpe                                     | awo                                      | awo  | awo                                     | lakūm  | lakūm                               | lūppe                              |
| 19 tongue    | nepit                                    | nepitū                                   | nepiru                                     | nepir                                   | lemtep   | lemtip                              | letip                              |
| 20 teeth     | kūt                                      | kātu                                     | kuru                                       | kuru                                    | gūt  | kūt, gūt                            | gūt                                |
| 21 neck      | topa                                     | topa <sup>23</sup>                       | setee, lola                                | setee                                   | helēke   | heleke                              | helēkī                             |
| 22 arm       | tawa, tumal                              | tumalu                                   | woñotū                                     | patcan, tawa                            | talik  | tañli                               | tañlik                             |
| 23 hand      | eku                                      | ukusu, tīssu                             | tīssu                                      | tīssu, ūkus                             | ūkū  | ūkūs                                | ūkū                                |
| 24 fingers   | kītcayi                                  | tcīgola <sup>24</sup>                    | tīssu                                      | tīssu                                   | ūkū  | ūkūs                                | kūpūm                              |

|                       | Plains<br>(N.W. Sierra) | Amador<br>(N.E. Sierra) | Tuolumne<br>(Cent. Sierra) | Mariposa<br>(S. Sierra) | Bodega<br>(W. Coast) | Marin<br>(S. Coast)   | Lake<br>(N. Coast) |
|-----------------------|-------------------------|-------------------------|----------------------------|-------------------------|----------------------|-----------------------|--------------------|
| 25 nails              | tī                      | tīssū                   | sala                       | tissu                   | pītcī                | pītcī                 | tī                 |
| 26 breasts (female)   | mū'                     | mūsū                    | mūsū                       | mūsū                    | mū                   | mū                    | mū                 |
| 27 milk               | mū'                     | mūsū                    | mūsū                       | mūsū                    | ewe                  | ewe                   | toköllō            |
| 28 knee               | honoī                   | hoñoyū                  | hoñoyū                     | hoñoi                   | mōwī                 | mōwī                  | lōlō               |
| 29 leg                | tana                    | tuñu, kawali            | tuñu, hoteanū              | tuñu                    | hol                  | etea, hol             | köllō              |
| 30 foot               | kolo                    | hate, kolo              | hate                       | hate                    | ko                   | ko, kōyo              | kūlūm              |
| 31 bone               | wúskī                   | kute <sup>w</sup> tcu   | ku 'teuten                 | kuteute                 | mútcī                | kūlūm                 | hatsī              |
| 32 rib                | kīteaū                  | woto                    | wīma                       | alaka                   | wīpik                | wīpik                 | kītsaū             |
| 33 blood              | kēna                    | kīteaū                  | kīcawu                     | kīteaū                  | kīteaū               | kīteaū                |                    |
| 34 excrement          | kēna                    | kūnatu                  | kūnatū                     | kemat                   |                      |                       |                    |
| 35 chief              | tceka                   | haiapu                  | haiapō                     | haiapō                  | hōipū                | hōipūs                | hōipū              |
| 36 doctor             | ūmīse                   | alini <sup>s</sup>      | alini <sup>s</sup>         | tūyūk                   | temnepa              | wenen- <sup>api</sup> | yōmta              |
| 37 friend             | otta                    | sake-t                  | moe, aiyu-t                | otci-nti, aiyu-ntiōiya  |                      | ōiam-gō               | ōiya               |
| 38 house              | kōdja                   | kōtea                   | kōtea, ūtcū                | ūtcū                    | kōtea                | kōtea                 | wēyi               |
| 39 door               | ūkūya                   | ōlata                   | ūkūya                      | ūkūya                   | ka                   | ka                    | ka                 |
| 40 dance-house        | hanēpū                  | hañi                    | hañi                       | hañi                    | lamma                | lamma                 | lamma              |
| 41 bow                | tanuka                  | kutca                   | kutca, sollokū             | yawe                    | konō                 | kōno                  | kōnō               |
| 42 arrow              | haūlo                   | yateī                   | paipū                      | mutekū                  | lanta                | lanta                 | kiūwa              |
| 43 knife              | safakūi                 | kītce                   | kaiyai                     | sope                    | hūlaia               | hūlaia                | tsītsa             |
| 44 boat               | saga                    | saku                    | saku                       | wote                    | saka                 | saka                  | nū                 |
| 45 string             |                         | lakabawa                | ūmasi                      | hilo                    | kattcen              | kattcen               | cūtsa              |
| 46 pipe <sup>sr</sup> | topokela                | paūmma                  | paūmma <sup>ra</sup>       | paūmma                  | sūgūlūpū             | sūmki                 | cūmkit-tūmai       |
| 47 tobacco            | kasiū                   | kasū                    | kasu                       | kaha                    | kaiyaū               | kaiyaū                | kaiyaū             |
| 48 awl                | luya                    | teilla                  | tealla                     | tealla                  | lūsayā               | mōōi, sutaya          | hūtīk              |
| 49 burden basket      |                         |                         | teikele                    | teikele                 | tīka                 | tīka                  | tīka               |
| 50 cradle             |                         |                         | hiki                       | hiki                    | saka                 | saka                  | tūnūk              |

|    | Plains<br>(N.W. Sierra) | Amador<br>(N.E. Sierra) | Tuolumne<br>(Cent. Sierra) | Mariposa<br>(S. Sierra) | Bodega<br>(W. Coast) | Marin<br>(S. Coast) | Lake<br>(N. Coast) |
|----|-------------------------|-------------------------|----------------------------|-------------------------|----------------------|---------------------|--------------------|
| 51 | pestle                  | hōpa                    | kawatci                    | kawatci                 | pa                   | paiya, pa           | tōwai              |
| 52 | comb                    | salakka                 | sakanī                     | sakanī                  | yatcek               | sōnek               | lawine             |
| 53 | mush paddle             | [not used]              | [not used]                 | [not used]              | [not used]           | wīwil               | ōlak               |
| 54 | mush stirrer            | hi                      | sawaiya                    | sawaiya                 | hi                   | [not used]          | [not used]         |
| 55 | sun                     | hi                      | hiēma                      | watū                    | hi                   | hi                  | hi, hintaka        |
| 56 | moon                    | kōme                    | kōme                       | kōme                    | pūlūlak              | pūlūlak             | kūménawa           |
| 57 | star                    | holokai                 | hosokōna                   | tcalarū                 | hiti                 | hitis               | tōle               |
| 58 | day                     | hiāma                   | hiēma                      | hiēma                   | hi                   | hiāna               | hi                 |
| 59 | night                   | kawūl                   | kawūlu                     | kawūlu-to               | kawūl                | kawūl               | kawūl              |
| 60 | wind                    | wūlūli                  | hena                       | kanuma                  | kiwel                | hena, kiwel         | hena               |
| 61 | thunder                 | lilik                   | tīmele                     | tīmeleli                | talawa               | talawa              | talawa             |
| 62 | rain                    | hōma                    | nuka                       | nuka, ūmūtca            | ūpa                  | ūpa                 | ūpa                |
| 63 | snow                    | kela                    | kela                       | kela                    | yawem                | yawem               | tana               |
| 64 | fire                    | wūke                    | wuke                       | wūke, hūyū              | wūki                 | wūki                | wiki               |
| 65 | smoke                   | kali                    | hakisu                     | hakisa                  | kal                  | kal                 | kal                |
| 66 | ashes                   | sike                    | yōmi, sike                 | sike                    | yemi                 | yemi                | wilōk              |
| 67 | water                   | kik                     | kiku                       | kiku                    | liwa                 | kik, liwa           | kik                |
| 68 | earth, dirt             | yotok                   | walli                      | walli                   | yōa                  | yōa                 | yōwa               |
| 69 | earth, world            | walli                   | walli                      | walli                   | wēa                  | wēa                 | walli              |
| 70 | stream                  | wakatee                 | wakalū                     | wakalū <sup>28</sup>    | teok                 | teok                | wūwe               |
| 71 | valley                  | wiskapa                 | pulaiu                     | aiyi                    | loklo                | lokla               | lōklō              |
| 72 | mountain                | wēpa                    | hisū-wit                   | leme                    | paiyi                | paiyis              | pawi               |
| 73 | rock                    | sawa                    | sawa                       | hawa                    | lūppū                | lūpū                | lūpū               |
| 74 | tree                    | alawa                   | lēka <sup>30</sup>         | lama                    | aiwa                 | alwas               | alwa               |
| 75 | wood                    | tūmai                   | susu                       | hūhu                    | tūmai                | tūmai               | tūmai              |
| 76 | white oak               | sīwek                   | lēka                       | lēka                    | lēka                 | ūliki               | mūle               |

|                            | Plains<br>(N.W. Sierra) | Amador<br>(N.E. Sierra) | Tuolumne<br>(Cent. Sierra) | Mariposa<br>(S. Sierra) | Bodega<br>(W. Coast) | Marin<br>(S. Coast) | Lake<br>(N. Coast) |
|----------------------------|-------------------------|-------------------------|----------------------------|-------------------------|----------------------|---------------------|--------------------|
| 77 black oak               | sasa                    | sasa                    | telēli                     | telēli                  | kōfīn                | kōtis               | ūte                |
| 78 manzanita <sup>21</sup> | ēye                     | ēye                     | eye                        | eye                     | eyi                  | tsilaka             | ēyi                |
| 79 medicine                | wene                    | wene                    | hūsika                     | loha                    | wene                 | wene                | haūwi              |
| 80 poison                  | tūpele                  | tūpūila                 | yenūwa                     | yenpa                   | patca                | patca               | waiya              |
| 81 acorn                   | otcapa                  | wilisa                  | mūyū, telēli               | muyū, telēli            | ūmpa                 | ūmpa                | ūlki               |
| 82 mush                    | pītea                   | nupa                    | nupa                       | nupa-ti                 | ūlki                 | ūlki                | ūskūn              |
| 83 pinole, meal            | tūyū                    | tūyū                    | tūyū                       | tūyū                    | ūskūn                | ūskūi               | ūskūn              |
| 84 bread                   | ūle, yoko               | ūle                     | ule                        | ule                     | ūmū-līwa             | ōmū-līwa            | xaixaig'ik         |
| 85 whiskey                 |                         | [Spanish]               | [Spanish]                  | [Spanish]               |                      |                     |                    |
| 86 meat                    | ūmēna                   | hūkū                    | pītcēma                    | pītcēma                 | teoyeke              | kesūm               | sūki               |
| 87 dog <sup>22</sup>       | tcūteū                  | teukū                   | teukū                      | teukū                   | haiyūsa              | haiyūsa             | kūle               |
| 88 grizzly bear            | usumati                 | usumati                 | usumati                    | uhumati                 | kūle                 | kūle                | ōle                |
| 89 coyote                  | ōleti                   | oletēū                  | asēli <sup>23</sup>        | ahēli                   | ōye                  | ōye                 | sūki               |
| 90 deer                    | uwūya                   | uwūya                   | uwūya                      | uwūya, hika             | teōyeke              | kesūm-ala-<br>kesūm | tsami              |
| 91 jack rabbit             | epali                   | epali                   | epali                      | epali                   | tcami                | aūle                | mele               |
| 92 rabbit skin robe        | ūdjūle                  | yūpte                   | yūpti                      | yupti, toli             | mēye                 | mēye                | hūs                |
| 93 bird                    | teitcipuk               | mīteemati?              | teiteka                    | teiteka                 | ōyēkēya              | ekēya               | tsōkōkō            |
| 94 buzzard                 | tehu                    | teūhū                   | hūsū                       | hūhū                    | sokotok              | kekekai             | caiyts             |
| 95 quail (valley)          | nukute                  | hekeke                  | hekeke                     | hekeke                  | saiyite              | saiyite             | tsiyak             |
| 96 bluejay (valley)        | saisi                   | taiti                   | taismū                     | taiteū                  | kūlup'pi             | wolōlak             | panak              |
| 97 humming bird            | kulūlū                  | liteitci                | liteitci                   | liteitci                | ōyewōlōlōk           | palatcak            | meleya             |
| 98 yellow hammer           | tiūwai                  | tiwai                   | tiwai                      | tiwai                   | panak                | meleya              |                    |
| 99 red-head w'pecker       | paltina                 | palatata                | palatata                   | palatata                | meleya               |                     |                    |
| 100 turtle                 | awannai                 | awannata                | awannata                   | awanta                  |                      |                     |                    |

|                         | <i>Plains</i><br>( <i>N.W. Sierra</i> ) | <i>Amador</i><br>( <i>N.E. Sierra</i> ) | <i>Tuolumne</i><br>( <i>Cent. Sierra</i> ) | <i>Mariposa</i><br>( <i>S. Sierra</i> ) | <i>Bodega</i><br>( <i>W. Coast</i> ) | <i>Marin</i><br>( <i>S. Coast</i> ) | <i>Lake</i><br>( <i>N. Coast</i> ) |
|-------------------------|---|---|--|---|--------------------------------------|-------------------------------------|------------------------------------|
| 101 frog                | teatakaka                               | wataksaiyi                              | wataksaiyi                                 | watakuna <sup>35a</sup>                 | kofola                               | kofola                              | kólóló                             |
| 102 rattlesnake         | pū                                      | wakali                                  | lawarī                                     | lawarī                                  | kūtakwakaklai                        | ukūlis                              | hōlōmai                            |
| 103 fish                | tūkūn                                   | lapīsaiyū                               | lapīsaiyu                                  | lapīsai                                 | elēwi                                | lota                                | kats                               |
| 104 salmon              | ken                                     | kūkūnū                                  | kosūmū                                     | kosūm                                   | kasi                                 | kasi                                | kassi                              |
| 105 louse               | kūkū                                    | ketu                                    | ketu, teupsi                               | ketū, tepsi                             | ket                                  | teupsi                              | ket                                |
| 106 flea                | ūyūgūgū                                 | kakusu                                  | kakusu                                     | kaku                                    | kūkū                                 | kūkūs                               | kūkū                               |
| 107 mosquito            | kodjo                                   | uyukusu                                 | uyukusu                                    | teulu                                   | soiyō                                | soiyō                               | soiyō                              |
| 108 grasshopper         | sūsū                                    | kotco                                   | kotco                                      | añūt                                    | kotok                                | koto                                | kōtō                               |
| 109 yellowjacket        | putūtu                                  | melñaiñ                                 | melñaiw                                    | melñai                                  | menani                               | menani                              | mēnani                             |
| 110 white               | kūlūlu                                  | keleli                                  | keleli                                     | pasasi                                  | potōla                               | potōla                              | tsetaū                             |
| 111 black               | wūtete                                  | kūlūli                                  | kūlūli                                     | tūxūxi                                  | lōkota                               | mūlūta                              | mūlūmūlū                           |
| 112 red                 | teme                                    | weteti                                  | weteti <sup>34</sup>                       | yōtotei                                 | kitefūli                             | ūlūta                               | awaawa                             |
| 113 large               | ititi                                   | utū                                     | utū  | oyani                                   | ōmotak                               | ūnūni                               | ūdi                                |
| 114 small               | welwel                                  | iteibiti                                | tūnitei                                    | teinūmiteu                              | ūmūtee                               | ūti                                 | kūcei                              |
| 115 good                | saiye                                   | kūdji                                   | kutei                                      | te <sup>34</sup>                        | tōwi                                 | tōwis                               | emēne                              |
| 116 bad                 | teūcūi                                  | saiye                                   | usūtu                                      | uswī, uxutuma                           | ōmū                                  | ōmū                                 | ōbū                                |
| 117 sweet               | tala-wit                                | teūdjūyū                                | teūya <sup>35</sup>                        | teūyeña                                 | kōiyūp                               | kawateū                             | kūkōi                              |
| 118 north <sup>36</sup> | hūke-wit                                | taman                                   | tamalin                                    | tamalin                                 | kanī                                 | kan-win                             | kanin                              |
| 119 east <sup>36</sup>  | yakū-wit                                | hūsū-wit                                | hīsum                                      | hīhūm                                   | ala                                  | hīnhine                             | ala                                |
| 120 south <sup>36</sup> | etca-wit                                | teūmute                                 | teūmete                                    | teūmete                                 | ōlom, olóm                           | ōlōp                                | ōlōm-wali                          |
| 121 west <sup>36</sup>  | newit (hign)                            | olō-wit                                 | olo-win                                    | olo-win                                 | helwa                                | helwaia                             | ōlōm ?                             |
| 122 up <sup>36</sup>    | wanit                                   | lile                                    | lile                                       | lile                                    | lile                                 | lile                                | lile                               |
| 123 down                | hela                                    | walim, tamma                            | walim                                      | walim, hūye                             | hōime                                | hōime                               | wēa                                |
| 124 no                  | hūf                                     | ewutū                                   | ewutū                                      | ken                                     | hama                                 | hūma                                | hella                              |
| 125 yes                 | kenata                                  | hū                                      | hū   | huu                                     | ū                                    | ū                                   | ū                                  |
| 126 one                 |   | lūti                                    | keñe                                       | keñe                                    | kenne                                | kenne                               | kenne                              |

|            | Plains<br>(N.W. Sierra) | Amador<br>(N.E. Sierra) | Tuolumne<br>(Cent. Sierra) | Mariposa<br>(S. Sierra)               | Bodega<br>(W. Coast) | Marin<br>(S. Coast) | Lake<br>(N. Coast) |
|------------|-------------------------|-------------------------|----------------------------|---------------------------------------|----------------------|---------------------|--------------------|
| 127 two    | oyoko                   | ōtiko                   | ōtiko                      | otiko                                 | osa                  | ossa                | ōtta               |
| 128 three  | teloko                  | tolokou                 | tolokosu                   | tolokot                               | telēga               | telēka              | telēka             |
| 129 four   | ōyiseko                 | oyisa                   | oyisa                      | ōyisa                                 | hūya                 | hūya                | ōtōta              |
| 130 five   | kasoko                  | masōka                  | masoka                     | mahōka                                | kennekū              | kenekūs             | kedekkō            |
| 131 six    | temepu                  | temōka                  | temōka                     | temōka                                | patcītak             | patcītak            | patsadat           |
| 132 seven  | kenekak                 | kenekagū                | kenekagu                   | titawa                                | sēlawī               | semlawī             | cemlawī            |
| 133 eight  | kawenta                 | kawenta                 | kawinta                    | kawinta                               | ōsūwa                | ōsūya               | ōttaia             |
| 134 nine   | wōe                     | woe                     | woe                        | eliwa                                 | kennekoto            | ūnūtas              | kenenhēlak         |
| 135 ten    | ekūye                   | maatca                  | maatca                     | maatca                                | kitei, gūtei         | kūtsis              | ūkūkūlsi           |
| 136 eleven |                         | lūsa-kena               | keñ-heteagu                | maatca-keñe-<br>hateeni <sup>37</sup> | kenne-wallik         | kenne-lilek         | kenne-wallik       |
| 137 twenty |                         | naa                     | naa                        | ōtiak-naatca <sup>38</sup>            | osa-gūtei            | ōsa-gūteis          | ōtta-tūmai         |
| 138 eat    | tcama-k                 | awu                     | awu                        | awu                                   | yōlūm                | yōlūm               | yōlūm              |
| 139 drink  | ūse                     | ūhū                     | ūsu                        | uhū                                   | ūssū                 | ūssū                | ūssū               |
| 140 run    | taige                   | hawate                  | kūwatu                     | hawate                                | hiewate              | hiewate             | hitsū              |
| 141 dance  | lemma-k                 | kalte                   | kalañu                     | kalañe                                | kawūl                | kawūl               | laki               |
| 142 sing   | hūtki-k                 | muli-ni                 | mūli-ni                    | ūmate, malina                         | koya                 | koya                | kōya               |
| 143 shoot  | ōka-ne                  | añke                    | tamkw                      | tuke                                  | tūwe                 | tūwe                | tūwen              |
| 144 kill   | heta-k                  | yena-ni                 | yana-ni <sup>39</sup>      | yehe                                  | ōke                  | ōke                 | katten             |
| 145 shout  | kawī                    | kawūñe-ni               | kawūñe-ni                  | kawa-k                                | lūtū                 | lūtū                | haiyap             |

## FOOTNOTES TO VOCABULARIES.

- <sup>20</sup> The same informant gave sawe-hasi upon another occasion.
- <sup>21</sup> The same informant gave ocoo-hasi upon another occasion.
- <sup>22</sup> hikī is cradle in the Amador and Tuolumne dialects.
- <sup>23</sup> tokolōla is also used.
- <sup>24</sup> ukusū is also used.
- <sup>25</sup> keyapenuk is also used.
- <sup>26</sup> kōiyapi and ummisi are also used.
- <sup>27</sup> paūmma is very similar to the Shoshonean term, pamo, pamu, found in the Shoshoni-Comanche and Mono-Paviotso dialectic groups (present series, IV, 94).
- <sup>27a</sup> kawatcu is also used.
- <sup>28</sup> wakalmu and wakalmūto are also used.
- <sup>28</sup> wakal, wakalu and wakalmu are also used.
- <sup>30</sup> lēka probably here refers to the white oak rather than to trees in general.
- <sup>31</sup> The Miwok recognize three different species of Manzanita. In the Tuolumne dialect these are called respectively eye, mokosū, and mokolkīne.
- <sup>32</sup> teukū and several variants are met with very frequently throughout California, though by no means universally.
- <sup>33</sup> ōletcū and katūwa were also given as names for coyote in this dialect.
- <sup>33a</sup> wataksaiyi is also used.
- <sup>34</sup> yolollī is also used.
- <sup>35</sup> teūteūyū is also used.
- <sup>36</sup> The directive ending -wit or -win signifying toward is frequently added to the roots of the terms of direction.
- <sup>37</sup> One informant gave naatca-keñe-ūnī.
- <sup>38</sup> One informant gave ōtiak-mahu.
- <sup>39</sup> kalkīni is also used.

*Berkeley, California,*  
*April 15, 1907.*

