

# A GRAMMAR OF THE WAPPO LANGUAGE

BY

PAUL RADIN

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PAUL RADIN

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## INTRODUCTION

The languages of the American Indians have been studied for so long from one definite viewpoint in America that a few words of justification must preface any attempt, such as the following, that deviates in many respects from the customary method. About the merits of the approach of Boas, Goddard, Michelson, etc., no words are necessary. To seek to describe a language in terms of its specific structure with complete disregard, for the time being, of all historical and genetic problems is a necessary preliminary condition for any adequate linguistic study. No penetration into the genius of a language is possible without it, and certainly one of the most justifiable criticisms that can be leveled against the studies on primitive linguistics made by many philologists and ethnologists is that they have neglected this type of presentation and permitted themselves to be completely dominated by purely genetic problems. Quite a number of philologists (when discussing primitive languages) have been content to accept as completely adequate and as definitely proved that particular method of approach which under the name of the "Jung-Grammatiker" has dominated linguistic research in Indo-European and Semitic languages for almost two generations. We do not wish seriously to criticize this method, but we must regard it as a somewhat unnecessarily non-critical attitude to assume that a method, developed in connection with a group of special languages, has, of necessity, a universal validity. The leaders of the movement, Brugmann and Delbrück, made no such claims. All the value that might have accrued to the general study of linguistics from an unbiased consideration of such

\* In justice to the author it should be recorded that this monograph was completed by him in June, 1922. It was submitted to the University Editorial Committee for preliminary inspection in 1923, and on their advice abridged by omission of an English-Wappo vocabulary and other passages, and further condensed through conversion of many tabular lists of examples into solid text paragraphs, in order to reduce cost of publication. This necessitated recopying; the author lived abroad for a number of years; and it was not until 1928 that it was possible, through the aid of the Committee on Research in Indian Languages, Franz Boas chairman, to have a final typescript copy made and verified by the author.—Eps.

new and particular data as that presented by primitive languages, was thus almost completely lost and primitive idioms became merely new sources for illustrating the results obtained in the realm of Indo-European linguistics.

In America a complete, or almost complete, divorce from the work of the great philologists of Europe produced precisely the opposite result. The two cardinal dogmas of the Jung-Grammatiker, that phonetic changes are unconscious and without exception and that analogy plays a tremendous rôle in all languages, are either entirely neglected or only incidentally treated. This freedom from the restraint of the classical school of philologists is of the greatest importance and significance. It enabled Kroeber in his study of Yokuts boldly and bluntly to deny the first (and most fundamental) dogma of Brugmann-Leskien that phonetic changes are without exception. He says:<sup>1</sup>

The rules for the change of the verb-stem do not apply at all to the noun. The addition, to certain stems, of one and the same suffix to indicate both the objective and plural has quite different effects on the stem-vowel according to the significance of the suffix . . . . The vocalic mutations in the language can therefore not be regarded as due to a single complex system of harmony which is always equally operative and differs in its results only through dissimilarity of circumstances. It is evident that there exists a general tendency toward vocalic harmony which takes form differently not only according to phonetic influences but in accord with logical differences such as the grammatical categories and the distinctions of the parts of speech. *The Yokuts vocalic system thus is arbitrary rather than phonetically automatic and appears to be influenced as much by impulses to express linguistic forms as by purely physiological habits.*<sup>2</sup>

In another place he says of Yokuts:

In other words an abstract grammatical distinction entirely suspends and again sets in operation (a) concrete and physical phonetic law.<sup>3</sup>

Such a new outlook is not only healthy but necessary if progress is to be made. I personally believe Kroeber is not right and that his method of procedure—namely, to claim that we do not have to go beyond what we actually have knowledge of (in this case one or two dialects of Yokuts of one particular time)<sup>4</sup>—is, to my mind, not only non-historical but needlessly iconoclastic.

This same spirit of detachment from entangling alliances with the results of Indo-European linguistic researches is found in all the utterances of Boas. In one of his last statements he presents his conclusions as follows:<sup>5</sup>

<sup>1</sup> This series, 2:176, 1907.

<sup>3</sup> This series, 2:211.

<sup>2</sup> The italics are mine.

<sup>4</sup> This series, 2:212.

<sup>5</sup> Franz Boas, *Classification of American Languages*, Am. Anthr., n. s., 22:369 ff., 1920.

. . . . it may safely be stated from what we know [i.e., of a given language at one stage of its history]; that phonetic traits often belong to languages which are morphologically entirely distinct . . . . .

. . . . their [areas of definite types of morphological characterization—reduplication, incorporation, instrumental cases—distribution do not coincide.

. . . . word categories which appear in neighboring languages are sometimes quite similar.

. . . . areas of distribution of phonetic phenomena, of morphological characteristics, and of groups based on similarities in vocabularies . . . do not coincide.

. . . . phonetic influences [without other influences] do spread from one people to another.

It is not so easy to understand the development of similar categories of words in neighboring languages . . . . . Equally difficult to understand is the spread of morphological traits from one language to another [e.g., second third person in Kutenai and Algonkin].

. . . . it would be entirely unwarranted to claim that all similarities of phonetics, classification of concepts, or of morphology must be due to borrowing. On the contrary, their distribution shows that they must be considered as due to psychological causes such as the unavoidable necessity of classification of experience in speech, which can lead to a limited number of categories only, or the physiological possibilities of articulation, that also limit the range of possible sounds which are sufficiently distinct to the ear for clear understanding.

If these observations regarding the influence of acculturation upon language should be correct, then the whole history of American languages must not be treated on the assumption that all languages which show similarities must be considered as branches of the same linguistic family . . . . . We should have to reckon with the tendency of languages to absorb so many foreign traits, that we can no longer speak of a single origin, and that it would be arbitrary whether we associate a language with one or the other of the contributing stocks.

[In proving relationship of certain languages] The question would remain to be answered, why there should be such fundamental dissimilarities between by far the larger number of words [he is speaking of Athabascan, Tlingit, and Haida], and the question should still be asked how these dissimilarities are to be explained.

Now whether most of these conclusions are true or not it does remain a fact that only the method inaugurated and developed by Boas, that of studying a language in terms of its own special structure, could possibly have allowed of so independent a stand toward the results of modern philological research.

As I understand it the American school of philology has two supreme virtues: first, it studies primitive languages apart from any philological preconceptions and presents the grammatical facts descriptively, and secondly, it constitutes something of a reaction against the excesses of the Brugmann school. Looking at its method negatively, however, the American school suffers from two cardinal defects. In the first place it does not always (if ever) tell us whether or not the descriptive facts of the given language it presents are to be considered as constituting, to all intents and purposes, the original classification of categories, the original types of processes, in fact, the original phonetic system.

The impression conveyed by most of the sketches in the Handbook of American Indian Languages is that they are indeed regarded as such ultimate classifications. Many of the inferences of Boas, Goddard, etc., point in the same direction. In short, there is an absence of historical perspective. In the second place, the method suffers from a failure to appreciate exactly how iconoclastic it really is and it fails in this regard just because it has divorced itself from all relation to the older method as applied to the investigation of Indo-European languages.

At first blush it is somewhat difficult to understand how a grouping of grammatical categories found at a given time should be regarded as representing a grouping that is supposed to be, in all fundamentals, the original or quasi-original one for a given language. Tremendous changes must certainly be conceded for a cultural phenomenon like language. And this apparent attitude is all the more difficult to fathom when we are told that "our aim is to unravel the history of the growth of human language and, if possible, to discover its underlying and physiological causes."<sup>6</sup> In order to do so is it necessary to treat the grammatical system of a language as though it had always been the same, had never changed? Above all, to hold such a view is it essential to regard those features, that a descriptive presentation has shown to be the most specific, as precisely the traits that have exhibited the most stability? Yet I do not believe that it is unfair to state that this is exactly what these philologists have done.

It is quite apparent, however, that the basis of the method of the authors of the Handbook of American Indian Languages (Sapir and Thalbitzer excepted), rests on a foundation entirely different from the customary one. We cannot here enter into the proofs of our contention, but it does seem abundantly clear that a definite hypothesis lies at the bottom of the somewhat strange interpretation of the linguistic facts of one specific period, namely, the theory of multiple origin of the languages of America, this in turn being but an illustration of the general proposition that linguistic categories are of multiple origin. Viewed from this angle their whole attitude is intelligible. This hypothesis, is from the nature of the case, one with which the students of Indo-European languages, dealing with idioms belonging to one common stock, would have little concern. Their whole method (at least that of the Jung-Grammatiker) is to show how diversification has developed from original unity. Thus here too the American school is, in spirit, fundamentally opposed to the students of the western European tongues.

---

<sup>6</sup> Boas, *ibid.*, 369.

The genetic problem was thus brushed aside by these philologists as irrelevant and, at best, not of interest. Unfortunately, as new and more detailed data were obtained and apparent similarities increased, it assumed an unexpected importance. And here it is, it seems to me, that the protagonists of the multiple origin theory (expressed or unexpressed) have shown a surprising lack of progressive vision. One might have expected that the leaders in so revolutionary an implied criticism of prevalent methods in comparative philology would have recognized that a theory like that of multiple origin was of value only in so far as it explained the facts better than any other. Instead of that, instead of welcoming the possibility of a new synthesis, they have developed a new series of highly problematical assumptions like the wholesale borrowing of morphological traits and a vaguely defined type of acculturation. Now the whole significance of the method of the American school has lain in its freedom from stereotyped dogmas and it seems somewhat of a retrograde step for it to cling so tenaciously to an unproved hypothesis and emphasize purely negative aspects of the problem.

We indicated before that the American school has not quite realized how iconoclastic its method really has been and that this ignorance is to be ascribed to its lack of contact with the European philological method. But this divorce has had other serious consequences. It has prevented the results obtained from the study of the American languages from making their contribution to the possible solution of the problems that have for many years puzzled Indo-European scholars, the case system, the nature of conjugations, numerous syntactical questions, etc. What is perhaps even more disastrous, the method of presentation adopted, for instance, in the *Handbook of American Indian Languages*, has, on the whole, in its reaction against the Latin scheme of grammar and in its lack of concern with other types of presentation, taken on such a form as to make it needlessly difficult.

In the following grammar I shall make an attempt to present the facts of the Wappo language as I found them in the texts and from questioning my informants. I shall at the same time bear in mind continually that Wappo has had a history which is often fairly clearly disclosed in numerous forms. That interpretations of this kind are highly subjective I would be one of the first to admit. But the facts are presented quite apart from any hypothesis and in such a way as to allow others to form their own conclusions.

But more important is another question I have continually borne in mind. To describe one more type of primitive language, now that

we in America know so many, is an achievement of very doubtful value, unless somehow, in some way, fundamental problems are touched upon. They need not necessarily be comparative; they may concern Wappo alone. With that ideal in view I have tried to show Wappo in all its variety, have attempted to indicate all the meanings, vague, indefinite, or clear-cut, that a given element may have. Throughout I have sought to exhibit the language in all its multiplicity and fluidity; to show how some of the elements are fixed and petrified, others utterly unanchored. In thus presenting a dynamic study of a language of whose history we are ignorant, I quite realize all the dangers I am running, but if it will help, if only in a very moderate degree, to contribute something toward the solution of the problems connected with the mechanism of linguistic changes, I shall be amply repaid.

## PART I. GRAMMAR

### §1. HABITAT AND STATUS OF WAPPO

Wappo, one of the languages of the Yukian stock of which the other members are Yuki proper, Coast Yuki, and Huchnom, is spoken today by a mere handful of people. Indeed it is doubtful whether, when the material for this grammar was obtained (1917), there were more than twenty individuals who spoke it correctly and certainly only one, Jim Tripo, now deceased, who had any extensive knowledge of the old mythology. According to some informants Wappo was spoken in a number of sub-dialects but these seem to have varied only in details of vocabulary.

Practically all the Wappo are supposed to live at Alexander Valley, Sonoma county, California, a few miles distant from Healdsburg, although as a matter of fact only a few families live there, the majority spending most of their time in the various settlements near Healdsburg and Cloverdale.

The Wappo, at one time, occupied two small and entirely disconnected areas, both of them quite separated from their kindred, the Yuki. The first one lay in Napa and Sonoma counties and the other, much smaller, at the southern end of Lake county.<sup>7</sup>

The first or main Wappo area is surrounded by that of the Southern Pomo, Northern Miwok, and Southern Wintun (Patwin), the second by the Southeastern and Eastern Pomo. Yet in spite of this contiguity practically no specific linguistic borrowing has taken place between the Wappo and their neighbors, the resemblances that exist being of such a kind as to point not to secondary borrowing but to old genetic relationship.

The language as spoken today contains only a handful of Spanish words in spite of the strong missionary influence to which it was subjected. In several tales of Spanish origin, which in addition are probably translations from that language into Wappo, a number of loan-words were encountered. In the other myths and texts transcribed, none were found.

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<sup>7</sup> Cf. Barrett, this series, 6:263 ff., for full description of boundaries.



One of the most important features of the spoken language as known today is its deviation in certain grammatical details and vocabulary from the language of the texts, at least from that in which all the myths told by Tripo were couched. My interpreter always referred to this as the "high language" and experienced occasionally some difficulty in understanding a few of the forms. It is difficult to state definitely exactly in what the difference lies. This much is clear, however, that in the question of verb irregularities the spoken and written language are at one. Certain suffixes like the aspects *-cele*, *-mele*, *-sele*, *-kele*, the inferential (?) *-k-*, vowel mutation for subjunctive, etc., are rarely used in the spoken language, or if used, only with the vaguest of meanings. On the other hand a number of suffixes with subjunctive force, rarely if ever encountered with this signification in the texts (*-lek-*, *-te-*, *-ta-*, *-la-*) are widely employed in the present-day conversational speech.

The grammar that follows is based largely on the texts of two individuals, Jim Tripo and Joe McCloud, both men over sixty who spoke Wappo perfectly. The former, now deceased, had spent many years of his life among the Eastern Pomo and spoke that language quite fluently; the latter claimed at one time to have known Spanish better than Wappo; and there is a possibility that the tales of Spanish origin dictated by him have been influenced by Spanish idioms.

The texts have been published as "Wappo Texts" in volume 19 of this series, in 1924.

All the texts obtained were translated by McCloud. He is also responsible for all the grammatical forms obtained in connection with them.

## §§2-11. PHONETICS

## §§2-7. PHONETIC ELEMENTS

§2. *General*

The sound-system of Wappo is comparatively simple. The vowels appear in two series, a short-open ( $\epsilon$ ,  $\iota$ ,  $\alpha$ ,  $\upsilon$ ) and a medium-long-closed ( $e$ ,  $i$ ,  $o$ ,  $u$ ,  $a$ ). Diphthongs are quite common. The stops are well developed and the spirants moderately so. Whether three series of stops occur (sonant, surd, glottalized surd) is an open question. Kroeber<sup>8</sup> heard them whereas Barrett did not, while I am uncertain although inclined to agree with Kroeber. To my ear, however, the series seems to be unaspirated stop, long stop, glottalized stop. There is no question in my mind that today, when Wappo cannot be said to be spoken by more than twenty people, certain sounds are tending to be merged with one another. For instance, the unaspirated is becoming assimilated to the long stop that, in turn, has become shortened; the glottalized is becoming confused with the long stop, and the peculiar palatalized  $\text{t}$  with the ordinary  $t$ .

Accent is exclusively one of stress although there seemed to be a suggestion of pitch in connection with the future and imperative.

The timbre of vowels is affected by neighboring consonants, and final vowels quite frequently disappear. Vocalic consonance undoubtedly exists, Wappo differing in this respect from Yuki proper.

No original consonant clusters exist although secondary ones are very frequent.

All terminal vowels that are not aspirated, i.e., in other words, the overwhelming majority, are weakly glottalized.

§3. *Description of Consonants*

The following consonants are found:

Labial	$p, p'$
Dental	$t, t', t', \text{t}', \text{t}'$
Palatal	$k, k', k'$
Affricative	$tc, tc', ts, ts'$
Spirant	$s, c$
Nasal	$n, m$
Lateral	$l$
Glottal catch	$'$

<sup>8</sup> This series, 9:382, 1911.

*Labials.*—p is medial. We can safely assume that like the dental and palatal stops, the labials originally also had a three-fold series, although today only p and p' are found. p' is rather uncommon.

*Dentals.*—t is quite distinct from the ordinary English sound and more like that of Spanish. Occasionally, in initial position, it was heard as English d. t· in present-day speech has not infrequently fallen together with t but not to the same extent as k· with k. t' represents a fairly weakly glottalized t but seems to have been only rarely confused with t·.

t̄ and t̄' represent a true series quite distinct from t. In addition to being palatalized t̄ gives the impression acoustically of a lateral consonant and was indeed often written as t<sup>r</sup>. These sounds, we know, have a fairly extensive distribution. I personally am inclined to regard them as transformations of the lateral l.

*Palatals.*—k is medial. It was never heard as a sonant. k· was heard in two positions, as a back-palatal and as intermediate between k· and weak velar q. The velar tinge was so inconsistently given that it seemed best to regard it as of no importance. My final feeling was that two distinct k's were involved here, a back-palatal and a velar which have today practically fallen together both in Wappo and Yuki proper.

k' shows a marked tendency to merge with k·.

*Affricatives.*—That tc and ts are quite distinct is unquestionable, although they resemble each other so closely that they were, at times, difficult to keep apart, just as in the case of c and s. Both these consonants, however, often resembled c and s acoustically and it is just conceivable that in addition to the series tc and ts there may have existed in Wappo or Yuki, at one time, a series intermediate between tc and c and ts and s.

*Spirants.*—c and s, although so similar in sound that they were frequently confused, are quite distinct in origin. They were never heard as j or z.

*Nasals.*—They are pronounced as in English.

*Laterals.*—l has the continental value. Occasionally it was heard as dorsal (ɫ). But this is quite secondary and due to a preceding aspirated vowel.

As pointed out above, a frequent phonetic phenomenon in Wappo is the merging of unaspirated and of glottalized stops with long stops. The most obvious interpretation seems to be, that owing to the small number of people still speaking Wappo fluently, the various consonantal series have developed a tendency to assimilate.

#### §4. *Description of Vowels*

On superficial study all vowels, particularly terminal ones, seem to occur in three forms: simple, aspirated, and glottalized. The glottalized is, however, purely secondary and of no historical importance, terminal vowels being always either glottalized or aspirated. Similarly aspiration simply indicates a syncopated syllable, h+vowel, that has been reduced to ' owing to loss of following vowel.

The following vowels are found:

Closed and medium in length: a, e, i, o, u.

Open and short: ε, ι, ο, υ.

Semi-vowels: w, y.

These vowels occur in all positions, with the exception of e which is practically never found terminally. A marked tendency exists for most of the closed vowels to become open and short terminally.

#### §5. *Diphthongs*

The following apparently original diphthongs are found: ao, ai; eo, ei, eu, ei; oa, oi; ie; ui.

Many others, definitely secondary in origin, are likewise encountered, e.g.:

ati'aca, I am thirsty; omoti'ase, it overflows; wee'aki, they are dead, etc.

In the first two cases, -a- is a causative suffix, in the last, probably a plural.

Another group of secondary diphthongs is formed by the syncope of -w<sup>v</sup> to -u and -y<sup>v</sup> to i.

A third type is formed by vowel expansion, -ε- becoming -ai- before the suffix -y<sup>v</sup>:

hokaka'iya, he is crawling (\*kaka); okala'iyele, he is crawling (\*okale).

It was probably the realization of the many diphthongs in Yuki proper, obviously of secondary origin, that induced Kroeber<sup>9</sup> to deny their actual existence for Yuki proper altogether and by implication for Wappo. That they are original in Wappo is abundantly attested by the vocabulary and by the alternation of vowel and diphthong to express different verbal aspects.

The apparent absence of diphthongs in Yuki proper is due to the fact that they have there probably all developed into double vowels. At least the doubling can so be interpreted. On such a hypothesis

<sup>9</sup> This series, 9:350.

this doubling would seem to be analogous to the use of diphthongization for mode-aspect in Wappo. The following examples are taken from Kroeber's sketch:<sup>10</sup>

a<sup>ap</sup> kotpa, I shall go; a<sup>ap</sup> kootik, I go  
 te'u'lamek, begins to sprout; te' uu'tik, is sprouting  
 tisiwi, jumped; tiika, jump!  
 kom, came; kootmil, came  
 ha, hold; haatil, hold!  
 tuakmil, he put in; t'uuknamliikiik, put-where-was  
 cu'a, sit!; kacu'uhuk, I sit here

### §6. Accent

Accent, exclusively that of stress, is very strong and associated with a definite syllable in each word. In disyllabic words it is always on the first syllable and in polysyllabic words it is practically always on the antepenult. It can be stated, as a general rule, that the vowel accented is the stem vowel and that it rarely shifts no matter how many suffixes are added.

at'a'tasa, he leaches acorns, at'a'tatata, he leached acorns; omiso'm-ci, it becomes evening (səm, stem); oko'heleksi, he is constipated (kəhe, stem); omoti'se, it overflows (ti, stem).

In a few futures, however, the accent is shifted:

ometə'tsi, he touches, o'metətə'si, he will touch; ote'lmi, it is flat, otele'si, it will be flat; homepu'tesi, he stirs up, ho'mepute'si, he will stir up.

Occasionally, under unknown conditions, it is not the true stem vowel but the last vowel of the stem that is accented.

okela'ci, he will be lonesome (okel', stem); okalai'yele, he is crawling (oka'le, stem); hokakai'ya, he is crawling (ka'ka, stem).

The influence of accent has been very marked in certain forms of the verb particularly in the indefinite, where it frequently seems to have caused the elision of a vowel.

ci'u-mi, he whistles (for ciwe'-mi); cu'tsce, it is wet (for cu'tse-εε); u'k-εε, he drinks (for uki-εε).

When the elided vowel is preceded by h, w, or y, these sounds become respectively ' , u, or i.

oye''-mi, he sets a trap (for oye'he-mi); hope''-se, he looks around (for hope'he-se); ci'u-mi, he whistles (for ci'we-mi); maki'u-mi, he stretches (for maki'wi-mi); homu'i-εε, he thinks (for homu'ye); hote'i-εε, he hovers (for hote'ye).

<sup>10</sup> This series, 9:348-383.

Why accent should have presumably had this marked influence in the indefinite and not in the future it is difficult to explain. It seems best to assume either a difference in kind of accent, or possibly the operation of additional non-accentual factors in the first case.

### §7. *Pitch Accent*

The evidence for the existence of pitch accent is so vague and contradictory that it carries no real conviction. As it is just possible however that Wappo did at one time possess it, the following notes may be of value.

A weak falling tone seems to characterize the future and the imperative. Whether this is a true pitch accent could not be determined. In any case, the accent of the future and imperative is not as marked as is that of the indefinite. The hypothesis of a former pitch accent would account for the preservation of the original vowel in the future and imperative and it is known to occur in certain Hokan languages (Achomawi and probably Southwestern Pomo) and to possess just this function.

## §§8-11. PHONETIC PROCESSES

### §8. *Vocalic Processes*

There are five marked phonetic tendencies illustrated in the vowel treatment of Wappo: (1) general vocalic mutation, (2) change of  $\epsilon$  (occasionally ai) to a, (3) vocalic consonance, (4) vocalic syncope, and (5) syllabic syncope.

1. The very extensive vocalic mutation, while unquestionably phonetic in origin, has become so definitely and inextricably associated with morphological processes that we have discussed it in connection with the latter (§27 ff.).

2. The change of  $\epsilon$  to a is due to two causes: reappearance of an older reduced a before the suffix  $-y^v$  or  $-i$ , and assimilation with an a of following or preceding syllable. This latter we shall discuss under vocalic consonance.

All terminal vowels have a tendency to become reduced to  $-\epsilon$ . In the case of old formatives and many suffixes the marked morphological significance of the vowels has tended to check this tendency. This was not true, however, for the terminal vowel of disyllabic stems. These have fairly regularly been reduced to  $-\epsilon$ . The fact that this older  $-a$  should nevertheless be able to reassert itself so frequently upon the addition of a syllable suggests that this reduction is recent and has

been due to some change in accentual conditions. Personally I am inclined to believe that such a change has taken place and that it was nothing more nor less than the loss of an older pitch accent. A few examples follow

tsa'tsa-ya, it is cold (tsa'tseki, it is getting cold); mesano'mayok, where they slept (no'meki, future); hoka'kaiya, he crawls (hoka'kesi, future); taka'usta, it blistered (ta'keki, past); mew'e'laiya, he bumps (mew'e'lesi, future); po'laiy, boy (subjective); po'le (objective); me'tayi, woman (subjective); me'te (objective); so'kayi, star (subjective); so'ke (objective); ci'ayi, grass (subjective); ci'e (objective), napu'tsayi, bird's beak (subjective); napu'tse (objective).

3. Vocalic consonance in Wappo is possibly only secondary in origin, i.e., it is not an old general Yukian trait. Were it not for the fact that a member of instances of  $\epsilon$ ,  $i$ , and  $\text{ɔ}$  consonance were found, the overwhelming preponderance of the vowel consonance would justify us in regarding the whole matter simply as an assimilation of a weak generally terminal  $\epsilon$  to  $a$ .

Assimilation seems to take place either with the following or with the preceding vowel:

a's-a, he gives (stem, asi): hoto'yala, he wades (hotoyel); howa'lala, he crawls (howa'lel); ene'stesi, he will be afraid ( $\epsilon'$ na); li'pele, he killed many (li'pu); ma-a'piki, he carried up (ma-a'po); u'tuca, he is deaf (u'to); oka'ntaka, with relatives (oka'nteka); hosa'hono'mi, what I cover myself with (hosa'henomi); atetco'palasa, I'm making him warm (tco'pel); atetco'alasa, I'm making him sick (tco'el); onu'hala, he's hidden it away (nu'he); o'noma, for them (o'nima); mo'nomi, he hides (mo'na).

At times this vocalic consonance seems to operate only when another syllable is added, and since in all the cases obtained it is always the vowel  $a$  that is involved, it is perhaps best to regard these as analogous to the cases where  $a$  reappears when the suffix  $-i$  or  $-y^v$  is added.

uya'tcasi, he carries (uya'tce); kakima'kasi, it hails (kakima'ke); ka't'ace, he laughs (ka't'i); ina-a'pasi, he will carry up (ma-a'po).

4. Vocalic apocope is no longer a purely phonetic process today, whatever it may have been in origin. Insofar as it can be described phonetically, however, it falls under the following rules:<sup>11</sup>

a. A vowel preceded by  $-h-$ ,  $-n-$ ,  $-m-$ ,  $-l-$ ,  $-s-$ ,  $-c-$ ,  $-p-$  (?) and followed by indefinite  $-mi$ , past  $-ta$ , and imperative  $-ti$  disappears (monosyllabic vowel or diphthong stems excepted).

oha'mi, he fans (stem, oha'he); ohilmi, he builds (ohi'le); ololmi, he dances (olol'le); on'cmi, he turns in water (on'ce); opo'nmi, he closes (opo'ne); ku'pmi, he soaks (ku'p); me- $\epsilon'$ nta, he scolded (me- $\epsilon'$ ni); metce'nta, he caught (metce'ne); pe'nti, put! (pene); powe'ti, cover! (pove'le); tetemate'nti, hand over! (te'ni).

<sup>11</sup> There are of course some exceptions, e.g., mo'nomi, he hides;  $\epsilon'$ name, he is afraid.

b. The vowel is not lost when preceded by -p-, -t-, -k-, -tc-, -ts- and followed by -mi, -ta, -ti.

ocu'tumi, he extinguishes (fire); ohi'pumi, he saves for someone; ohi'tsumi, he pounds acorn; oka'tumi, he hitches up; ole'pumi, he places; omō'tomi, he fixes hair; opo'tcomi, he ties; ota'kumi, he hits round object; otcō'pomi, he makes warm; hoki'tumi, he turns around; hots-a'pumi, he breaks round object; huwa'tsumi, he holds fingers crossed.<sup>12</sup>

c. The same two rules hold for vowels preceded by -n-, -m-, -l-, -s-, -c-, -k- when followed by the indefinite suffixes -c<sup>v</sup> and -s<sup>v</sup>- and by affixes beginning with t- (-ta, past; -tε- increment, etc.).

(1) With lost vowel:

em-se, he gets lost (ε'mε or ε'mu); ε'ltesi, he will dig a hole (ε'li); ε'lta, he kept hold of (ε'lu); omiso'mci, it becomes evening (so'mi); omima'kci, it rains (ma'ka); u'kce, he drinks (u'ki); hometō'ō'lsi, he knocks (tc'ō'le); hote'ce, it melts (tε'hi); hotō'kse, he floats (hotō'ka); howa'eta, he broke (howa'ce); huna'se, he carries on shoulder (huna'ha); kakima'kce, it hails (kakima'ka); ka'm'ta, he cried (ka'm'ε); ma'ō'ntesi, he will dig (ma-ō'ne); maka'lse, he takes in (maka'la); ma-kō'ltesi, he will roast (makō'li); ma'mtesi, he will gamble (ma'mε).

(2) With retained vowel:

ometa'tesi, he touches; ohu'pci, he dives in water; ona'napise, he grazes; opu'tcsi, he breaks; otsu'pci, he paints red; ha'kuce, he is hungry; hunkō'tece, he snores; homepu'tesi, he stirs up; honats'a'se, he yawns; huku'tise, he is dizzy; hutsa'tise, he gets well; kō'tcsi, he tickles; ka't'ace, he laughs.<sup>13</sup>

5. Syllabic apocope, i.e., reduction of -y<sup>v</sup> and -w<sup>v</sup> to -i- and -u- respectively, is, like simple vocalic apocope, as much a morphological as a phonetic trait today. We must regard what, at first impression, resembles diphthong simplification (aε > a, iε > i, ia > i, oα > o) as merely a variety of this syllabic apocope. It seems best to regard most of these as broken down -aye-, -iye-, -oya-:

ō'ise, he moves gently (ō'iye); ohe'i, he sharpens (he'ye); ole'umi, he ties up (le'wi); omoti'se, it overflows (moti'a); owō'esi, he rubs (wō'ye); ci'umi, he whistles (ci'we); hi'umi, he shakes from side to side (hi'we); hōli'mi, he drives animals (hōli'ε); homele'usi, he swings (homele'we); homu'ice, he thinks (homu'yel); honats'a'se, he yawns (honats'a'ε); honi'se, he rides in boat (honi'el); hosō'se, he is tired (hosō'a); hote'ice, he hovers (hote'yel); hot'i'mi, he straightens (hot'i'ε); hotca'mi, he splits (hotca'ε); hots'a'mi, he measures (hots'a'ε); huci'se, he likes (huci'a); maki'umi, he stretches (maki'wi); mali'usi, he comes and helps (mali'wa); mamu'ise, it disappears (mu'ye); mat-ō'ise, he goes in water (mat-ō'ya).

<sup>12</sup> There are a few exceptions: oli'tsmi, fills up; otsō'kmi, shoves.

<sup>13</sup> Exceptions are: ci'tsce, be wet; huka'nice, run on four legs; huka'lice, think.



### §9. *Discussion of Vocalic and Syllabic Apocope*

Vocalic and syllabic apocope can be considered under two possible headings, either as due to certain morphological or to purely phonetic causes. It could, for instance, be argued with some show of reason that all the *-y<sup>v</sup>-* are variants of the old progressive suffix *-ya-* to go, that *-a* and its variant *-ε* is the old causative suffix, that *-w<sup>v</sup>-* is an old petrified formative and that their simplification and apocope is due to the clearly felt significance of such durative-indefinite suffixes as *-s<sup>v</sup>*, *-c<sup>v</sup>* which demanded the durative vowel *-i-*, etc. That such purely morphological considerations have exercised a discernible influence in this connection is, I think, fairly clear, but their influence has, in the main, been that of extending an already existing fact, namely, a loss of terminal vowel, in the indefinite. We are thus thrown back, as might have been expected, upon a phonetic causation. Here we can make more progress if, instead of trying to explain why terminal vowels were lost in the indefinite, past, and occasionally in the imperative, we attempt, on the contrary, to account for their preservation in the future, imperative, and, under certain conditions, in the indefinite and past.

One of the marked characteristics of all future forms is the tendency for the development of a secondary accent on the *-ε-* preceding the future suffix. Indeed in many cases this *-ε-* seems to bear the main accent. It would, at any rate, be quite correct to state that this *-ε-* was quantitatively equal to the vowel bearing the main accent. This is in marked contrast to the value of the same vowel in the indefinite where it is generally quite vestigial and, as we have seen, often disappears entirely. It cannot be due to the influence of the future suffix *-si* because it is the phonetically identical durative suffix *-s<sup>v</sup>* that is associated with most of the clear instances of apocope in the indefinite. Two hypotheses seem plausible, either that the *-s-* of the future is in origin quite different from the *-s-* durative or that certain specific accentual characteristics of the future tended to preserve this *-ε-*. For the first hypothesis no convincing evidence exists. It is just conceivable, but not really plausible, that an original Wappo future *ts-* in weakening to *s-* lengthened the vowel preceding it. The best explanation is unquestionably to be sought in the second hypothesis. On this hypothesis the future suggests either a shifting of accent or, conceivably, a different type of accent entirely, namely pitch. For a shift of accent a number of well-authenticated examples exist and it seems, on the whole, to be at the base of the preservation of the vowel. What we

should like to suggest is that originally all futures had a marked secondary accent on the terminal vowel of the stem, which has been preserved today in only a few verbs.

The preservation of the vowel in imperatives is accounted for easily by the marked glottal catch so characteristic of it and which acoustically always sounded much stronger than the glottal catch accompanying practically all terminal vowels that are not aspirated.

The preservation of terminal vowels after p-, t-, k-, tc-, ts- I cannot adequately explain,<sup>14</sup> any more than the marked tendency for all vowels to be lost before -t. This applies even to futures.<sup>15</sup>

With regard to the loss of a vowel in the indefinite, this can be explained by the strong stress accent on the stem vowel.

### §10. *Influence of Consonants upon Vowel Timbre; Contraction*

-m frequently rounds the preceding vowel to -o, -o, or -u, although this is by no means universal.

ocu'tumi, he extinguishes (fire), (ocu'ti); ohi'pumi, he saves (ohi'pi); ohi'tsumi, he pounds acorn (ohi'tsu); ola'tomi, he hits (ola'ti); ole'pumi, he places (ole'pi); oma-oc'komi, he sprinkles (oc'ki); omotomi, he fixes hair (opo'ta); ota'kumi, he hits (ota'ki); otco'pomi, he makes warm (otco'pi); ka'pumi, he ties (ka'pi); mai'hutsa'tumi, he looks out (hutsa'ti); mali'pumi, he piles up (li'pe).

Contraction is exceedingly rare although a few cases occur in rapid pronunciation. There are, however, three words that appear in contracted and uncontracted forms:

hots, hoi'ts, neck; mahai's, maha'lis, ten; pa'wak, pa'walak, nine.

### §11. *Phonetic Units*

There are three marked phonetic units in Wappo—the verb with its prefixes and suffixes, the noun with its prefixes and suffixes, and the pronoun or pronominal combinations with their suffixes.

1. The verb unit consists of a number of elements firmly fused with a verbal stem, the suffixes showing a greater degree of fusion than the prefixes. Contractions, however, never occur. Into this verbal complex personal pronouns never enter, although today there is a marked tendency for the objective forms when not followed by a preposition to partially coalesce with the stem.

<sup>14</sup> The best explanation I can suggest is that these stops and the affricatives are long rearticulated consonants with a parasitic vowel that strengthens the weak terminal vowel.

<sup>15</sup> Perhaps an adequate explanation for the futures in -te- is that the strong secondary accent on the -e- of the future naturally entails a slurring of the true stem terminal vowel -e-, e.g., ma'o'n-te'si instead of ma'o'nete'si.

2. The nominal is of the same type as the verb unit except that prefixes are, on the whole, rather rare. Where they do occur the fusion with the stem is just as intimate as is that of the suffixes.

3. The pronominal unit consists either of a pronoun and suffix or a series of pronouns with suffix all of which are definitely fused with one another in such a manner that the resulting unit stands out definitely and clearly. It is of considerable importance for the proper appreciation of Wappo phonetic tendencies suggesting, as it does, a new and probably recent drift toward polysynthesis. Only a fusion of this pronominal unit with the verb is lacking for the development of the type characteristic of Athapascan. A number of examples found in the text seem to indicate that this is exactly what is taking place. For examples and further discussion cf. the section on syntax.

## §§12-31. CATEGORIES AND PROCESSES

### §§12-23. IDEAS EXPRESSED BY GRAMMATICAL CATEGORIES

#### §12. *Enumeration of Categories*

The following ideas are expressed by morphological devices:

1. Predicating concepts.
2. Denominating concepts.
3. Classification.
4. Number
5. Aspects.
6. Voices.
7. Modes.
8. Tenses.
9. Direction and instrumentality.
10. Person.
11. Syntactic relations.

#### §13. *Predicating Concepts*

Wappo, and Yukian in general, is built up around the verb. In form it is both monosyllabic and polysyllabic. The monosyllabic stem appears as  $v+c$  (rare),  $c+v$ , and  $c+v+c$ . The last two are fairly common. The polysyllabic stem is either  $v+c+v+c$  (rare) or  $c+v+c+v$  and  $c+v+c+v+c$ . The second is probably the prevailing type in the language, the  $c+v+c+v+c$  type although not rare being clearly secondary in origin.

The stem consists essentially of two elements, the base and a formative suffix. Many verbs, however, also appear with a prefix

forming so integral a part of it that it seems best to think of two stems, (a) base+formative element and (b) prefix+base+formative element. As seen today the base or root is rather colorless, the formative element fixing it, so to speak, in aspect, voice, mode, and time and the suffixes and prefixes elucidating it more definitely in direction and position. The grammatical and semantic discussions that follow will, however, make it fairly evident that this colorlessness of the base is not original and that it had a much more concrete significance at one time. In this earlier stage the base, which probably had no formative elements in the sense in which they exist today, expressed shape, number of subject and object, and aspect. It has preserved the first in a fair number of verbs, the second vestigially, and has transferred the function of the last to a large number of prefixes and suffixes.

Today the typical stem consists of a prefix implying indefinite subject or object; the base; the formative, and a suffix indicating some kind of aspect. Almost as frequent, however, is the type consisting of pronominal prefix indicating the relation of the subject of the verb to that of the preceding sentence, plus adverbial or instrumental prefix, plus stem, etc.

At no time apparently, now or previously, have suffixes been used to indicate shape and position in the manner of Siouan. Plurality and distribution, however, were and still are so indicated.

The lack of concrete significance of the base, a trait that must, in spite of its probable secondary origin, be regarded as extremely old, has resulted in converting the verb into a kind of neutral stem. It even may be claimed that the verb-stem is formed by the addition of certain verb-formatives to a neutral base, even if historically we shall have to admit that the neutral stem merely represents a degenerate verb-base. Only such an interpretation can explain why today everything can be verbalized: adjective, noun, adverb, etc. It is likewise probably only this colorlessness that has enabled the verb-stem to fall so easily a prey to the general process of nominalization to which it is now being subjected. That neutral stems once existed however it would be unnecessarily pedantic to deny. There are, in fact, a number of nouns and verbs where it is well-nigh impossible to tell whether the predicating or denominating concept is more original:

*pe*, foot; *pøi*, kick; *pø-k*, to track; *-tʷ-*, water and all activities of water; *o'kel*, word; *oka'li*, talk; *huco'lok*, hole, *omo-ci'li*, make holes.

Are these verbalized nouns or nominalized verbs? *pøi* can conceivably be translated as intensively-footing-it and *pøk*, footing-it; but *oka'li*, wording-it and *omoci'li*, holding-it is not very likely, and if

o'kel comes from oka'li why not pe, foot from p<sup>v</sup>? Still neither is necessary. On the whole, however, not much is really gained by the hypothesis of originally neutral stems.

Both the available evidence and normal presumption seem to favor some such view as that hinted at before, namely a rising and falling in the concrete content of stems, neutral stem succeeding verb stem and verb stem neutral stem.

#### §14. *Denominating Concepts*

The nominal stem appears in three varieties, as bare stem without formative, as stem with formative, and as nominalized verb. All relationship terms, the vast majority of body-part nouns, and a fair number of names of articles, natural phenomena, etc., are unanalyzable simple stems either monosyllabic (c+v, v+c, c+v+c) or polysyllabic (c+v+c+v, c+v+c+v+c) in form. Not a few body-part nouns are compounds (heart, eye) and some are even nominalized verbs (throat). A large number of names of material objects, some natural phenomena, and very many stems referring to animals are descriptive, consisting of compounds of various kinds, nominalized verbs or occasionally simply of an adverb used nominally (e.g., ne'wela, tripe, which is simply the adverb inside).

The suffixed formatives, with a few exceptions, coincide in form with suffixes denoting plurality, iteration, continuative, and durative and had best be regarded as identical in origin with them although now devoid of any well-defined meaning. A special formative for names of trees exists. Numerals have a number of specific suffixes probably adverbial in origin. Prefixes are not common. Of the few that occur two are probably identical with the indefinite pronominal object of verbs and a third seems a true nominal sign.

A large number of local and instrumental notions are expressed by true suffixes or semi-postpositions.

In general it may be said today that far more nouns than verbs are of purely secondary origin. This hardly seems likely to represent the original condition and some explanation seems demanded. The most likely one, bearing in mind what types of nouns represent nominalized verbs or compounded forms, is that the custom of tabooing the names of the deceased led to substitutions descriptive in character.

### §15. *Classification*

As mentioned before verbs use no suffixes or prefixes to indicate the character of the object, employing for this purpose, whenever they wish to express it, either distinct stems or, rarely, ablauted forms.

The same holds true for the noun and pronoun except that very recently, probably, a classification of nouns into human and non-human has developed, the former being indicated by *k·a-*, a variant form of the word for man, *k·eo*. A suffix indicating female gender is found with certain relationship terms.

### §16. *Number*

Most verbs do not today, except in the imperative, indicate plurality. Some do however, either by means of suffixes (*-tε-*, *-l-*) or by irregular formations. In the imperative there is a true plural and probably a dual. There can be no question but that Wappo formerly expressed plurality in the verb very generally and it is more than probable that it distinguished between singular and plural subject and object.

All nouns without exception express plurality by the suffix *-tε*, relationship terms often taking a reduplicated *-tε* (*-tεtε*).

All pronouns express plurality but not by the same suffix as nouns. The demonstratives indicate both plurality and duality.

A number of verbs, two adjectives, and the relative pronoun indicate plurality by complete change of stem.

### §17. *Aspects*

Aspect is probably the oldest and most fundamental conception developed in connection with the verb. Terminal vowel ablaut and a large number of suffixes and some prefixes are used to indicate it. Formerly consonant and stem vowel ablaut were also employed. The aspects expressed are unrepeated momentaneous action (stem as such), iterative, distributive, repetitive, diminutive, continuative, discontinuative, durative, usitative, causative, dubitative, and responsive.

### §18. *Voices*

Four voices seem to exist: active-transitive, inactive-intransitive, passive and middle (semi-passive-reflexive). The first two are vestigial, the last two functional and extensively used. Of these the passive is formed in a number of ways (*-u-*, *-uki*, *-ki*, *-mele*, *-cele*, *-sele*) and the middle by suffixation of *-la*, *-le*. Two passives are found, one expressing definite, one indefinite agent.

All four voices seem to be old formations.

### §19. Modes

The following modes are known: indicative, subjunctive, hortatory, and imperative. Of these the subjunctive is formed in a variety of definite ways and at times irregularly; the hortatory regularly, by mutation of terminal vowel to -a- and the imperative by various suffixes. In addition to the regular imperative a supplicative imperative is found.

### §20. Tenses

Tenses occur in two forms, simple and periphrastic, the latter indicated by affixed auxiliary verbs. There are really only two tenses, a true future and a past. The latter falls into a direct-visible and responsive-visible or invisible. An indefinite-present occurs but this is essentially to be regarded as an aspect.

### §21. Direction and Instrumentality

Direction is expressed in verbs by a large number of prefixes (in, on, at, down, up, near, etc.) and in the noun by suffixes. Instrumentality is quite important in both verb and noun. In the former it is expressed by prefixes (with hand, foot, head, mouth, etc.), in the latter by suffixes (with, for, by, from). The verb likewise occurs with many nominal instrumental prefixes.

### §22. Person

The personal and possessive pronouns have a singular and plural, possibly a dual. The plural is simply the singular with plural suffix. Subjective and objective forms are distinguished, the former changing terminal vowel to -i; the latter being characterized by the stem. To this there are in the personal series, three exceptions, the third singular subjective tse (demonstrative in origin), the objective singular te-, and the objective plural on. The third plural personal (oni, on) is an old noun meaning people.

The possessive pronouns distinguish between alienable and inalienable possession by means of prefixes. The reflexive is formed by prefixing mai-.

### §23. Syntactic Relations

Position plays a relatively small place in Wappo, most of the syntactical relations being expressed by suffixes, prefixes, and particles (post-positions). A subjective, objective, and vocative case occurs in the noun. The relation of the subject of the verb to that of the verb

of the preceding sentence is very clearly indicated in what is one of the fundamental traits of the language. Coordination and subordination are expressed by the postpositive particles. The subject of a subordinate clause, if pronominal, is generally in the objective case.

#### §§24-31. GRAMMATICAL PROCESSES

##### §24. *Enumeration of Processes*

Grammatical processes are expressed by a fairly large number of methods:

1. Prefixation and suffixation.
2. Changes in the phonetic character of the stem.
3. Complete stem differentiation.
4. Reduplication (exceedingly rare).
5. Change of position of accent.
6. Composition.

Syntactical relations are expressed by position, by prefixes, by suffixes, and by particles.

##### §25. *Prefixation and Suffixation*

Composition of stems of the type found in Algonquin, Yana, etc., is quite unknown. The stem is sharply differentiated from the large number of prefixes and suffixes attached to it. These prefixes are generally well-defined in meaning and this meaning is always quite subservient to the idea expressed by the stem. The suffixes, however, often express concepts either initially of vague connotation or which have been obscured in the course of time. In the case of the verb, while subservient to the stem, they have nevertheless markedly altered its meaning and added many subtle and delicate nuances not always easy to interpret. In the case of the noun they have either developed into true nominal formatives or into suffixes referring to case, number, or general adverbial and prepositional relations.

Both prefixes and suffixes in the verbal stem fall into distinct classes and occupy definite positions in relation to each other. Barring a few exceptions, of considerable importance it is admitted, the fusion of the prefixes with the verb stem is not of as intimate a nature as is that of the suffixes with the stem.

As the central idea of the stem is so dominant it has naturally prevented the development of sound-complexes of the type so characteristic of Nadene, Algonquin, Achomawi, etc., which can fairly



justifiably be regarded as sentences. However, the analysis of a word occasionally indicates that such a crystallization has occurred, e.g., the verb, to drizzle, *na-pi-t'u-hu-si*, means literally, it-causes-the-water-(plural)—to-have-a-diminutive-repetitive-activity. Indeed there is much in Wappo to suggest the former prevalence of word-sentences. Today they exist merely as petrified and distinctive words.

### §26. *Changes in the Phonetic Character of the Stem*

The changes in the phonetic character of the verbal stem are of five distinct types:

1. Modification of initial consonant.
2. Modification of stem vowel.
3. Modification of terminal vowel of disyllabic stem.
4. Apocope of terminal vowel of disyllabic stems.
5. Accretion of consonant.

For the first two the evidence is derived almost entirely from the dictionary. In other words it is not a process functional today. It is of so clear-cut a nature, however, and so important, that it must be mentioned here. The consonant mutation (ablaut) is of two kinds, either from unglottalized to glottalized stop or affricative, for example, or from one to another of the same or of a related sound series, i.e., either from *tc > ts* or *c > tc*. The vowel mutation (ablaut) consists either in a simple change (*a > i*, *i > ɔ > ɛ*, etc.) or in diphthongization. Not infrequently vocalic and consonantal ablaut occur together. It is important to remember that not only did the vowel of a monosyllabic stem of the type *c+v* become ablauted but, very frequently also, that of a disyllabic stem (*c+v+c+v*). In the latter case the terminal vowel often retains its proper value.

The changes in the nature of the terminal vowel of disyllabic stems are in part old, in part secondary. The secondary are due to purely phonetic causes. The others are intimately bound up with the expression of voice, mode, and less consistently, tense, aspect, and plurality. Apart from the expression of the subjunctive and plurality, each mode, aspect, etc., has a definite vowel associated with it, i.e., the passive always has *-u-*, the hortatory *-a-*, the imperative singular generally *-ɛ*, and the indefinite generally *-i*. We may consequently assume that we are here, in reality, dealing with true formatives. This is quite true, yet it is well to remember, at the same time, that formatives are, in origin, simply mutated vowels, secondarily and possibly recently petrified and reinterpreted.

The nominal stem shows only one example of ablaut, namely—the subjective case which is formed by the mutation of all terminal vowels of disyllabic stems to -i. To this must be added the regular change of the plural suffix -tε to -ti and of dual koto to kōti in the subjective.

The development of terminal vowel mutations into true formatives possibly has an important bearing on the next type of change we must consider—the loss of terminal vowel. This loss occurs frequently in the indefinite and the past. It can be best explained by assuming that as the terminal vowel came to be regarded as a formative associated with specific meaning it was felt to be a detachable element and was then frequently lost under favorable phonetic conditions, etc.

The accretion of a consonant presents no difficulties. These consonants are all old suffixes, sometimes charged with specific meaning, at other times vague, or with no meaning perceptible at present.

The irregular survival of ablauded, apocopated, and increment stems in one form or another has given rise to such irregularity that today the verbs must be grouped into distinct classes on the basis of the form assumed by the indefinite as contrasted with the future and past. The indefinite stem shows mutated vowel, loss of vowel and loss of syllable while the future-past shows retention of vowel and increments.

### §27. *Ablaut*

Both vocalic and consonantal ablaut occur, the latter however quite vestigial, although at one time it may be assumed to have played an important rôle. Today one or two forms distinguish their transitive and intransitive, or their passive and active in this manner. Vocalic ablaut on the contrary is functional, although today clearly not to the same extent as formerly. It is employed to differentiate tense, mode, voice, occasionally aspect, and plurality. Its use in tenses and in the imperative is quite secondary. Its employment for mode, voice, aspect, and general plurality it represents one of the oldest traits of the language. Today we find the following specific vowel mutations:

- u-, passive and semi-passive.
- a-, hortatory.
- a-, and irregular change, subjunctive.
- Irregular change, plural.
- i-, durative (not common).
- i-, indefinite of many verbs (secondary).
- Irregular change, indefinite of many verbs (secondary).
- ε, imperative of many verbs (secondary).

They are all discussed in some detail in §§65-88.

### §28. *Complete Stem-Differentiation*

It is quite erroneous, I believe, to dismiss complete stem-differentiation to the limbo of the vocabulary. It is far better to regard it as a distinct process. In a language where the initial consonant, the basic stem vowel, and the terminal stem vowel can be altered, what appears to be complete stem-differentiation might, very well, have not been that in origin. However there can be little doubt that in the vast majority of cases, where different stems are found for singular and plural, for round and for long objects, etc., these are all quite unrelated and due to idiomatic crystallizations, etc. In Wappo the distinction between singular and plural is expressed by completely unrelated stems not only for verbs, but for a few adjectives and occasionally for the relative pronoun. The classification of activities in relation to round, long, and short objects, to singular and plural, etc., is largely accomplished by the same means.

### §29. *Reduplication*

Reduplication is a process conspicuous, with a few exceptions, by its almost total absence. The suffix *-tete* is used to form redundant nominal plurals and two or three verbs have reduplicated forms either in the indefinite or past. That it existed formerly, however, is attested by a large number of examples from the vocabulary.

### §30. *Stem-Composition*

Stem-composition as such plays no great rôle in the verbs. In so far as many of the prefixes and some of the suffixes are essentially composite in character it must, after a fashion, be regarded as occurring today and to have been perhaps of a more distinctively functional value formerly. Anything however comparable to the initial and secondary stems of Yana, Northern Maidu, and, to a lesser degree, of Achomawi, Southwestern Pomo, and apparently Washo, is quite unknown.

### §31. *Change in Position of Accent*

The change in position of accent found only in the future of some verbs is, to a certain extent, functional but not of great importance.

It has been found impracticable to treat the verbal and the nominal grammatical processes together. The latter will therefore be treated in the section on the noun.

Similar considerations have made it necessary to transfer the whole complicated discussion of vowel ablaut, stem-differentiation, etc., to the sections on the morphology of the verb (cf. §§45-88).

## §§32-88. VERBS

## §§32-33. PREFIXATION IN THE VERB

§32. *Introduction and List of Prefixes*

Prefixation is an old but still living grammatical process in Wappo. That it is old is proved by the nature and use of the local prefixes (nos. 20-37 below), by the instrumental *me-*, the pronominal *me-*, *te-*, and the indefinite objects *ho-* and *ma-*. Of these only *me-* instrumental has an independent existence as a noun stem. The others are only found as prefixes. That, on the other hand, prefixation is still an active process is evidenced by the nature and behavior of such prefixes as *cu-*, after; *ɔ'mi*, weather; *hɛn-*, sleep; *wil*, body, and perhaps even *hu-*, head, etc.—all of which can be best designated as nouns and verbs in varying conditions of transformation from an independent existence to that of proclitics and prefixes. *cu-*, for instance, is a verb stem (*cu'i*) little used at present, which has unquestionably become a true prefix with specialized meaning. *ɔmi* and *hɛn* are noun stems still frequently used as such. They are strictly speaking more of the nature of proclitics than prefixes. But even here there are gradations, for *ɔmi* is unquestionably becoming more of a real prefix than *hɛn*, as is best indicated by the change from original *ɔma* to *ɔ'mi*. *wil-* and *hu-* are likewise nouns of which the first is only an incorporated noun, rarely used, the second a frequently used incorporated noun that is beginning to lose its original meaning and to develop a semi-instrumental significance.

If, however, it must be admitted that prefixation is a living process in Wappo today, that need not necessarily imply that such developments as *cu-* and *ɔ'mi-* are a direct continuation of the same tendency toward prefixation which gave rise to the local and pronominal prefixes. It is on the contrary likely that there was a definite break between these two periods; and that Wappo, during that interval, lost a number of prefixes (these being possibly felt as the suffixes of pronouns and nouns), that this period of "prefixal" decay was then arrested, and a new "prefixal" tendency giving us *cu-*, etc., inaugurated. In Yuki and Huchnom apparently this decay persisted until suffixation became the only functional process.

With regard to the fusion of prefixes with the verb-stem, little need be said. What exists is slight and of no particular significance and is due to the slurring of the vowel of the prefix, conditioned first, by the influence of contiguous vowels and consonants and secondly, by the

fact that the main accent is almost always on the verb-stem. There is one point, however, in this connection, of extreme importance. The vowels of the prefixes *mε-* (local), *tc·a-* and, to a lesser extent, *pa-*, *tε-* (local), *ho-* (local) and *na-* (local), vary considerably. We find, for instance, *mε-*, *ma-*, *mo-*, *mɔ-*, *mu-*, *me-*; *tc·a-*, *tc·o-*, *tc·u-*, *tc·ε-*; *pa-*, *pɔ-*; *tε-*, *to-*, *tu-*; *ho-*, *hu-*, *hɔ-*; *na-*, *no-*; and, at times, such forms as *hɔ'ɔ-*, *mɔ'ɔ-*, *tɔ'ɔ-*, *nɔ'ɔ-*. As we know that many Wappo verbs began with initial vowel, it would be most natural to interpret most of these mutations as due to the influence of this vowel, now lost in numerous cases. Such an interpretation would not, however, explain why *pi-* and *na-* (mouth) are not affected and why the prefixes show such marked differences in the nature of their vowel changes. Clearly a supplementary hypothesis must be added, and to me the most likely one and that suggested by certain semantic differentiations is that, in some instances, phonetically identical prefixes are quite unrelated, and that in other cases, we are dealing with slight shades of meaning indicated by vowel-ablaut. That there are a number of utterly unrelated *ma-* (local) and *tε-* (local) prefixes we know, and that *mε-*, *me-* (with the hand), possibly *pa-*, *pɔ-* (together), represent slight changes in meaning, is extremely likely. Whether, however, the whole range *tc·a-*, *tc·o-*, *tc·u-*, *tc·ε-*, for instance, implies four gradations in significance is, nevertheless, quite unlikely.

In short it seems extremely likely that the three factors mentioned above have all been operative in the development of the vowel ablaut of prefixes, although owing to confusion of homonyms with each other and the influence of analogy it is well-nigh impossible, in many instances, to determine which of the three has been operative in any given case. I am inclined to believe that phonetically irregular fusion of prefix with initial stem-vowel has been the most, and semantic vowel mutation the least, frequent cause for the mutation.

As we might expect, a definite order is observable in the position of the prefixes to which there is no exception. This order is of considerable significance for the history of prefixation in Wappo in that it suggests that the nearer we approach to the verb-stem the older the particular prefix is likely to be. It is moreover of some value in the interpretation of certain prefixes whose meaning and force is vague. For instance *tε-*, often used with the imperative, loses a good deal of its uncertainty in meaning when it can be shown to occupy the same position as the pronominal elements, for then its explanation as a specialized aspect of *tε-* (Latin *eius*) seems fairly well fixed. Similarly whatever doubts may have existed as to the age of *na-* (with the

mouth), is dissipated when it is seen that it belongs to the group *mε-* (with the hand), *pε-* (with the foot). At the same time our attitude toward *hu-*, head (cf. above) is reinforced when we find it grouped with *mε-* (instrumental), and not with *omi-*, *hɛn-*, etc.

The prefixes appear in the following order:

First position: *tε-* (eius), *mε-* (suus), *mai'-*, *ho-* (it), *ma-* (it), *on-*.

Second position: *hɛn-*, *omi-*, *ho-* (begin), *wil-*, *ku-*, *tε-* (come).

Third position: *tε·a-*.

Fourth position: *ma-*, *mε-*, *mo-*, *mu-* (all local), *pa-*, *pɔ-*, *tε-*, *tε-* (local), *na-* (local).

Fifth position: *mε-* (with hand), *na-* (with mouth), *pε-* (with foot), *wi-* (general instrumentality), *hu-* (head), *cu-*.

Sixth position: *na-* (idiomatic), *pi-*, *pυ-* (?).

The place held by the pronominal prefixes is significant. There are two such groups, the possessive-reflexive (*tε-*, *mε-*, *mai'-*) and the pronominal objects (*ma-*, *ho-*, *on-*). *tε-* always precedes *mε-*. The former group always precede the latter, and this suggests that the verb is apparently conceived of as a noun. In the discussion on syntax we shall know that in narratives it is treated as a semi-nominalized construction, a possessed object, and that *tε-*, *mε-*, and *mai'-* also have the force of relative pronouns. This is apparently an old type of construction in Yukian for Kroeber seems to imply it in what he says of Yuki proper.<sup>16</sup>

*ma-* and *ho-* had perhaps best be interpreted as old proclitic variants of demonstratives *ma-* from \**mε*, this, and *ho-* from *hε-*, the first set probably not related to the possessive *mε-*. Their development into prefixes I regard as most certainly due to the nominalizing influence of *tε-*, *mε-*, and *mai'-*, and is not at all to be ascribed to any tendency toward fusion between *ho-* and *ma-* and the verb-stem itself. In other words these prefixes are not of the same order as the third, fourth, fifth, and sixth position elements.

*on-* is undoubtedly a recent development and shows quite nicely how *tε-* etc., welded all the elements that came after it into a more or less indissoluble phonetic unit. This must have been largely encouraged by the comparative phonetic weakness of *on-* as contrasted with its original form of *oni*, the *-i* of which was apparently felt as a subjective case, thus leading to its irregular loss in order to form the objective.

<sup>16</sup> "An idiom of the language [Yuki] provides the use of the subject in the objective case for a large class of verbs. When such verbs are transitive the object is put in the possessive case." This series, 9:371.

The second position elements need not detain us. They are strictly speaking proclitics whose fusion with the verb is being accelerated by the force of first position *tε-*, *mε-*, *mai'*-.

The third and fourth position elements are all adverbial, unrelated to any stems existing in Wappo today and clearly among the oldest prefixes in the language. It is with these that the composite verb unit can be said to begin, for the first and second position elements give the impression of being partially proclitic. *temewilts'awil*, she fondled him, has the feeling of *temewil ts'awil*, a possessed noun followed by a verb. This seemingly proclitic force of the first position elements when preceding the second position elements is however quite secondary. From the nature of the case the local prefixes in third and fourth position only occurred with verb-stems and they thus resisted any secondary disintegrating tendency. They were protected, we may hazard to believe, from developing secondarily into nominal suffixes by their position after the possessive pronominal elements. It is true that they precede the instrumentals (*mε-*, *pε*, *na-*, *wi-*) but these latter are only vaguely regarded as nouns and are so intimately associated with the verb activity that a separation from the verb-stem proper and a grouping with the third and fourth position elements would be felt as quite preposterous. For instance, *omapiwa'tasi*, he-stamped-with-the-foot, could never split up into *omapi* and *watasi*.

Two of the fifth position elements are non-instrumental, *cu-* and *hu-*, and require some explanation. The verbs with these prefixes can best be interpreted as old composita whose prefixed element is beginning to be felt as adverbial and as detachable. This is at least the case for *cu-* and explains why it is separated from the stem when *pi-* (near), *na-* (idiomatic), and *pu-* (by sucking) are used. In other words as soon as *cu-* was felt as an adverb it took the position occupied by adverbial prefixes in the composite verb. *hu-* apparently has not yet reached that stage.

In the fifth position, with two exceptions, we have only instrumentals. They are all slight variants of nouns still extensively used. Their instrumental function is quite clear and they are rarely treated as noun subjects or objects. In origin they must certainly have been of the type still largely exemplified by *hu-*, but their transformation into instrumentals belongs to an old period of the language.

1. *cu-*, to follow, after, back, off.

This prefix seems an excellent example both of an old compound and of a verb-base in the process of decay. We meet it as an independent verb-stem, as a semi-independent adverb, and as a true ad-

verbal prefix. Its function as a prefix is probably quite recent for it is found only with certain verbs. But as an incorporated verb it is quite old. It is however fairly rapidly coming into more extensive use as an adverbial prefix and seems, at the same time, to be developing into a nominal suffix.

əncu'wi, he followed them; mai'cu''u mak'u'uki', he ran back (literally, himself-back he ran).

This is an exceedingly interesting intermediate stage. Notice also the phonetic transformation from  $cuw^v > cu'u$ .

mai'cu''u tet-a'make, he swam back (himself-back he swam); mecu'welki, he went back (here cu- is clearly a full-fledged prefix and definitely felt to be such because me- precedes it); cuku'puki, he tumbled off; cut'lki, he stooped; cut'nki, he stooped; cuk'a'le, he drags; cut'u'i, it is hanging; cupehe'teski, he held (his hands) behind his back; cuyetci'ski, he carried on his back.

## 2. *omi-*, *əmo-*, referring to weather, natural phenomena, etc.

This is clearly derived from əma, earth, in its secondary meaning of world. In all probability its present force is a recent and secondary development and some of the verbs given below also appear without it. That it is, however, becoming firmly fused with the verb-stem, is shown by its form əmo- due to the influence of following o or u.

omima'kce, it is raining; omihoke'wki, he saw daylight; omico'iyaci, it became hot (from the sun); omice''ce, (wind) blows; omiso'mike, it became evening; əmo-utcu'waske, it became dark; omitco'ke, it sprouted.

## 3. *hən-*, referring to sleep.

The noun hən, sleep, seems to be acquiring the force of an instrumental prefix.

huko'tece, he snores (he makes noise by sleeping); hənpi'kali, he is sleepy (he is pricked by sleep); hintsa'telki, he wakes up (he is shaken from sleep); hintco''me, he sleeps; hinto'ke, he is asleep (he is struck by sleep); hinitca'se, he is sleepy (he is sick with sleep).

This last is felt as a definite unit although its form shows it to be a noun with the instrumental suffix -i followed by a verb.

## 4. *ku-*, to believe, assert.

It is probably merely a form of ka to talk, but may be regarded as having in the main lost its independent existence although not quite as completely as those mentioned above.

a'kuhu'tca, I'm crazy, I believe; a'kutco'se, I'm sick, I believe; a'kuhuci'iyake, I'm good, I believe; hənku-a'taki, I was asleep, I believe.

This last example shows how the language seems still to be wavering between regarding hən as a true noun and a semi-prefix. That hnto'ki



is really a definite and indivisible verb is best proved by the fact that the juxtaposition of *h<sub>u</sub>*, sleep, and *tə*, to strike, as such does not mean anything.<sup>17</sup>

5. *pu-*, to blow, to puff, to suck.

*pu'tsəmi*, he kisses; *opu'taki*, he drinks water (by sucking it up).

6. *wil-*, body.

This is only rarely used as a "prefix." However its use as a nominal suffix meaning "against" is quite common.

*tewilts'a'wil*, she fondles him; *wil-tu'l'i*, she fondles him.

7. *ho-*, to begin. (?)

Although the following forms were consistently given a number of times I feel rather doubtful about them. If this prefix really exists it is a shortened form of *ohoi-tə'-sa*, to begin.

*ohotai'yaomi*, I'm going to begin to sing; *hotco'holyaomi*, I'm going to begin to walk; *ahoka'l'teyaomi*, I'm going to begin to speak.

8. *tə-*, *te-*, to come.

As in the case of *ho-*, to begin, I feel that in spite of the rather numerous examples obtained in which it was consistently translated as to come, *tə-* is to be regarded as extremely doubtful. I suspect that it is an idiomatic use of *tə-* (§35). If it really is a prefix it may be a variant of *t'o*, to come, confused and assimilated with *tə-*.

*atele'uce*, I come and get it; *teli'he*, come and push! (it is especially common with the imperative); *atenu'umike*, I come and steal it (here it may be simply "it"); *atet'o'lmiki*, I come and kill it (cf. above); *teku'w<sub>u</sub>ki*, he came running; *otepo'ti*, come and eat!; *tə'u'k'ti*, come and drink; *tek'u'we*, come and run; *tə'teo*, come and walk; *tewi'iti*, come and fight.

9. *hu-*, head.

It is always an old incorporated noun that is felt here. That it is however fused with the verb-stem is clearly brought out by the examples. While never used as an instrumental it belongs to the same group as *mə-* (10), *pə-* (11), *na-* (13).

*hup'ə'niski*, he carried on his head; *huku'ice*, he bumped his head; *huka'lice*, he thinks (head-hurts); *huku'tise*, he is dizzy (head-moves?); *huka'l'ce*, he forgets; *huka'ya*, he guesses; *ihu-ika'lice*, I have a headache (me-head-me-hurts).

In the last example *hu* is felt as an independent noun as indicated by the repetition of *i*, I, objective. Had it been felt as a noun with normal force, the first *i* would not have been used.

<sup>17</sup> If it were really felt as two words we should have expected sleep-strikes-me, with the objective form of the first person pronoun.

10. *mε-*, *me-*, hand, with the hand.

This is apparently an old instrumental prefix and in only a few cases is the stem employed as an object.

*mepi'tceski*, he folded his arms; *meku'yeski*, he had his hands in his pocket; *meca't'iki*, he had his fingers entwined; *mehe'ye*, he ground it between two objects (with his hand); *metsa'piki*, he grabbed it (with hand); *meti'le*, he rings; *ts-ametsi'ε*, he wrings it; *mai'mewa'le*, he scours; *meko'ε*, he strings it; *mewi''ti*, to catch with hand; *mek-a'*, to feel with hand; *meko'tce*, he tickles (with fingers); *mewa'ma*, he picks up long object with hand; *mema'numa*, he picks up flat object with hand; *mek-a'luma*, he picks up concave object with hand; *metce'n*, he catches it with stick, etc. (general instrumentality).

11. *pε-*, *pi-*, foot.

Like *mε-* an old instrumental prefix although still used as object.

*pite'keta*, he tripped; *peha'mel*, step over object; *pet'a'el*, to step; *pet'a'ola*, to hold out leg; *pek-a'ohe*, to slip; *pik-o'iyi*, he crushes by stamping; *omapiwa'tasi*, he stamped with the foot; *pik-a'ta*, he touched with the foot; *pitsa'pise*, he mashed with foot; *piyai'yusi*, he thumped with foot.

12. *na-*, *no-*, mouth, with the mouth.

An old prefix only vaguely felt as an incorporated noun.

*a'napico'liya*, I whisper; *a'napa'lse*, I scream; *nawo'lsi*, to halloo; *honats-a'se*, he yawns; *nats'o'l*, to chew; *namu't-ε*, to suck candy; *nahu'ε*, to teach; *honats-a'se*, to yawn; *naka''ε*, to bite; *naka't-ε*, to strike with mouth, teeth; *nawe'leski*, he carried in, (with), mouth; *nopa'lse*, he yelled.

13. *wi-*, meaning unknown.

Perhaps the general meaning of "by some force," "by pulling."

*wi'k'el*, to bite off (cf. *k-ε'li*, to eat soup); *howi't'ε*, to iron (to flatten with instrument?) (cf. *ote'l-*, to flatten); *wi'tcti*, to sweep (analysis into *wi+tct* conjectural); *howi'tscki*, he shoots with arrow.

14. *o-*, *ho-*. This prefix has a large variety of meanings and uses and is probably a variant of *he*, *this*. It is used as the indefinite object of transitive verbs; as the indefinite subject of intransitive, inactive, and static frequently implying impersonal causation; with the passive; with the semi-passive, and middle voice; and with the causative. As phonetically it is identical with *ho-*, adverbial prefix, and *o-* or *ho-*, an old initial vowel of many verb-stems, it may at times have been confused with these.

## (a) Indefinite object.

*hotca'ε*, split it! (*tca'ε*, to split); *hok'ε'tce*, chop it! (*k'εtce*, to chop); *hok't'ne*, tear it! (*k'i'ne*, to tear); *opu'ye*, he blew it; *ohi'ti*, bury!; *ohe'ye*, he sharpens it.

## (b) Indefinite subject.

*ota'yaki*, it is heavy; *helietco'ke*, it is hot (from fire); *hots'ttmi*, it is squeaking; *otei'teaki*, it is dark; *hona'nvk*, it is open; *ots'a'piki*, it bursts; *hote'ce*, it melts (it becomes water).

## (c) With passive, generally implying agent.

ola'tike, he was hit by somebody; uota'tsike, he had been hit by somebody; aowa'timele, I'm going to be hit by them; aomali'hele, I'm going to be pushed by somebody; aopo'i'le, I will be kicked by them; aok'a'lemele, I'm being hurt; aoke'teale, I'm being cut; aotsoi'mele, I'm being smashed; aohe'k'ele, I'm being shaved; aopu'tsimele, I'm being kissed by them.

## (d) With causatives.

hoticti, to draw tight (make tight); aok'e'nusi, I make it long; aomi'tesi, I make it shorter; tsepi otu'tumi, he makes it large; aotsa'tusi, I make it cold; aotec'pisi, I make it warm.

## (e) Semi-passive and middle voice.

omewi'le, he tells a story; oh'i'le, he builds a house; oye'ti, to set a snare; omeha'ye, to collect debts; ok-o'ye, to knead; oci'kalk, to be stingy; oka'tumi, to hitch up.

15. *ma-*. Indefinite object of transitive verb and indefinite subject of active-intransitive and semi-passives; agent of passive verbs. It has, in short, all the meanings of *ho-*. It may possibly have been confused with *ma-*, adverb (§26).

## (a) Indefinite object.

mawi'iti', hang it up!; ma'u'ki', drink it!; mapa''e, eat it!; male'k'e, swallow it!; mahi'we, move it!; mats'u'ti', burn it!

## (b) Indefinite subject, etc.

mapika'hasi, it squeaks; mapi'waki, he slides on ice; make'yaki, he slides on a board; mata''osa, he tells an untruth; mamu'is, to think; ma'e'name, he is afraid; a'mapa'okusi, I might be eaten by them; a'mapa'omele, I was eaten by him; a'mama'nukusi, I might be taken by them; napo'n-leksi, he will be locked up by them.

16. *me-*, he, him.

This is, in reality, merely a specialized use of the possessive pronoun, its fundamental function being to indicate that the subject of the sentence is the same as the subject of the preceding sentence.

tsehe'teski me'tse pat-a menat'o'aki, he carried arrows and then he arrived.  
 teo'hoki e'we mek'a'l-ta, he came and took his spear.  
 te-atc'o'kati pat-a met'e'ima te-amet'o'yel, he came up from the bottom and floated on top.

omule'k-ta pat-a mele'pumakta, "I'm going to see," so then he got up.  
 teot'o'ta pat-a mece'cukwen, he (eius) shot him and then he (subject of preceding sentence) was hit.

tse'pi metsa'm-ta hata, he said he did it (subject of "said" and "did" are alike).

tememecu'tata, she jerked him, i.e., she, subject of preceding sentence, jerked him (eum).

17. *tə-*, he, him.

This is simply the possessive pronoun *tə-* with the force of the Latin *eius*. It indicates that the subject of the verb is different from that of the preceding sentence.<sup>18</sup>

*nale'ecukla'ki temehō'ita*, he (elk) did not get angry that he (coyote) had fooled him.

*ona tso'kacə teka't'ice*, then elk laughed at him (coyote).

*pat-a pa'mi . . . . ona me'teti a'we tehe'yaki*, then they (the men) ate and afterwards the women ate potatoes.

*mewe'le . . . . . o'tsetu' heta o'ni tetco'me*, he (grandfather) told me . . . . . that's why they come here.

*tse'pi tetsa'm-ta*, he said he did it (subject of "said" and "did" different).

*tememecu'tata*, she jerked him (cf. last example of *mə-*).

18. *ən-*, them (human beings).

This is the objective form of *əni*, they (literally "people"), and I include it here as a prefix because it has lost its independent existence and distinctly belongs phonetically to the verb-stem, just as the subjective form *əni* clearly does not.

*əncu'wi*, he followed them; *ənme'sa*, he divided them; *ənko't'ci maka'ce*, I heard them snore; *ənt'o'he*, he kills them; *ənhu'mi*, they taught them; *ən-nəmə'ktsel*, where they lived.

(In subordinate clauses the objective form is used subjectively.)

19. *mai-*, reflexive, semi-passive, and idiomatic.<sup>19</sup>

*mai'ota'n-ta*, they warmed themselves; *amai'owa'tta*, I hit myself; *amaitt'-o'ta*, I killed myself; *amai'op'o'ita*, I kicked myself; *maimote'pi*, she lay down; *maihope'li*, he is rolling; *maihantso'ice*, she felt sorry; *amait'o'helake*, I never killed anyone; *mai'oke't-a*, he is lean; *mai'oku'yi*, he puts his clothes on; *mai'omeko'tsi*, to squirm; *mai'hutsitsi'umi*, he winks.

20. *ho-*, *o-*, around, out, and idiomatically.

This is an old prefix and is firmly fused with the verb-stem. It is at times difficult to keep it apart from *ho-* prefix 21 and from *ho-* vowel auslaut.

*holi'he*, he pushes it out; *hok-a'le*, he pulls it out; *hopepu't-ε*, to handle and stir up; *owo'le*, he stirs it up; *hots'o'ε*, he flies around; *hota'mala*, to swim around; *hono'mel*, to travel around; *hote'iki*, he spread over; *homets-i'ε*, to wring clothes (twist around with hand); *mai'ole'tta*, he wound it around; *hole'we*, to hunt.

21. *ho-*, *o-*, down, and idiomatic.

This is quite distinct from *ho-* around, although occasionally confused with it.

*ope'nce*, he fell down; *oku'yumakta*, he dived down; *ohu'pki*, he ducked; *oni'cta*, he tumbled; *oku'hel*, to stoop; *oyo'kaki*, he sat down; *ola'tta*, he hit it (on the ground).

<sup>18</sup> An identical construction is found in Winnebago, *w-* being the prefix corresponding to *mə-*. The verb without any prefix implies that the subject is different.

<sup>19</sup> Cf. also dictionary for other examples.

22. *o-*, general sense of "along"; emphatic.

The force of this prefix, which is quite distinct from 21 and 22, is difficult to give. It has the value of "along" in such a phrase as "run along now," and for that reason had best be interpreted as a kind of emphatic.

ahomó'kse, I'm going along; hotco'hel, to walk along; ok-u'yukúsi, they might run along; owa'lala, (animal) walks along; otai'eti, sing along!; opa''é, eat along! owi'yé, fight along!

23. *ho-*, *o-*, idiomatic.

It is difficult to determine whether we are here dealing with an old *o-* auslaut that is now disappearing so that the same verb appears sometimes with and sometimes without it, or whether we are dealing with highly specialized meanings of 20, 21, and 22.

oce'hasa, he guesses; oka'li, he talks; opa't'é, he shouts; ho-é'wuce, he is ignorant; hoke'mi, he gives the war-cry; homata'osa, he pretends; hotce'ti, to sing together.

24. *hu-*, meaning not clear.

A number of distinctly different suffixes may be involved here, such as *hu*, head, or variants of *ho-*. In some cases we may simply be dealing with an original stem in *hu-* (*u-*), while in other cases the *-u-* may be due to assimilation with the following vowel.

humu'tsöce, it twinkles (homu'tsöce?); ahule'kel, I peep in; hucu'haiya, it is steaming (hocu'haiya?); huna'se, he carries on shoulder; husi'le, he lies on his back; huso'haki, it is ended; huso'aki, he is tired; huci'aki, he gets well; hutsa'tise, he gets well; huwa'omi, it sticks out; huwa'tsumi, he holds fingers entwined; huye'kese, he is glad.

25. *ma-*,<sup>20</sup> *mε-*, off, out, through, across.

mali'ta, he pushed out, off; map'o'ita, he kicked off; mahe'tati, he packed it away; mata'm-se, he swims across; maku'ise, he comes out; mahi'nteke, he could get across; meco'te, to scoop out earth; metcu'l-mi, he takes it off; mele'k-eta, he peeped out.

26. *ma-*, *mε-*, up, back, and idiomatic. Quite distinct from 25.

mala'tata, he hit it above; mawa'tata, he hit with clenched fists above; map-o'-ita, he kicked above; mahe'weke, he jumped up; mape'le, to roll up; mapo'nokúsi, he might be locked up; map-é'le, to roll up; mawe'lelki, he went back; mame'si, he takes home; mahe'tati, to carry home; memó'teti, pile it up!; imeta'maktse, when I swam back; mep'o'ita, he pushed it up!; mepu'laiya, (bubbles) are blown up.

27. *ma-*, in. Quite distinct from 25 and 26.

make'kita, she threw in; maka'nta, they took in; masa'tumi, he threw soft object in; mawi'lta, he put inside; makó'l-ta, he roasted in oven; matco'oki, she threw it in; mató'yati, to wade in water; mapa'k'ti, to make a hole in, to penetrate.

<sup>20</sup> For explanation of variants *ma-*, *mε-*, *me-*, *mo-*, *mu-*, cf. introduction to this section.

28. *mε-*, *me-*, idiomatic, meaning not evident.

This *mε-* has probably nothing to do with *mα-* or its variants and owing to its apparent use with intransitive semi-reflexive verbs might best be regarded as a secondary use of the possessive or, less likely, as a variant of *mai-*.

*meci'k'εε*, to breathe; *mele'pise*, he is exhausted; *melo'k'eye*, he is limber; *memets'ai'mi*, he is leaning (intransitive); *mewi'lce*, he tells; *metco'tc'se*, she is unwilling; *metsa'p-εε*, he dislikes; *mewa'tsise*, he trades; *metco'uki*, it sprouted; *mepa'usi*, it dropped; *meka'kacki*, he is pale; *mamehe'lesi*, he is in a hurry.

29. *me-*, on, up, and idiomatic.

In certain cases it is clearly a variant of *ma-*, *mε-*, up; in others, a variant of *mε-*, with the hand; while in others its meaning is not clear.

*meya'elke*, he climbs on tree; *menatsa'kese*, he holds his head up; *mesa'wisi*, he smooths; *meca't'uki*, he held fingers entwined; *teameku'te*, to unravel; *tcomepi'ne*, to turn wrongside out; *mewe'laiya*, he bumps; *meyo'kese*, he gets up; *meyo'koti*, to cook.

30. *mo-*, *mα-*, *mu-*,<sup>21</sup> out, around, up, and idiomatic.

A variant of *ma-* 25, 26, and 27, and at times a contraction of *ma-* with an initial *o-* of stem.

*omohope'se*, he looked around (perhaps better analyzed as *omi-*, prefix 2, *hope'se*); *mopu'laki*, he is puffed up; *mota'kak*, to be puffed up; *mopi'lak*, he filled up; *a'monaco'telsi*, I'll drink up; *monaco'tumi*, he pares off; *omohule'kusi*, he peeped out; *momu'yelki*, he sank; *motca'ki*, he settled down; *omoci'li*, he drilled a hole; *omocu'titi*, to make a shade; *motsi'i*, to draw legs up; *mα'otecu'lusele*, turning from one side to other; *mule'keta*, he peeped out; *muk'i*, to pluck out; *mamu'yelki*, he disappeared (*ma-m-oyel*); *muso'mi*, he is at the end.

31. *na-*, again, around, up.

This is possibly a variant of *ona*, again, although it is also conceivable that two prefixes are involved here, one meaning "around" and derived from *ona* and the other meaning "up."

*a'naye'muse*, I play around; *a'naca'ise*, I jump around; *nahi'lise*, he is swinging; *namo'ise*, it itches; *napit'u'husi*, it drizzles (*na-*, again; *pi-* diminutive activity; *t'u*, water; *-hu-* petrified suffix); *nata'ete*, to bounce up; *naha'pite*, to dance up and down; *menats-a'kel*, to hold head up; *nasu'tila*, to hold head in hands; *nata'm-uta*, he lay on his stomach; *nata'mpteki*, he fell on his stomach; *nako'teke*, it blooms; *namv'tsusi*, he sharpens; *nα'ot'α'omi*, he fills up; *nα'ote-ai'ice*, it has a pleasant taste.

32. *na-*, meaning not clear.

*nat'α'aki*, he arrives (*t'α'aki*, to come).

<sup>21</sup> Maidu (cf. Dixon, B. A. E., Bulletin 40) has an identical variation of the vowel of verbal prefixes, sometimes signifying apparently no change in meaning, sometimes indicating a considerable difference. In Maidu, as in Wappo, we are clearly dealing with two distinct things, first utterly unrelated prefixes whose vowels have become assimilated, and second, vowel mutations of the same prefix implying slight differences in meaning.

33. *pa-*, *po-*, together.

*pap'o'tciti*, to tie string together; *pamepi'le*, to fold; *pali'he*, to push together; *pahe'ye*, to rub together; *pamesu'te*, to squeeze together; *panak-a''e*, to bite (action of bringing lips together); *panamu'sla*, to keep mouth closed; *pamepo'le*, to roll up; *pali'm'i*, to make deer-drive (drive together); *pametsi'pe*, to pinch; *patco'ta*, to be wrinkled; *patso'i*, to wash; *pap'i'ti*, to nail; *po'tcomi*, he ties; *powe'lta*, he wrapped up.

34. *pi-*, near, proximity, diminutive activity.

This stem also appears as a nominal suffix *-piya*.

*pimo'nomukta*, she hid it near-by; *pika'la*, to listen (hear-closely); *pik'a'li*, to hurt (*k'a'li*, wound); *pitsa'pice*, he grabs (seize-directly); *a'napico'liyö*, I whisper; *pito'elsi*, he touches (near-by); *pica'iskele*, to embrace (hold closely); *piye'tete*, to carry in hand (as opposed to, "to carry" in general); *cupehe'teski*, he is folding his arms; *pici'uki*, to be cool, breezy (as opposed to, cold, windy); *pita'kiyaki* (water) is cool (as opposed to cold); *pito'mi*, he bumps (he touches closely); *pika'hasa*, it is squeaky (*ka*, make noise); *pine''ce*, to catch up (*ne''ce*, have, catch); *piwa'luci*, he wakes him up (he shakes him).

35. *te-*, in, toward, over, back, after.

There are probably two distinct prefixes involved here, *te-*, in, and *te-*, toward, etc. The latter is obviously a variant of *tu-*, toward, used as nominal suffix and as enclitic.

*tetu'leki*, (sun) shines in; *teta'm'se*, he swims in; *temawi'ita*, he grabbed in the air; *teku'ise*, he came in; *teteta''asi*, let him step in; *tek-a'lse*, he brings it in hand; *tewe'lece*, he comes back; *tehutcu'yumi*, he bunches it up; *tena'ö'aki*, he arrived there; *teha'p'e*, blow here!; *tema'ni*, bring it here!; *tew'lumi*, he builds.

Used in a rather idiomatic sense we find this same prefix with the probable force of toward, etc., in the following:

*tetenake'mökta*, they hugged him; *teho'ye*, to cheat; *a'teha'welki*, I am resting; *te'e'usa*, he is running; *teho'kaki*, he barked; *teco'temi*, he brushes hair.

36. *te-*, *to-*, *tu-*, off, down.

Quite distinct from no. 35.

*tepe'nake*, he falls off; *tetse'wuteke*, he falls off (from height); *temecu'teta*, he jerked it from above; *tepa'omi*, he drops from hand; *tek-e'teasi*, (who) will cut it off (for me); *a'te he'uci*, I jump down; *tema'numökta*, he took down; *tewe'mökta*, he took down; *tela'ki*, coming down; *teyu'ice*, he pulls out; *tetce'n*, to snatch with stick from above; *toya'el*, come off!; *to-uw'hiki*, he hung down; *totco'hosi*, he will fall down; *teto''otecu'li*, he turns toward; *tuk-e'hi*, he rakes.

37. *tc-a*, *tc-o*, *tc-ö*, *tc-u*, *tc-e*, *ts-a*, *ts-o*, *ts-ö*, *ts-u*, *ts-e*, out, off, over.

*tc-anak'e'tel*, to bite off with teeth; *tc-aw'luci*, to brush off; *tc-acö'te*, to pare off; *tc-aku'ye*, to come out; *tc-atce'le*, to open out; *tc-amusi'he*, to turn belly up; *ts-aki'le*, to untie; *ts-a-i'teki*, to spill; *ts-ats'u'te*, to scrape off; *tc-a-a'oti*, hide!; *tc-awa'luma*, to dodge.

tc-omate'hel, to quit, let loose; tc-otse'le, to turn over; tc-owa''e, to separate; tc-opu''te, to drag; ts-otci'ti, to unscrew; tc-opa'tusta, to hate; tc-ut'i'we, to skim; ts-ule'aki, to peep out; a''tc-unvte'e'nta, I sharpened to a point; a'tc-ucoti, I scraped.

ts-epaso'tumi, he wraps up; tc-emu'k-e, he pulls out.

### §33. Combination of Prefixes

Most verb-stems can have two and often three prefixes. The following combinations of two prefixes are quite common: homa-, home-, hona-, hope-, maimē-, mapa-, memē-, mena-, mēpi-, mēpe-, napi-, pama-, pame-, pana-, pame-, papō-, tēmē-, tena-, tcama-, tcēmē-, tcame-, tcana-. Examples will be found throughout this sketch. I append a few:

a'napi-co'liya, I whisper; mapi-ka'hasi, it squeaks; mena-t'ō'aki, he arrived; maimo-te'pi, she lay down; hope-pu'te, to handle and stir up; homa-ta'osa, he pretends; memē-ts'ai'mi, he is leaning; memē-he'lesi, he is in a hurry; a'mona-co'telsi, I'll drink up; mena-ts-a'kel, to hold head up; pame-pi'le, to fold; pana-k-a''e, to bite; papō-tecti, to tie strings together (?); cupe-he'teski, he is folding his arms; tema-wi''ita, he grabbed in the air; tete-ta''asi, let him step in; tēmē-cu'teta, he jerked it from above; tc-ana-k'e'tel, to bite off with teeth; tc-oma-te'hel, to let loose.

In most verbs with three prefixes, the first one is the pronominal *te-* and *mai'*.

tememē-cu'tita, she jerked him; mai'mēpi-ya'haki, he went past quietly.

In the sixth position, that nearest the stem, we find only three prefixes, for one of which there is only a single example (na-t'ō'aki, he arrived). The second, *pu-*, by sucking, is of limited use, and the third *pi-*, near, diminutive activity, one of the most important and extensively used prefixes in Wappo. That *pi-*, an adverbial element, should be treated differently from the others seems to imply that it had become fused at an early time with so many verb-stems that, in spite of the fact that it became a free prefix, i.e., could be used with any verb, the position immediately near the stem asserted itself too strongly for it to be removed to the fourth position occupied by the other adverbial prefixes. Regarding the important question as to whether we can always gauge the approximate relative age of a prefix from its proximity to the stem, our answer must, on the whole, be negative, because it seems clear, first, that true composita (noun+verb) may arise at any time and the noun of such composita becomes grouped with sixth position elements, or such a detached element as, for instance, *cu-* might secondarily be felt as belonging to another group and transferred



to it. It would, I feel quite confident, be exceedingly safe to consider all the third and fourth position prefixes as of the same age. On the other hand, the very fact that adverbial elements are placed in one group, instrumentals in another, and that detached portions of *composita* can be regrouped—all this speaks for a considerable age for prefixation.

#### §§34-64. SUFFIXATION IN THE VERB

##### §34. Introduction

Suffixation is clearly an old process in Wappo, and one that is still in full force. The firmness with which the vast majority of the suffixes are fused to the verb-stem is the most convincing proof of their age, and the ease with which independent verbs can be reduced first to postpositions and then to semi-suffixes is the best evidence of the continuous vigor of the process itself. Perhaps another indication is to be found in the fact that barely more than a half-dozen of the suffixes can be derived from any known independent stem.

As far as degree of fusion with the verb-stem is concerned, it can hardly be said that there is any noticeable difference in the suffixes until we come to those connected with the periphrastic tenses and those serving as subordinating conjunctions. In these cases the fusion with the verb-stem is weak, and this is correlated with the fact that they are all palpably fairly recent developments. They are indeed all either old independent verbs (*ya*, *mi*, *mək*, *məsi*) or adverbs (*tsel*, *wen*, *tu*, *tseta*).

In the case of the verbal prefixes we pointed out that while a few were found employed as nominal suffixes, the vast majority are now used only with verbs. For the suffixes this does not hold true. Leaving aside the petrified elements and those referring to tense, we find among the nominal affixes a large number identical with those of the verbs and possessing the same meaning, at the same time having such marked similarity in form as to suggest definite relationship. How we are to interpret this is not easy to decide. Yet it appears to be but one of a number of features all pointing in the same direction, namely toward a marked nominalization of the verb. We noted it previously in the case of such pronominal possessive prefixes as *tε-*, *mε-*, *mai-*. We find it again in the rôle played by iterative *-tε*, continuative *-l*, usitative *-s-*, plural *-m<sup>v</sup>*, and the various instrumental suffixes *-i*, *-nəma*, *-ma*, *-ka*. Now when we compare *-tε*, *-l*, and *-s-* with nominal *-ti* plural, *-lu* collective plural, *-si*, demonstrative and numeral plural, and with the nominal plural *-ma* (Yuki), there seems little question but that they

are identical and that their use in verbs is secondary. This very same feature is one of the characteristics of Hokan as shown by Pomo, Washo, Salinan, and to a more limited extent Achomawi. It is this same tendency which has led to the loss of the vowels of the tense suffixes -ki, -ce, -se before the subordinating suffixes -tsel and -wen, thus converting them into absolute forms of the verb and merging them into nominal constructions comparable to the noun formatives -k, -s, -c.

Just as the prefixes and suffixes differ in regard to the degree of their specific association with the verb so they differ in regard to their origin. That of the prefixes is manifest. They are practically all either nouns, adverbs, demonstratives, or verbs. The origin of the suffixes is not so evident; but one thing is clear, namely that the majority of them have been functioning for an extremely long time as suffixes only. We might thus quite justifiably claim that the prefixes plus verb represent a type of stem composition and that the suffixes plus verb do not.

There are, however, a few suffixes that definitely do represent such a type of stem-composition. They are all connected with the periphrastic constructions and with the causatives. Two old verbs meaning to go, to move, both sparingly used now, *m<sup>v</sup>* and *ya*, are employed for the periphrastic. What interests us in both verbs is that each has apparently been called into service a number of times. We have, for instance, an indefinite in -*ya* representing a specialization of the original verb to go, that certainly antedates considerably the development of -*yao* and -*yaomi* into a future; and we have an indefinite in -*mi* that must very considerably antedate -*mə* and -*mək*. Indeed it is extremely doubtful whether -*mə* and -*mək* belong to the same stratum and whether -*mə* is not really a very old suffix meaning "motion toward," also found in Yuki, and -*mək* simply a recent development from *məkce*, to move. In that case -*mə* would be even older than -*mi*. The importance of this frequent selection of two words, both referring to movement, lies in the fact that it suggests a considerable age for this tendency toward periphrastic constructions. This is of double significance for the history of Wappo since it connects it even more definitely with the Hokan groups where such constructions are old and frequent, and it explains the irregularities in the indefinite tense. These are clearly due to the fact that the various indefinites were in origin periphrastic constructions that have largely lost their original force.

For the causatives likewise we must assume a varied history and perhaps the employment, at distinctly separated periods, of the same verb to do, to make, since the causatives -*si*, -*mesi*, and -*tasi* are related.

Then we have in addition an old causative no longer functional -a, -ha' and perhaps a still older one, the petrified suffix -k. We might also point out that this continuous development of causatives bespeaks the existence of an old tendency of this type. There is even a farther evolution in Wappo for we find today the verb *teuti*, to order, on the point of developing into a postposition with causative significance.

If therefore stem-composition seems to play a meagre rôle, may we not ascribe this to the ease with which verbs of motion and causation were absorbed into a general periphrastic scheme that quickly deprived such verbs of specific meaning? We shall see later how the tendency to nominalize verbs tended likewise to prevent stem-composition.

Little need be said about the order in which suffixes follow each other. There are seven positions:

First position: petrified suffixes.

Second position: verb-base vowels.

Third position: -k- (unknown), -s-, -c-, -l passive, -l continuative.

Fourth position: increments (-tε-, -lε-, -lek-, -møk, subjunctives, causatives).

Fifth position: -k- inferential.

Sixth position: tense-aspect, imperative.

Seventh position: subordinating, nominalizing.

As the vast majority of suffixes are connected with tense, mode, and aspect formation they will be discussed more fully in the sections devoted to these subjects (§65-80).

### §35. Petrified Suffixes

A fairly large number of suffixes, for the most part no longer or only sporadically functional, are found fused with verb-stems. In many cases their meaning can no longer be determined with any exactness, if at all. That we are dealing with true suffixes and not secondarily interpreted terminal consonants, the examples clearly testify. Some of them correspond to suffixes still functional in Yuki.

1. -p, meaning not clear.

*naka-p-εl*, to bite; *naka''ε*, to bite.

*hotca-p*, to crack; *hotsa''ε*, to split, crack.

*t'a-p*, to spear; *t'a*, to spear.

*tu-p*, to jump in water; *t''*, water.

*cuku'-p-ise*, to tumble off; *ko'-m-ci*, to fall, stumble.

*te-us'u'-p-i*, to take off; *te-a-teu'-mi*, to take off.

*to'-p-ε*, to cut off; *te-a-to'-k*, to cut off bark.

2. *-k*, meaning not clear. It is probably identical with Yuki *-k*.<sup>22</sup>

ota'-k, to hit; ota'ts, to hit.

opo'-k-el, to wrap body; po'we-l, to wrap.

hoto'-ka-la,<sup>23</sup> to float on top of water; hoto'yala, to wade in water.

mo'pe-k, to track (around-foot-it); pe, foot.

matsi'-k, to squirt water; matsai'', to pour in.

meci'-k-ε, to breathe; ci, wind, breath.

mə-k, to go by; mi, to go.

te-atə'-k, to cut off bark; tə'pe, to cut.

3. *-m*, meaning not clear. Two suffixes are possibly involved here, both found in Yuki, *-ma* motion towards, and *-m* involuntary, inanimate actions, and automatic motions or sounds.

tu-m, to hit with knuckles; t'aə, hit, bruise and tats, hit with hand.

ta-m, to swim; hoto'yala, wade in water.

ni-m, to hire; ni', to take.

te-asə''-m-ε, to be worn out; hosə'', to be tired.

ts-o'-m-i, to stick; tats'o'-ti, to get stuck.

pe'-ha-m, to step over;<sup>24</sup> pe, foot.

hokə'-m, to think; huka'li, to think.

kə-m, to fall; pe-ka'ohe, to slip.

nə-m, to travel; ma'-ni-, to go by boat.

nota'-m, to lie on stomach; te', to be stretched.

4. *-n*, meaning not clear. It is apparently identical with Yuki *-n* whose force is also not clear.

teunute'i'-n-ε, to sharpen; namu'-tsi, to sharpen.

hupe'-n-εε, to carry on head; ma-apo', to carry.

opo'-n, to close; te'u'pa, to close eyes.

k'a'-n-a, to carry on back; ka'ta, to carry.

k'l'-n-i, to rip open; k'e'ε, to break.

cuti'-n, to stoop; sut'i'l, to stoop.

teumep'i'-n, to turn wrongside out; hocupe'pi, to turn from side to side.

5. *-tə<sup>v</sup>*, meaning unknown.

ole'-təε, to cut; te-ale'ye, to cut.

to'-təi, to arrange; oməto', to fix hair.

opt'-təi-ki, to burst; pa''ε, to burst.

6. *-ts<sup>v</sup>*, meaning unknown.

hok'e'-ts-ε, to break; k'e''ε, to break.

ta'-ts-ε, to hit; tt'aə, to hit.

hi'-ts-i, to pound acorns; he'yi, to grind.

<sup>22</sup> Kroeber says, "-k is somewhat indefinite in force. It appears to be used with intransitive verbs to indicate an action, as contrasted with a state, of the conception implied by the verb stem." (This series, 9:359.)

<sup>23</sup> This may however be ho-tə-ka-la, around-water-discontinuous-action-semi-passive. It is just conceivable that -k is really -ka-, suffix denoting discontinuous activity.

<sup>24</sup> There are two suffixes here, -ha- and -m.

7. *-a*, probably an old causative.

ot-i-a'-teki, he drowned (transitive); ot'i'se, he is drowning.  
 omo-ti'-a-se<sup>25</sup> to overflow; t'-, water.  
 hosó'-a-si, he will be tired; (he causes-an end).  
 huci'-i-a-ke, he got well; huci''ki, he is alive.  
 húnwe'-a-ki,<sup>26</sup> they are sleeping; hawe'-ke, they sit, lie.  
 ahona'w-a-sa, I am showing; na'o, to see.  
 tehúntó'-a-si, I will put him to bed; h'ntake, to be asleep.

8. *-wa*, *-w<sup>v</sup>*, to become, to be, and idiomatic. This suffix is perhaps to be considered still partially functional. It is possibly identical in origin with *-a* (causative), the *-w* being really part of the verb-stem.

omi-utcu'-wa-ca, it gets dark; u'tcu, dark.  
 okel'u'-wa-ca, he becomes lonesome; o'kel<sup>v</sup>-, be lonesome.  
 hutsi'-wi-ce, he smiles; hu'tsi, eye.  
 yu'-wu-se, he runs a race; ya-, go.  
 ku'-we, he runs; ku'he, ku'yε, he runs.  
 omítacaci'-wa-ki, it becomes quiet.  
 teli'-wa-ki, he pursued;<sup>27</sup> la', come go.  
 peka'-wi-ki, he slips and falls; nak'e'-hi-se, he slides down.  
 t'o-u'-wi-ki, it hangs down; t'o'-he, it hangs.

9. *-ya*, meaning uncertain, possibly to be, to make. Like *-wa* and *-ha*, this suffix is possibly the causative *-a* preceded by an old *-i* of the verb-stem. It has been occasionally confused with *-ya* to go and vice versa.

mak'e'-ya-ki, he slides (on board); pek'a'-wi-ki, he slips and falls.  
 kotci'-ya-ci, he tickles (transitive); kotci'si, it tickles.  
 ku'-yε, he runs; ku'he, he runs.  
 mewó'-ya, he stirs (transitive); wó'li, to stir.  
 k'u'-yu-makta, he dove; k'u'-he-l, he stoops.<sup>28</sup>  
 ukaci'-ya-ki, he is pretty; uka'ci, pretty.  
 hopehi'-ya-ki, it is reflected in glass; pe, to look.  
 me-i'-ya-ya, he sweats; me'i, water.

10. *-ha*, *-h<sup>v</sup>*, *'-*, meaning uncertain, but probably causative and a variant of *-a*. There are possibly two distinct suffixes involved.

ku'-he, he runs.  
 nak'e'-hi-se, he slides down.  
 t'o'-he, he hangs (transitive?); t'o'-u-wi-ki, it hangs down.  
 k'u'-he-l, he stoops, bends.  
 hoté''-ce<sup>29</sup> (\*hoté'-he-ce) it melts; t'-, water.  
 matcó'-hu-mi, he puts down; matcó'yumi, put in pocket.  
 pika'-ha-sa, it squeaks; ka, to hear.

<sup>25</sup> It-causes-water to be-around.

<sup>26</sup> They-are-made-to lie-with sleep.

<sup>27</sup> The indefinite is teli'-u-se and this makes it quite probable that indefinites in *-u* and verbs in *-u*, in general, really have this suffix *-wa*.

<sup>28</sup> The root in both cases is k'u-, down.

<sup>29</sup> It-becomes-water.

11. *-te, -tʷ*, plural iterative. We are including *-te* here because it is now functional only to a very limited extent, and because in a number of verbs it is idiomatically fused with the stem.

tə't-te-ki, he sucks out; ətia't-te-ki, he drowns (transitive); ole't-i, he winds up (ole'u, tie up); u'ku'ti-si, he is drunk; hunko'te-εε, he snores; me'u't-i, he puts on top of one another.

12. *-ta*, causative. Idiomatically fused to certain stems.

at'a'ta-sa, he leaches acorns; omapiwa''-ta-si, he cuts through brush; ɔo'i-ta-sa, it scorches; cu'l-ta-sa, he drops (transitive).

13. *-l, -lʷ*, plural-continuative. More definitely functional than *-te* but found secondarily fused with certain stems.

hoka'le-la, he keeps; homa'na-la, he possesses; hotco'ha-la, he walks; howa'la-la, he crawls; maya'ε-l, he rides horse-back; nak-ε'l-si, he bites meat off.

14. *-s*, usitative-iterative.

ohoite's-a, he begins; okelu's-ki, he is lonesome; omε'ε-s-a, he feeds; huna's-ki, he carries on shoulders; na'o-a-s-a, he shows; nawe'ya-s-a, he comes around; pame'ku-s-i, he ties.

15. *-c*, usitative-durative.

onu'-c-ki, he is human; matco'-c-mi, he puts meat in receptacle; piti'-c-a, he has diarrhoea; pik'e'-c-a, he has a cold; tiya'-c-a, he is thirsty; te-apu'-c-i, he takes out.

#### §§36-44. FUNCTIONAL VERB SUFFIXES

##### §36. Old Verb Suffixes

16. *-mi*, to go, progressive. It is exceedingly doubtful whether we are to regard this suffix as a variant of *mə-, mək*, progressive, which apparently is a variant of the verb meaning to go. That it has nothing to do with indefinite *-mi* or the *-mi* of future periphrastic, is quite evident.

a'temato'l-mi-ki, I went to kill him; a'temola'ti-mi-ki, I went to hit him; a'tepik-a'-mi-ki, I went to hear him; a'tenu't-mi-ki, I go to steal it; tse's-o-mi-me, they went swimming; a'pe'i-mi-si, I'll go and chop.

17. *-mesi*, causative. This is simply the verb *oməsi*, to make, still frequently used in the language. Tense elements are added to it directly. *-mesi* is really a postposition that is now on the point of developing into a true suffix.

a'tutcame'susi, I make it large; atetco'k'ome'susi, I'll make him go; mi'otsats-ome'sti', make it cold!; a'tsats-ome'sta, I made it cold.

18. *-ya-*, to go, movement. An old verb meaning "to go" only found in texts now and fused to certain verb-stems, but forming the base of all the periphrastic futures.

tepine'-ya-si, he's catching up, going; okalai'-ye-le, he is crawling; hoto'-ya-la, he wades in water (goes-around-in water); mai'mepi-ya'-se, he goes past; mahawai'-ya-sa, he starts hunting; metsō'ti-ya-ki, he picks up; na'we'-ya-sa, he comes around.

### §37. Tense-Aspect

19. *-i*, *-a*, *-ε*, indefinite tense. Strictly speaking it is incorrect to consider these vowels suffixes or inherently connected with the expression of tense alone, for an older classification of verbs into active and inactive may also be involved. Be this as it may, however, today they are felt as tense endings and we shall treat them as such.

i'l-i, he binds (i'l-ta, past); o-ε'l-i, he digs (o-ε'le', imperative); oci'p-i, he sews (oci'pe', imperative); a's-a, he gives (a's-i, imperative); ha't-a, he knows (hatel, imperative); hoka'lel-a, he keeps (hoka'lel, imperative); ha'-ε, he says (haiyi', imperative); ha''-ε, he barks (ha''ti, imperative).

20. *-mi*, indefinite tense. This suffix is rather puzzling. It is by far the most frequent of the rather numerous elements indicating indefinite time and activity. Although there are a number of tense and aspect suffixes beginning with *-m-* in Wappo (*-mō*, *-ma*, *-mōk*), I do not feel it is related to any of them. Originally it was possibly associated with the idea of collectivity and habitual action but it possesses no such idea now. Today it has become merely the most common suffix of the indefinite.

i'u-mi, he moves; oha''-mi, he fans; oka'le-mi, he hangs; ola'tō-mi, he hits; olō'l-mi, he dances.

21. *-se*, *-sa*, *-si*, indefinite tense. Although used today simply to indicate the indefinite, the origin of this suffix is quite clear. It consists of *-s-* durative, iterative with variable terminal vowel. It is because of its original force, only weakly, if at all felt now, that the majority of verbs with plural increments *-tε-* and *-el-* have *-s'* in the indefinite.

o'i-se, he moves gently (o'iy-el-si, future); oha'we-se, he bets (oha'wa-si, future); omu'ki-se, he lies (omu'ka-si, future); omo'ti-se, it overflows (omoti'a-si, future); e'lu-sa, he keeps hold of (e'lu-si, future); o't-a-sa (o't-as-sa) he sucks breast (o'ts-ta, past); oce'ha-sa, he guesses (oce''-ta, past); owo'ε-si, he rubs (owo'ye, imperative); u'k'ti-si, he is drunk (u'k'ta-si, future); cuka'lu-si, he drags (cukale'-si, future).

22. *-ce, -ci*, indefinite tense; 23. *-c<sup>v</sup>*, usitative-durative. *-c<sup>v</sup>* usitative-durative is clearly related to *-s<sup>v</sup>* (*-s*) and what exactly constitutes the difference it is extremely difficult to say. The examples seem to indicate that *-c<sup>v</sup>* implies continuous durative activity whereas *-s<sup>v</sup>* implies iteration more than duration.

ε'li-ce, he digs a hole (ε'l-te-si, future); i'wu-ce, he moves (i'u-te-si, future); ote'wi-ci, he is dead (ote'wiki, past); o'ti-ci, he sucks (o'ti-si, future); oka'-ce, he answers (oka'-si, future); otsai'-ce, it tips over (otsai'isi, future); ku''-ca, it stinks (ku''ki, past); ku'la-ca, it smells; (ku'laki, past); ka'li-ca, it aches (ka'luc-ki, past).

24. *-lsi, -tes<sup>30</sup>*, future. These forms are the regular future preceded by the plural-continuative and plural-iterative infixes. See section on conjugations (§§54-64).

ikapo'te-lsi, he will bother; hunte-o'he-lsi, he will dream; o'iyε-lsi, it moves gently; ha'te-lsi, he will know; oka'l-tes<sup>30</sup>, he will talk; owai''-teso, he will quarrel; ko''-tes<sup>30</sup>, he will get hurt.

25. *-stes<sup>30</sup>*, future. Plural-iterative infix preceded by usitative *-s*.

enε'-stes<sup>30</sup>, he will be afraid; hε'npikal-ε'stes<sup>30</sup>, he will be sleepy; ho-ε'wi-stes<sup>30</sup>, he will be ignorant of.

26. *-leks<sup>31</sup>*, future, future-conditional.<sup>31</sup> Idiomatically this suffix is used as the regular future of certain verbs. Its original force of a future conditional is, however, frequently felt, especially with verbs that form their futures regularly in *-si*. In origin *-leks<sup>31</sup>* is simply *-le-* continuative-plural, *-k-* conditional, and *-si* future.

cu'tu-leks<sup>31</sup>, he will hang on; oko'he-leks<sup>31</sup>, he will be constipated; ha'ku-leks<sup>31</sup>, he will be hungry; cutne'-leks<sup>31</sup>, he will stoop.

27. *-ksi, -ktes<sup>31</sup>*, futures, conditional futures. These are really conditional futures used idiomatically, at times, as the regular futures of certain verbs.

tc-api'kε-ksi, he will pull out; hona'nu-ktes<sup>31</sup>, he will open; huku'i-ktes<sup>31</sup>, he will bump head.

28. *-si, -se, -ci, -ce*, future. This is the regular suffix for the future used with the overwhelming majority of verbs. *-c<sup>v</sup>* is either *-c+si* or a confusion of *s* with *c*.

a's-i-si, he will give; ε'lte-si, he will dig a hole; enε'ste-si, he will be afraid; i'lε-si, he will bind; ε'laci (for ε'lac-si), it will get deep; o't-as-i (for o't-as-si), he will suck; ocka'li-ce, he will be stingy.

<sup>30</sup> Apparently this same future also has a conditional-subjunctive force.

<sup>31</sup> For its conditional and subjunctive force cf. §72-76.



29. *-<sup>v</sup>ya, -iya*, indefinite tense. In origin both these suffixes are certainly variants of an old verb *ya*, to go, rarely used now but preserved in suffix *-ya-* and *yaɛl*, to climb. Both *-<sup>v</sup>ya* and *-iya* have become especially associated with the periphrastic futures and pasts in *-maksi* and *-mækta*, although found with the simple conjugation likewise.

*o'manots'ε'wi-ya*, he is afraid (*omanots'ε'wasi*, future); *ho-ε'wi-ya*, he is ignorant of (*ho-ε'wu-si*, future); *hoka'ka-ya*, he crawls (*hoka'kesi*, future); *hole'-iya*, he runs (*hole'omaksi*, future); *mahe'ti-ya*, he picks up, etc. (*mahe'tita-si*, future); *male'pi-ya*, he gets up (*male'pumaksi*, future); *mema'ni-ya*, he picks up (*mema'n-mækta*, past).

In its old sense of movement as such without reference to tense it is extensively used in the texts.

*'si metco'hi-ya*, we'll go away; *o'ntu teyo'keya*, he flew to them; *ts-atc-a'waliya*, he dodges down; *maha'wa-y-asi*, let us get started.

30. *-maksi*, progressive future. This is really the verb *mæk*, to move, now only sparingly used. The future form *-maksi*, as well as the past *-mækta*, are found idiomatically with certain verbs and generally have an indefinite in *-iya* and an imperative in *-ma* or *-mø*. Although clearly related to *-m<sup>v</sup>*, denoting general motion, this latter *-m<sup>v</sup>* is not a variant of *-mæk* and has had an entirely independent history, best shown by the fact that *-m<sup>v</sup>* is rarely found as the indefinite of the "progressive" conjugation.

*hole'o-maksi*, he will run (*hole'iya*, present); *mele'pu-maksi*, he will get up (*mele'p-ya*, present); *mema'nu-maksi*, he will pick up (*mema'n-ya*, present); *pi'ti-maksi*, he will take out of water (*pi'ti-yø*, present); *pitsa'pu-maksi*, he will mash (*pitsa'pi-se*, present); *titi'u-maksi*, he will shake (*titi'ti-si*, present).

31. *-yao, -yaomi*, periphrastic future. Just as one variant of the old verb *-ya* has become associated with the indefinite, so another variant *-yao, -yaomi* has become secondarily connected with the future, generally however preserving something of its old force of expressing movement. The first form *-yao*, fairly extensively used in the texts, has the force of a conditional or an uncertain future, whereas the fuller form *-yaomi* (*-yao* plus *-mi* indefinite) expresses a definite futurity. The meaning of the *-o-* is unknown. In a limited number of verbs *-yaomi* has completely displaced *-si* and in other instances it has been added to *-si* (*-siyaomi*).

*tc-apat'i'-yao-u ts-apik-ase*, it feels as if coming off (the presence of the past tense enclitic *u* shows how little *-yao* is really felt as a future); *mamuyε'-yao-tsel*, the sun was just going down; *huntale'k-yao-tsel*, when (I) was going to sleep; *temenaŋ'o'a-yao-tsel*, when he was going to get there; *kuwe'-yao-wen*, when I was going to run; *muka'-yao-tsel*, when I was going to lie down; *tcø'l-yaomi*, he's going to be sick; *huci'-i-yaomi*, good; *k-a'ma-yaomi*, to cry; *tet'o'-yaomi*, to kill him.

In the following instances it is the regular future:

ota'tsilek-ya'omi, he will slap; otsi'p-yaomi, he will paint red; ca'ti-yaomi, it will be bitter; he'luc-yaomi, it will steam; ko'-yaomi, it will boil.

32. *-kyaomi, -lyaomi, məkyaomi, -lekyaomi*, periphrastic futures. They are used exactly as the corresponding forms in *-si*.

33. *-ta*, indefinite past tense. It is used with all transitive verbs.

a's-ta, he gave; e'l-ta, he kept hold of; i'l-ta, he bound; o'ti-ta, he sucked.

34. *-sta, -kta, -lekta, -lta, -məkta*, indefinite past time. They are used exactly as the corresponding forms for the future.

35. *-ki*, probably indefinite past time. *-ki* probably refers to a single past action. It is regularly used with certain verbs instead of *-ta*. Whether it is identical with *-k<sup>v</sup>* passive it is difficult to say. In all probability it was originally used without any specific temporal force and became specifically associated with intransitive, neuter, and passive verbs (cf. §§74-80). Also used to form verbs from adjectives.

i'u-ki, he moved; omiho'kewi-ki, it becomes daylight (indefinite and past); o'tewi-ki, he was dead; o'ka-ki, he answered; oli'tca-ki, he was full; ome'i-ki, it was wet; omoti'-a-ke, it overflowed; omu'ka-ki, he lay (down); opt'tei-ki, it broke.

36. *-cki, -ski, -teki, -steki, -lki*, past tense. These are used like the corresponding future forms except that the increment *-te-* always takes *-ki* and never *-ta* so that some transitive verbs are found with *-teki*. In all likelihood *-teta* contracted into *-t'a* and then gave way to *-teki* since *-te-* increment verbs would have a future in *-tesi*.

e'lte-ki, he dug a hole; otia'te-ki, he drowned (transitive); hi'ute-ki, he rocked.

### §38. Modal

37. *-asi*, hortatory-subjunctive. This is the regular future *-si* preceded by the terminal vowel of the stem which regularly changes to *-a-* to express this mode.

tek-uwa'y-a-si, let him run; tepa''-a-si, let him eat; temo'k'-a-si, let him drink; tehunto'-a-si, let him sleep; ite owa't-a-si, let me hit him; ipowe'l-a-si, let me wrap it.

38. *-tesi, -teki*, subjunctive, might: This is either merely a specialized development of the *-te-* increment future or a falling together of two vowels originally distinct. I incline to the latter view and assume that the subjunctive in *-tasi* (§72) show the original vowel, the regular increment future having eventually displaced it phonetically although

not semantically. Occasionally *-te-* alone seems to carry the subjunctive force as in *-teki*. Cf. also §72.

*naka'p-tesi*, he might hold in hand; *ke''ε-tesi*, he might break it; *ohi'l-tesi*, he might build; *pik'oiye'-tesi*, he might crush by trampling; *ma'ō'n-tesi*, he might dig; *ocute'-tesi*, he might put it out; *okō'he-tesi*, he might fasten.

39. *-tasi*, subjunctive, may, might. Probably increment future *-tesi* with mutated vowel. It has frequently acquired the secondary meaning of "may" as opposed to *-tesi* "might." Not to be confused with causative *-tasi*.

*teco'te-tasi*, he may comb it; *kupa'-tasi*, it might get rotten; *ma'ō'n-tasi*, he may dig; *ohupi'-tasi*, he may dive; *hot'a'-tasi*, he may divide; *howt'ε'-tasi*, he may iron.

40. *-leksī*, subjunctive. This was always given as subjunctive with indefinite, or better, plural subject. It is presumably the original meaning of increment *-lek-* that has preserved its force in certain verbs (*-le* continuative-plural and *-k* conditional).

*mahe's-leksi*, someone might give; *howt'ε'-leksi*, someone might iron; *k'oye'-leksi*, someone might knead; *mak-εke'-leksi*, they might throw; *pik'oi'ye-leksi*, they might crush; *ke'le-leksi*, they might eat; *ohupi'-leksi*, someone might dive; *mek'ō'l-leksi*, someone might wash.

41. *-ε'*, *-a'*, imperative singular. Possibly we are dealing here with the true stem vowel in certain cases. The universality, however, of *-ε'*, opposed as it is by *-i* and *-a* for the indefinite, makes it rather certain that it is felt as a true imperative. In only two cases was *-a'* found.

*t'u'mε'*, buy!; *meti'le'*, ring!; *map'ε'l-ε'*, roll!; *ho''-ε'*, bark!; *he'k'-ε'*, shave!; *cuka'l-ε'*, drag!; *la'l-a'*, die!; *mek-a''*, touch!

42. *-ti*, imperative singular. This is probably merely a secondary development of an old participial, absolute suffix, still used with that force. It is today, however, the common singular imperative affix and seems to be displacing *-ε'*.

*tsō''-ti*, pound!; *ohi'ts-ti*, pound!; *mapi'l-ti*, fill up!; *t'ai'ya-ti*, sing!; *ya'o-ti*, name!; *mawi''i-ti*, hang up!; *oka'p-ti*, tie!

43. *-la*, imperative singular. This is the continuative suffix *-l-* with *-a* imperative. Used mainly with neuter and semi-reflexive verbs.<sup>32</sup>

*male'u-la*, go!; *hnt'ō'-la*, sleep!; *hotamo'-la*, swim!; *pe''-la*, look!; *pi'he-la*, wait!; *huwe'li-la*, go back!; *pika'-la*, listen!

<sup>32</sup> They are probably all secondarily interpreted indefinites with continuative *-l-*.

44. *-ma, -mə*, progressive imperative. Generally used with verbs of the "progressive conjugation" but also sporadically.

mema'nu-ma, pick it up!; meyo'kə-mə, fly up!; hole'u-mə, run!; le'pu-mə, stand!; meka'lu-mə, pick up!; meka't'u-mə, pick up!; napico'la-ma, whisper!; te-awa'lu-mə, dodge!; pu'lu-mə, run away!; mat'u'yə-mə, have in hand!

45. *-mε*, permissive imperative. This is possibly but not very likely related to *-mi* of plural imperatives.

ts'e'ya-mε, well stop!; k'u'ε-mε, well run!; pa''-mε, well eat!; uk'k'i-mε, well drink!; hantco'el-mε, well dream!; yo'k'ι-mε, well stay!

46. *-kumi*, (dual? or) plural imperative. That *-mi* is plural seems clear, but the exact force of *-ku-* is not at all evident. It may be the dual *-ku-* or it may be the aspect suffix *-k<sup>v</sup>-* found in *-kele*. The texts give no definite clue. The first explanation is the more likely. There is, however, always the possibility open that the *-ku-* of *-kumi* is not identical with *-ke-* of *-kele*.

pa''elak-kumi, don't eat them!; le'ula-kumi, go (dual) and get her!; pe'hela-kumi, leave them alone!

47. *-lumi*, imperative plural. There seems to be no reason for doubting that *-lu-* is in origin the continuative-plural. Although *-lumi* is now used with many verbs that have no *-l-* increment in the future and past, there is little question but that this more general employment is a secondary development and that originally it was only found with such increment forms. Some of the examples in the text suggest that *-lumi* either implies a plural subject or a plural subject and plural object. A differentiation of such a nature is a striking feature of Southwestern Pomo.

In general it may be said that imperative singulars in *-ε'* take *-lumi*.

tewe'la-lumi, come back!; tse'i-lumi, stop!; te-amewi'le-lumi, tell me!; mateco'ε-lumi, come!; hel tetie'-lumi, bring light!; hawe'-lumi, stay here!; tai't-lumi, sing!; pa''ε-lume, eat!; k''uε-lume, run!; u'k'ι-lume, drink!

48. *-tumi*, imperative plural. *-tumi* may be analyzed as being in origin either increment *-te-* and imperative *-mi* or imperative singular *-ti-* and *-mi*. The former is by far the more likely for a number of reasons and *-tumi* may thus be considered as a formation analogous to *-lumi*. It is far more general than the latter, a development that was clearly hastened by the influence of the singular *-ti*. As in the case of *-lumi* the texts seem to indicate that *-tumi* implies singular subjects and plural object.

Practically all imperatives with singulars in *-ti* and many in *-ε'* take *-tumi*.

*tc-akε'ki-tumi*, throw it away!; *teno'ma-tumi*, come and live here! *k-a'm-tumi*, do!; *ye'ka-tumi*, get (some more)!; *mahe'ta-tumi*, go and pack it!; *tai'-tumi*, sing!; *hotca'-tumi*, divide it!

49. *-tulumi*, imperative plural. This is probably the singular imperative *-ti* and *-lumi*, and is possibly a recent formation. It seems to have the same significance as *-tumi*. One example was obtained in which it is used with the interrogative, thus suggesting that its force is not always felt as that of an imperative.

*ika'm-tlumi*, what are you going to do?; *mai'powe'l-tlumi*, wrap yourselves up!; *mai'osa'-tlumi*, cover yourselves!; *tai'-tlumi*, sing!; *paka-ti'lumi*, eat!

50. *-kulumi*, imperative plural. Evidently bears the same relation to *-kumi* that *-tlumi* does to *-lumi*. It is extremely rare: *le'ula-kulumi*, (many) get (many)!

51. *-hi*, interrogative, probably for non-past tenses.

*tco-iya'ki-hi*, can he go?; *kuiya'ki-hi*, can he run?; *okaliya'ki-hi*, can he talk; *mi onaoe-la'ki-hi*, didn't you see anyone?; *mitse'-hi*, is that you?; *nao'we'-hi*, don't (you) see it?

52. *-yo*, interrogative, probably for past tenses.

*inaota'-yo*, what did I see?; *ika'mta-yo*, what did I do?; *itsa''ta-yo*, what did I say?; *itsa''ce-yo*, what is he saying?

### §39. Voice

53. *-la*, medio-passive, semi-reflexive, idiomatic. Not related to *-l*, *-le* continuative, although some *-la* may be variants of *-le*.

*ca'ku-la*, it split; *hu'p-la*, it jumped out; *aonu'ha-la*, I've hidden it away; *nasu'ti-la*, to hold head in hands; *nahu'-la*, to lie; *mak'o'i-la*, to get up alone; *pici''u-la*, it is breezy; *pet'a'o-la*, to hold leg out; *panamu's-la*, to keep mouth closed; *nahe'tsi-la*, to kneel; *pamu'tsi-la*, to shut eyes; *hutsi''u-la*, to smile.

*hoka'ta-la*, he carries object in hand; *ak'u'wa-la*, I'm running; *a'hotco'ha-la*, I'm walking; *howa'la-la*, crawling; *aopu'lu-la*, I'm running away.

54. *-le*, passive and medio-passive. Generally found with *mε-*, *cε-*, *sε-*, *kε-*, *tε-*.

*a omali'he-le*, I was hit; *a ohe'ye-le*, I was rubbed; *a op'o'i-le*, I was kicked; *ahε'k'ε-le*, I was shaved; *hok-a'le-le*, it was stretched.

55. *-vki*, *-vke*, passive. That the passive force is not now inherent in *-k<sup>v</sup>* to any extent and certainly was not there originally but in the *-u-* vowel preceding it, is quite evident. *-k<sup>v</sup>* is however beginning to be regarded as passive in itself as evidenced by the number of verbs

with passive significance that appear without preceding -u-. -k<sup>v</sup> is probably identical with -ki past and is becoming identified with nominalizing -k. For the origin of -u- cf. §74.

teke'k'-uke, he was thrown; oku't-uke, (fire) was made; pite'k'-uke, he was tripped; one't-uki, it was caught; matsi'-uke, it was roasted; a mace'c-uki, I was hit.

opo'i-ke, he was kicked; mali''-ke, he was pushed; howai'-ke, it was forbidden; umewi'l-ke, he was told; a'tema'n-ke, I was brought home; mapo'n-ke, he was locked up; a'to'l-ke, he was killed; a'matsotol-ke, I was stuck.

56. -u-, passive and semi-passive base vowel. Cf. §74.

57. -mele, passive of known agent and idiomatic. In ordinary conversational Wappo -mele was consistently rendered as a passive of known agent, but in the texts its meaning proved to be far more generalized and vague. The parallel suffixes -cele, -sele, -kele, and -tele suggest that -me- is merely a variant of indefinite -mi. But if this is so we must imagine its fusion with -le to have taken place before -mi had developed into a specific tense suffix. -le is a variant of medio-passive -la and is identical with medio-passive -le. The passive base in -u- so extensively found with passive -k<sup>v</sup> and medio-passive -la, rarely occurs with -mele.

a' ota'tsi-mele, I'm going to be slapped by him; a' owa'ti-mele, I'm going to be hit by him; a' op-oi'-mele, I'm going to be kicked by him; oka't'-mele, it's being twisted by him; ots-u'-mele, it's being burned by him; mapa''-o-mele, it's being eaten by him; oka'p-u-mele, it's being tied by him; holi'-mele, they drove them around; ye''-mele, they're setting the trap; tcani'-mele, they're taking them out; ot'ai'-mele, they divided it; ot'ai'mele, they're singing; tc'o'c-mele, (they) put it in.

58. -sele, passive and medio-passive. The nature of the agent is not definitely indicated and a discrepancy between conversational and textual usage, such as held in the case of -mele, is not known. -ce- is to be taken as the durative-usitative and not as its specialized variant employed in the indefinite. The passive base vowel -u- frequently precedes it.

a' cuka'l-sele, I am being dragged; mehi'u-sele, he's being shaken; tu'c-usele, it was taken away; maka'l-usele, he was pulled in; mo'otcu'l-usele, turned over from side to side; t'a'pi-sele, (where) they were yelling; meko't-i-sele, tickling him; namo'i-sele, it itches.

59. -cele, passive, medio-passive, and idiomatic. The nature of the agent is not definitely indicated, and the medio-passive, semi-reflexive aspect is more prominently developed than the passive. -c<sup>v</sup>- is the durative-inchoative, not the indefinite tense, suffix.

mela''-cele, they're catching; t'o'lecele, they're catching; tema'n'-cele, bring clover for him; piwa'l-cele (they) were called; le'u-cele, they came after; mama'n'-cele, they took it home; a' ok'e'tc-cele, I was cut; tc'o'tc-cele, making baskets; te'tc'-ele (te'tc'-cele) open!; tet'o'l-cele-nomi, something to kill him with.

60. *-tele*, medio-passive, rarely passive. This is the increment *-te-* and the medio-passive *-le*. It does not occur frequently.

pine'a-tel-ela'ki, he doesn't catch; teheya'-tele, bring.

61. *-kele*, medio-passive, passive, and idiomatic. This *-ke* is one of the most puzzling elements in the language. It is not the inferential. It is most likely identical with the *-k<sup>v</sup>-* of unknown significance found in the texts and in some verbs before the increment *-te-* (hoku'i-k-teki, he bumped head).

tepica'is-kele, to embrace; hate'l-kele, it was known; tele'ula-kele, they came after them; memewi'ma-kele-tsel, then he took it; hok-a'l-kele, to stretch already; k'u'we-kele, to run already; hotco'hel-kele, to run already.

62. *-ukisi*, inferential passive. This suffix consists of passive base vowel *-u-*, *-ki-* inferential, and *-si* future. It is quite frequent in conversational Wappo but apparently rare in the texts. In intransitive verbs it also has a passive-inferential force.

hek'-u'kisi, he might be shaved; okap-u'kisi, it might be tied; a'oketc-u'kisi, I might be cut; mapo'n-okisi, he might be locked up; otap-u'kisi, he might be stabbed; meheh-u'kisi, he might be rubbed; mep-oi-o'kisi, he might be kicked; ok-u'y-ukisi, they might run after him (i.e., he might be run after); hole'w-ukisi, they might go hunting.

#### §40. Aspect

63. *-si*, general causative-indefinite tense. Probably to be analyzed as *-s-* causative and *-i* tense-aspect. It is an extremely puzzling suffix because it seems to appear only in the first person and to be used almost exclusively in the conjugation of adjectives in the positive and comparative degree and some verbs used reflexively. In the past it is employed quite regularly with all verbs (*-sta*). It is also clearly felt in the *-s-* of *-sa* causatives which are, like *-sta*, not restricted to any persons or verbs. All indications appear consequently to point to *-si* as the first person singular of a causative conjugation, used with adjectives and intransitive verbs. Cf. §75, 1d.

aotsa'tsu-si, I make it cold (mi otsa'tsu-ti, you make it cold); aco'iyos'i, I make it hot; atu'tce-si, I enlarge it; aku'taye-si, I make it smaller; aok'e'ni-si, I make it long; a-omi't-e-si, I make it shorter.

The past and future tenses of this causative are *-mes-ta* and *-mesisi*, although *-sta* is also found occasionally for the past.

64. *-sta*, *-ista*, general causative, past tense. It consists of *-s-* causative and *-ta* past tense generally used with transitive verbs. As causative past, however, it appears only with intransitives.

atehu'nto-ista, I made him sleep; atemeyo'kel-ista, I made him get up; atets'-u'tsi-sta, I made him sneeze; ateka'pik-ista, I made him cough; atek-a'ma-yista, I made him cry; ahuntco'-ista, I made him dream.

65. *-ti, -mi*, causative. Apparently second person singular, third person singular, and all persons in the plural. Cf. causative conjugation §75*d*.

66. *-sa*, causative-indefinite tense. It is used for all persons and is identical with the *-sa* of *-tasa*. Rarely found alone. *-sa* indefinite is probably the same element. Cf. discussion §75, 1.

atetco'pala-*sa*, I'm making him warm; atetco'ala-*sa*, I'm making him sick; at'ata-*sa*, he is leaching acorns (at'ata-*si*, at'ata-*tsta*, future, past); o't-a-*sa*, he sucks breast (o't-a-*si*, o't--*tsta*, future, past).

67. *-tasa, -tasi, -tista*, general causative-indefinite, future and past. The causative element is *-s-*. The explanation of *-ta-* entails great difficulties. It is possibly an old transitive suffix or merely *-t-* iterative-plural. Cf. discussion §84.

Verbs in *-l* and some others never take this causative.

In a number of verbs these causative suffixes have become idiomatically fused with the stem.

atehutsa'ta-*tasa*, I'm making him well; mapula'-*tasa*, he blows; t'o'l-*tasa*, he catches in net; co'i-*tasa*, he scorches; hoti'k-*tasa*, he splashed in water; atecomv'ko-*tsta*, I put him to bed; atekat-a'-*tsta*, I made him laugh; te'tseu-*tsta*, he made it drop off; a'tehutsate-ti'*sta*, I made him well; atehuk-i'ta-*tsta*, I made him drunk; a't'ata-ti'*sta*, he leached acorns; co'i-*tsta*, he scorched; hots-a'pi-*tsta*, he broke round object.

atehuk-i'ta-*tasi*, I'll make him drunk; o't--*asi* (o't-*tasi*), he will suck breast; oli'tsa-*tasi*, he will fill up; co'i-*tasi*, he will scorch; ku'pa-*tasi*, it will decayed; mahe'ti-*tasi*, he will carry; mapa'k-*tasi*, he will shoot through.

68. *-tasa*, in the act of, about to. This is possibly identical with causative *-tasa*, and subjunctive *-tasa*. However they may all be unrelated. Cf. discussion §75, 1*b*.

teale'i-*tasa*, I'm about cutting it off; teali'i-*tasa*, I'm about pushing it off; p'o'i-*tasa*, I'm about kicking it; mewi'-*tasa*, I'm about catching it; make'ki-*tasa*, I'm about throwing it; hosi'wela-*tasa*, they're about getting away.

69. *-ca*, inchoative indefinite. Most of the forms in *-ca* have *-c-* in the other tenses.

okelu'wa-*ca*, he gets lonesome; he'l-ε-*ca*, it steams; hu'ti-*ca*, he becomes crazy; hutsila''-*ca*, he becomes blind; ko'hə-*ca*, he becomes lame; nepu'ts-a-*ca*, it becomes full of blood.

70. *-ci*, inchoative imperative.

le'l-ci', turn into stone!; me'i-ci, turn into water!; mo'ta-ci, turn into a mountain!

71. *-l*, continuative. The rather complicated history of the continuatives is discussed in §78.

po'te-l, falling to pieces; mele'k'ε-l, to peep out; tsana'k-aε-l, to eat; tsanawi'kε-l, to eat; tsanapa''ε-l, to eat; huya'ko-l, to fly around; howa'le-l, to crawl; yiwv'-l, to race.



72. *-le*, continuative-plural. Identical with *-l* but probably belonging to a different period of the language.

nats'e'yε-le, they eat it up; nats'o'-le, to chew; ts'u'tε-le, they skinned; mo'tcule'le, turning over; k'a'ne-le, packing; ts'u'pε-le, to take in snare; tucu'yo-le, throwing it; tcō'sε-le, loving.

73. *-s-*, usitative-durative. One of the most frequent suffixes in the language and one that appears idiomatically fused to the verb-stem in numerous instances. The indefinites in *-s<sup>v</sup>* are special developments of it. It is rarely used, or perhaps better, rarely recognized in the indefinite and future. In the latter tense it would, of course, become assimilated with the *-si* of the future.

mana'o-s-ta, he showed him (na'o, to see); hatu'-s-ki, she knows (ha'ta, to know); oma'nu-s-ki, he held (ma'ni, to hold); lo'm-s-ki, he carried flat object (lom, to carry); kate'-s-ki, he carried long object (ka'ti, to carry); no'mu-s-ki, they lived (no'mi, to live); otsu'tsu-s-ta, he boiled it (tsi'tsi, to boil); tema'u'ku-s-ta, he gave her to drink; no'ku-s-ta, they made friends (nok, friend).

74. *-c-*, durative-inchoative. Whether this is a variant of *-s-* or vice versa is an open question. That it is identical with indefinites and inchoatives in *-c<sup>v</sup>* is manifest. Like *-s-* it is found idiomatically fused to verb-stems, although not so frequently.

no'mu-c-ki, they made a home (cf. no'mu-s-ki, they lived); tsutsu'-c-ki, he became a dog, metu'-c-ki, he held on tight, co'-c-ki, it got hot.

ε'la-c<sup>v</sup>, to get deep; onu'-c<sup>v</sup>, to be human; owi'-c, to put acorns in receptacle.

75. *-kε*, *-k-*, meaning unknown. This suffix is found only in texts and not only was its meaning quite unknown to my main informant, but he often regarded such forms as incorrect. It is possibly identical with petrified *-k* and with Yuki *-ak* which means a single activity. Occasionally it is found idiomatically fused with certain verb-stems.

tc-aka'luma-ke-kε, they took her out; ma'uku'yv-k-ti, they ran after him; huntco''o-k-ta, he dreamt; lalo-k-mε, to die; hopatc-a'ke-ku-si, will leave one another; ko'totu'oka'l-ke-tε, they told one another (dual); weṭa'le-k-ti, they dropped; tsele'-k-teki, he stayed behind; mesa tenat'o'o-ku-kwen, when they got there; kuku'i-k-tesu, he will bump head; mata'mo-k-mε, to fall on stomach; wi'-k-teki, to grab a person, they hung on; hona'nu-k-tesu, he will open (crack open); nuke'u-k-ti, they all fell in.

76. *-k<sup>v</sup>-*, inferential. This is apparently never found alone but always in composition with other elements. Cf. *-ukusi*, *-le-k*, *-mo-k*.

77. *-we*, meaning unknown. It is possibly a variant of *-ε-*, *-e-* found as sign of plurality of some verbs. Only a few instances were obtained, one of which however occurs frequently.

husi'-we, they speak; pela'-we, look!; ika'mti-we, do something.

78. *-ka*, discontinuous repetition. This is a variant of the stem for run, crawl, go, as some of the examples definitely indicate. It is very extensively used.

mawat-ka'-si, he hits intermittently; a'mapoi'-ka-ta, I kicked one after another; a'mahe'-ka-si, I will give it to one after another; hotse's-ka-ta, he swam from one place to another; nahe'wi-ka-ta, he jumped around.

ka'l-ka-ti, going and talking; tai''-ka-ti, going and singing; pa'-ka-'ti, going and eating; pa-ka'-tlumi, you (plural) go and eat!

#### §41. *Plurality*

79. *-l, -le*, plural. What appears to be the continuative suffix is also found as a true plural in some verbs. Its use in this way is not uncommon. In all probability it was at one period in the history of the language far more extensively employed than today. The increments in *-l, -le*, and the imperative plurals in *-lu-mi* distinctly point in this direction.

nako'te-l-ki, blossoms came out (nako'tki, singular); cute-l-ki, many fires went out (ocu'tita, sing.); wile'-l-ki, they are extended (wi'lki, sing.); tso'ye-l-ki, flat objects lie (tso'tki, sing.); hote'pe-l-ki, long objects lie (ote'puke, sing.); ne'he-l-ki, short objects lie (ne'ki, sing.); nata'me-l-ki, they lie on stomach (nata'm-ki, sing.); no'me-l-ki, they lived (no'm-ki, sing.); telipa'-l-uki, they were piled up (teli'pita, sing.); ku'he-l-ki, they stand (ku'ki, sing.); ko'ye-l-ki, round empty objects stand (ko'iki, sing.); cutne'-l-ki, they stoop (cut'nki, sing.); sutu'-l-ki, they stoop (sutu'ki, sing.); ku'he-l-ki, they stoop (ku'ki, sing.).

80. *-te*, plural. Identical with the iterative suffix. It is not found commonly in conversational Wappo, but appears quite often in the texts.

mai'otcai''i-te, they are lying coiled up; mo'l-te, they sweated; te-ahu'-te-ki, they came out; tema'n-te, (I) brought them (plural object); mahi'n-te, (how) can they reach (that place); oka'lke-te, (when) they speak; matco''-te, they went; mewai'-te-ki, they teach; memecu''-te, they grabbed them.

#### §42. *Absolute*

81. *-u, -i*, participial-absolute. *-u* is possibly identical with *u* past enclitic and *-i* with the indefinite suffix. The latter is not common but the former is fairly frequent and seems to have only a slight past significance.

pi'-u, picking; k-uwe'-u, running; okali'-u, talking; ts-e's'-u, swimming; otai''u, singing; kam'u, crying.

pi'l-i, snowing; mai'hope'l-i, rolling himself; k-o'm-i, boiling; tek-a'nel-i, packing.

82. *-ti*, participial-absolute. This is identical with the imperative *-ti*. It is exceedingly common in the texts in this participial usage.

ka't'a-ti, laughing, laughed; tɛp'e'na-ti, falling down; ca''i-ti, going out; tc-utsa'ta-ti, becoming well; uhopa't'ɛ-ti, making noise; pa''a-ti, burst; ma'ka-ti, raining; hok-u'wa-ti, running; mahe'u-ti, jumping in; teni'a-ti, going.

83. *-l*, participial-absolute. It is difficult to decide whether to interpret *-l* and the following *-k*, *-s*, and *-c* suffixes (84, 85, 86) as nominalized verbs or as secondarily developed absolute forms. They are possibly both, with the probability that in the main, *-l* alone excepted, they have arisen by analogy with nominal *-k*, *-c*, *-s* from the tense forms in *-k<sup>v</sup>*, *-c<sup>v</sup>*, *-s<sup>v</sup>*. For discussion cf. §80.

a' k-u'we-l huso'aki, I got tired running; a'ku'we-l tse''ta, I finished running; hotɛ'hɛ-l tse-ka ka't'ice, he laughed at his carrying him; k-a'le-l, carrying; hotco'-ho-l yaomi, he's going to begin to walk; tɛcat'a'ne-l, pulling off a point.

84. *-c*, participial-absolute. Cf. discussion §80.

k-ɔ'tɛ a'ka'ta, I heard it boiling; u'k'ɫ-c naoci, he sees him drinking; kɛ'lɫ-c wi'-ice mila''ki, are you not ashamed of fighting; omana'o-ɛ-laki, not seeing; pi'lماك-c tseti, where it is snowing; okelu'ɫ-c-tsel, when lonesome; mewɫ'lɫ-c tseta, there telling him.

85. *-s*, participial-absolute. Cf. discussion §80.

ɔ't'ɔ'pɫ-s, boiling: mi nol'ɛ'wi-s-la haci, you said you're not getting enough; meko'lɫ-s laki, (why) not washing him?

86. *-k*, participial-absolute. This is by far the most extensively used of the last four suffixes treated.

oka'lv-k tse'ta, he stopped talking; ok-ama-k tse'ta, he stopped crying; otco'ɫ-k tseta, he stopped walking; a' hɔl mai'-k una'oci, I see the tree standing; a' hɔl mɔ'kv-k na'oci, I see the tree lying; hunko'tɔlɔ-k k'a'ci, he heard him snoring; hot-ai'ɔ-k hotsai'use, he tried to sing; hopa'ɔ-k hotsai'use, he tried to eat; tse's-ɫ-k hotsai'use, he tried to swim.

### §43. Subordinating

87. *-wen*, *-kwen*, subordinating suffix, when. This is generally used for the past tense. It is probably the demonstrative pronoun and adverb *we* with an *-n* of unknown force. The *-k* is identical with *-k*- participial-absolute. It seems to be merely the past *-ki* with vowel omitted that has secondarily become identified or confused with nominal *-k* and perhaps, at times, with inferential *-k*.

mi met-a'ma-kwen, when you swam back; ina'o-kwen, when he saw me: ihuci'-iyɫ-kwen, when you were good; ɔnla'ki-wen, when no one is there; pa'ɔk tse'ta-wen, when they finished eating; mamenat'ɔ'-ɔ-kwen, when he got there; tɛ'hu ɔ't-ɔk tse'ta-wen, when he was finished sucking; mule'keta-wen, when he looked close; su'pi-kwen, when they pass; kuwe'-yao-wen, when I was going to run; tele'oma-wen, when they run.

88. *-tsel, -ktsel* subordinating suffix, when. Used for both present and past tenses. It is identical with *tsel*, then, there, which in turn is merely a variant of demonstrative *tse*, this, with demonstrative suffix *-l*.

*hope'hele-ktsel*, when he is looking around; *ts'e'te-ktsel*, when she finished; *nawi'-ktsel*, when he sees me; *mehi'wi-tsel*, when (I) shake it; *male'olek-tsel*, if you go after; *okelu'tc-tsel*, when (you) get lonesome; *itcoho'-tsel*, when I go again; *cu'ti-tsel*, when fire goes out; *muka-ya'o-tsel*, when I was going to lie down; *tc-aka'le-tsel*, when he pulled it out; *ye'mi-tsel*, when I set snares; *mehe'wi-tsel*, when one jumped up.

89. *-tse, -tseta, -ktseta*, subordinating suffix, where. This is really a postposition meaning "there" that is on the point of developing into a suffix.

*tehe'ta-ktseta*, where he had packed; *mewi'luc-tseta*, where he told him; *mesano'mayo-ktseta*, where they had slept; *p-ilma'kc-tseti*, where it was snowing; *tecu't-ktseta*, where they threw it; *teuyi'maiki tseta*, where the house was standing.

90. *-la*, subordinating suffix, if.

*t'o'lok ha'ko-la*, if (you) want to kill; *mi me't' yo'komok ho'ko-la*, if you want to fly up; *a't'o'lkak-la*, if I want to kill you; *a'towa'tikak-la*, if I want to hit him; *a'hoka'lkak-la*, if I want to talk; *ihte'imo-la*, when I sleep.

91. *-tu*, postposition and suffix, because. This is an adverb on the point of developing into a postposition and a suffix. Its original meaning is "there" but its secondary meaning of "because" is fairly common.

*ono'lus-tu*, because he got enough; *helu make'kita tu*, because he threw him in fire; *ont'o'he tu*, because he kills them.

92. *-noma, -knoma*, subordinating suffix and postposition, where. Not infrequently, in the texts, the nominal suffix *-noma* used in place-names, etc., is found with the secondary meaning of "where."

*ola'lehta-noma*, where dead people live; *teku'ise-noma*, where he had come in; *holco'ik-noma*, where log burnt up (place-name); *mai'hotco'hala-noma*, is this where one walks along?; *te ole'ok-noma*, where they're tied.

#### §44. Nominalization

93. *-ma*, nominalizing, instrumental suffix, for, by. It often has the force of the English infinitive. Probably both this suffix and noun-formative *-ma* are involved here.

*hoyo'k-el-ma*, for flying; *mak-e'l-ma*, to eat; *u'k'e-ma*, for drinking; *ontc-o'el-ma*, to kill them; *onv'k-ma*, for theft; *pa''e-ma*, for eating; *la'l-ka-me*, to die, for dying; *p'o'e-ma*, for smoking; *teke'te'e-ma*, for cutting; *me'o'ne-ma*, for digging; *ha't'a'e-ma*, for dividing.

94. *-nami, -noma*, instrumental suffix, with. Probably best translated by "wherewith." It is *-nom(a)* and instrumental *-i*.

*tet'o'lcele-nami*, something to kill him with; *t'ut'u'k-noma*, what they wrapped up with; *t'o'e-noma*, kills with that; *hosa'ho-nami*, what (I) cover myself with.

95. *-ka*, instrumental suffix, with, by: *met'api's-e-ka*, by yelling.

#### §§45-47. GENERAL MORPHOLOGY OF VERB

##### §45. Introduction

The Wappo verb presents an unusual amount of difficulty. Often it is quite impossible to determine where the stem ends and where formatives and affixes begin, and frequently enough when the stem is clearly differentiated, its exact form remains uncertain by reason of consonant and vowel changes to which it is subjected. We have consequently a double task, first the precise determination, as far as that is possible, of the verb-stem, and secondly, an orderly presentation of the various irregularities that have arisen.

After all functional and petrified suffixes and prefixes have been accounted for, the verb-stem appears in a form that is assuredly not original and yet defies further analysis. Stems of the type *c+v+c* approximate perhaps most closely to their original form, although here too an old terminal vowel may have been lost. The normal stems (*c+v+c+v*, *v+c+v*) have terminal vowels that are, in many cases, secondary. However the primary task is to decide which of the primary verb bases reflects the original quality of this vowel most accurately. On the whole it is best preserved in those futures that have not reduced all terminal vowels to secondary *-e*. It is also found in the indefinite, past, and imperative. Yet it seems doubtful whether, all in all, one can be reasonably certain of more than thirty per cent of the cases. The nature of the terminal vowel must therefore be left undetermined. Similarly in monosyllabic stems of the form *c+v* and *c+v+c*, where in obviously related verbs the vowel and occasionally the initial consonant varies, the true nature of the stem must also be left undetermined except that we may feel certain that the glottalized consonant and *-i* and *-u* are likely to be non-original. Pedantic as it may seem, if we wish to have regard for their historically older forms, all we have a right to predicate is the following: base with variable consonant+variable vowel, *c+variable vowel+c*, *c+v+c+variable vowel*. Probably when we know more about the other Yukian dialects and the other American Indian languages, particularly Penutian and Hokan, this may be remedied.

Whatever may have been their original form, today the verb-stems appear normally with a detachable prefix and one or more detachable suffixes. Furthermore the terminal vowel of the  $c+v+c+v$  type is often felt as a formative charged with aspect, modal, and voice significance. Deprived of its prefixes, formatives, and suffixes, the base contains frequently no very concrete meaning, although essentially predicating in connotation.

For various reasons discussed repeatedly, of a phonetic and morphological nature, the bases of the various tenses differ materially from each other and this has necessitated an artificial grouping of verbs into what we have called stem-formations. In addition we find the indefinite tense-aspect formed in a number of different ways, some of which are more or less definitely associated with certain types of future, past, and imperative. For the sake of bringing clarity here, even though it is fictitious, a grouping into classes has been devised based on the method of forming the indefinite.

Our treatment of the verb then will consist of the following sections:

1. Verb bases.
2. Tense-aspect roots (briefly tabulating the variability of the roots of some verbs).
3. Types of stem-formation.
4. Classes.
5. Formation of tenses, modes, voices, and aspects.
6. Absolute forms (participle, infinitive).

#### §46. *Verb Bases*

The vast majority of verb bases, and all tense-aspect and modal suffixes (the imperative occasionally excepted), end in vowels. This is not true of Yuki proper where we find at least half the verbs terminating in consonants. That Wappo represents the primary condition we have given evidence to show in another connection. However, the comparative ease with which so many terminal vowels disappeared in Yuki and the frequency with which they disappear in certain tense-aspects in Wappo, suggests that in addition to phonetic causes these vowels had, in the minds of the speakers, acquired a specific force permitting such loss. What this force was is not always clear, but in the main it seems to have been connected with the expression of mode, voice, and aspect. We may, I think, without running any great danger of being wrong, definitely claim that whatever the phonetic causes were that resulted in the development of the present terminal ablaut series, today we have in Wappo a definite vowel -i associated with intransitive,

impersonal, and inactive verbs; -a connected with transitive and active; -u with the passive; -i with the durative-usitative, and -a with the subjunctive.

So far, however, we have only considered the terminal vowels. But in Wappo we find, not infrequently, that changes in the vowel of the stem itself are correlated with changes in the meaning of certain verbs; that, for instance, durative, intensive, diminutive, and other activities are expressed by mutations in the initial consonant or the basic vowel of the stem. That these are not accidental is indicated by the fact that the consonantal change is from glottalized to unglottalized, from affricative to corresponding sibilant, from affricative to corresponding stop, etc., and that the vocalic shifts are consistently vowel to diphthong for intensive and vowel to -i for durative, etc.

It is certainly a significant fact that the terminal vowel ablaut is almost exclusively connected with voice and mode, and the consonantal and basic stem-vowel ablaut with the expression of aspect. There is some reason for believing the first type of ablaut (terminal vowel of disyllabic stems), to be a secondary Wappo trait not shared by Yukian in general,<sup>33</sup> but there seems no justification for so interpreting the second type. There are numerous indications in Yuki proper, for example the meaning of vowel-doubling, etc., suggesting that it is an old and fundamental Yukian trait.

In short, we may postulate at least eight bases: stem without a formative; active-transitive -a-; intransitive-impersonal -i; passive -u; durative -i; intensive diphthong; diminutive consonantal ablaut and subjunctive-hortatory -a. To these must then be added the so-called expanded, i.e., the increment, bases.

1. *Active-transitive, -a.*—Active and transitive does not perhaps completely define the force of this formative, for verbs in -a occur that cannot be brought under this rubric. Some of these are undoubtedly simply stems in -a, since not all verbs ending in -a have necessarily had their final vowel interpreted as active-transitive. Certain forms like *hopi'la*, it is full, as contrasted with *opi'l-mi*, to fill (transitive), present difficulties. Either -a has in addition to its active-transitive significance some other meaning not quite clear, or the -a of *hopila* is the petrified causative -a, the verb consequently meaning, to make it filled. The second is, I feel, the correct interpretation. In this case we are fortunate enough to know that *pil* is the stem. In such examples, however, as *ε'laca*, to dig deep, as contrasted with its related *o-ε'li*, to dig out, we are in no such advantageous position. *o-ε'li* is intransitive

<sup>33</sup> I personally believe that it is a fairly old trait of Yukian.

in form and meaning but *ε'laca* is transitive in form and not in meaning. Our difficulty is possibly more apparent than real for the translation may be at fault. The suffix *-c-* suggests that "to deepen" is perhaps a more correct translation. Similarly *ε'na-me*, be afraid, can perhaps better be rendered by "to fear someone." It seems consequently quite likely that *-a* has fairly universally become associated with a definite transitive-active connotation, the only exceptions being a few forms with petrified causative *-a*. We need not point out that this causative *-a* is itself of course in the nature of a transitive suffix. Indeed historically it is more than likely that it was just this causative *-a* that led to the interpretation of terminal *-a* as a transitive-active formation and to its subsequent extension.

One difficulty—inherent in many stems—is to determine what the terminal vowel really is. Here we shall be guided by the phonetic rules treated in §25–32 relating to the influence of the various tense-aspect suffixes and of the increments upon this vowel.

Let us first select a few examples that illustrate the force of *-a* beyond the slightest doubt.

*o'ta-sa*, suck breast, *o'ti-ci*, suck (intransitive); *oya'-la-ca* (\**oya*) move up and down (transitive), \**oyε* (intrans.); *ha'ta*, know (trans.), *ha'tu-ke*, be discovered (passive); *opu'ta-ki*, drink water (\**ta*), *ti'pce*, jump in water (\**ti*); *mata'li*, sprinkle (\**ta*), *hoti'kmi*, splash in water (\**ti*); (*me*)*wo'ya*, muss up (trans.); *owo'ye*, rub (intrans.); *mo'na-*, hide (trans.), *mo'ni*, hide (intrans.); *mahe'ta-se*, carry (trans.), *mahe'te-ske*, carry (intrans.).

*-a* with the same force also appears in the following:

*ε'la-ca*, get deep (deepen); *ε'na-me*, be afraid (fear); *oli'tsa*, fill up; *co'ita-sa*, scorch; *cu'lta-sa*, drop (trans.); *hoka'ta-la*, carry round objects; *homa'na-la*, possess; *homa'sa-sa*, miss; *huci'a*, like; *hune'na*, carry on head; *huna'ha*, carry on shoulders.

Unquestionably a large number of transitives with indefinites in *-i* and *-mi* belong here. In all these cases, as the other tenses and the imperative likewise show, original *-a* has been reduced to *-ε* or *-ι*.

That quite a number of transitives either have no vowel ending or other vowels than *-a* the dictionary clearly shows.

2. *Intransitive-impersonal -i*.—Clear-cut examples will be found under *-a* transitive. *-i* intransitive is often difficult to keep apart from *-i* durative and like *-a* is changed to other vowels particularly to *-ε* and *-ι*. All indefinites that change *-a* to *-i* are duratives although it does not follow that all stems that have *-i* in all the forms are intransitives.

*ik'ε*, pewk; *ho'ε*, bark; *ote'wt*, be dead; *hoka'ni*, run on four legs; *honats'a'ε*, yawn; *o'tsiti*, give birth; *o'micoi*, be hot; *oka'ti-mi*, hitch up; *hote'ht*, melt; *huci'i*, be alive.



In many cases where the verb seems fairly definitely to have an intransitive connotation or to imply impersonal agency we find the passive-semi-reflexive -u. This need not at all surprise us because first, the meaning is not very different and secondly, -u is one of the most active formatives in the language.

3. *Passive-semi-reflexive -u.*—All final vowels are fairly regularly changed to -u or -o for the passive when followed by passive -ki (with some exceptions), and frequently when followed by medio-passive and reflexive -la, and passive -mele, -sele, -cele.

teke'k'u-ke, he was thrown; oku'tu-ke, (fire) was made; one'tu-ki, it was caught; hek'u'-kisi, he might be shaved; oka'pu-kisi, it might be tied; mapo'no-kisi, he might be locked up; mepo'i-o-kisi, he might be kicked; ca'ku-la, it split; pet'a'ola, hold leg out; hutsi'u-la, he smiled; aopu'lu-la, I'm running away (pu'lala, he is running); mapa'o-mele, it is being eaten; oka'pu-mele, it is being tied; mehi'u-sele, it is being shaken; maka'lu-sele, he was pulled in.

Changes in the stem vowel itself are also found although rare.

te-pa'o-mi, drop from hand, tepe'nce, fall off; to'lke, be killed, ot'a'e, kill.

4. *Durative -i.*—This suffix and the intransitive and impersonal have probably often been confused but they are not identical. In the main it is the stem vowel itself that is changed to -i to express the durative. Such a mutation is rare for the intransitive. It is unquestionably the durative force of -ce (at times of -se), that has caused the change to -i in the indefinite. Examples follow:

(a) Change of stem vowel to -i:

pi', peck; pa'', eat.  
 wi-, grab; we'e-l, pull off.  
 a'pi-, carry a person; hu-pe'n, carry round object.  
 wi, carry dangling object; we', carry long object.  
 sil, peel off; col, cut off.  
 wihi'-se, discuss; -wai-, deliver a speech.  
 t'i'-i, hold in hand; ma-t'u'i, have in hand.  
 li'pi, pile up; le'pi, place.  
 wi, fight; o-wa'i, quarrel.

There are probably more. However suggestive and important this mutation of stem vowel may be historically it is not the usual method for expressing the durative today. That is done exclusively by the suffix -ce (occasionally -se), with frequent, but by no means universal, change of preceding vowel to -i.

(b) Change of terminal vowel to -i:

All the indefinites in -se and -ce with ablated vowel belong here:

oti'-se, drown (\*ota); t'api'-se, shout (\*t'apa); mvki'-se, lie (\*mvka), utsitsi'-ce, get dark (\*utsitsa), hutsati'-se, get well (\*hutsata); huye'ke-se, be glad (\*huyeka); kat'i'-se, twist (\*kat'a); k-upi'-se, be rotten (\*k-upa).

5. *Intensive (diphthongization)*.—The dictionary shows very clearly that at an older period of the language the stem vowel was lengthened to a diphthong to indicate intensity of action. The meaning of quick repetition also seems to enter into it.

ma-t'o'u, knock (touch repeatedly?), to, to touch; k'o'i, crushes, k-a, touch; hu-tce'u, be happy, glad, hu-ci'-se, like; op'e'i-, break (bone), op'i'-tci, break; p'ai-, crack acorns, pa''e, burst of itself; omē-wai'-i-te, deliver a speech, wi'hi-, discuss; ot'a'i-, go around, tcoi (tco), go; p'o'i, kick, pē-k, track.

6. *Diminutive (consonantal ablaut)*.—Here, as in the case of diphthongization, the dictionary shows a fair number of what are essentially diminutives, formed by change of consonant either from unglottalized to glottalized or from one sound to a related one (c>s, c>tc, t'>te, etc.). Like diphthongization it has long ceased to be functional.

tsi, sparks fly, teu, burn; ts'o'pi, bursts into small pieces, tca'pi, burst; mepi'-tce-ski, fold arms (hold arms together), pi'-caya, carry stick (hold-close); pi-k'o'-iye, crush, ka, touch; te'o'pe, cut off hair, t'o'pe, cut off; sul, peel off, cōl, cut; tco'o', fall down, tse'u, drop; t'u'l-i, fondle, to, touch; ca''e, go in quickly, tco, go; me-ca't'i, hold fingers entwined, na-su'ti, hold head in hand; tca'te, scrape with fingers, ts'u'te, scrape pan, cō'te, scrape with knife; k'o'tse (\*k'o) mash, ke''e, break; ma-tsu'k-u, squirt water, o-ci'k-te, sprinkle water.

7. *Miscellaneous activities (vocalic and consonantal ablaut)*.—In many cases stems are differentiated to indicate specialized meanings by means of vocalic and consonantal ablaut. As it was not possible to bring most of them under a single category, they have been grouped together here. They represent unquestionably the remnants of old aspects now functionless and quite forgotten.

ma-tcu'-, burn (trans.), cō'i-, burn (passive); tso'i, flat object lies, otc-u'l, lie on side; ma-hu', lie down, he'-k-i, flat object lies; ma-tsa'i, pour in, ma-tsu'le, pour water in; nale''ec-a, be angry, nale''ec-a, get angry; o-wō'-ce, break in two, ho-wa'-ce, break long object; me'sa-ki, bring (wild food), me'ca-ki, bring home; pa'ti, cut open, ts-a-pu't, cut off; pa''e, burst of itself, p'e'i, chop, break; pi'-yete, carry animals (dangling), u-ya'tc-, carry flat object; pi-ca'ya, carry stick in hand, pi-cu'te, carry short objects; ma-we', carry long object, me-wi'', carry something dangling; ho-ka'kai, crawl, ku'ye, run; ma-sa''-, cover up, sō'to-, cover entirely; tsi'pi, cut off, te'o'pe, cut off; o'te'-wi, be dead, t'o, kill; ts'ui, flay, tē-a-t'a'tu flay; omē-wai'-itē, deliver a speech, wō'ti- be garrulous; na-ha'p, dance up and down, o-hu'pi, dive (in water); huye'ka, be glad, haiya'ka, be glad; ca''e, go quickly, c'la, go in quickly; ma-li'pi, pile up, o-le'pi, place; ce', blow (of wind), teu't, blow away; me-tu'l-, catch with net, t'ol-, catch in net; tsu''u-, roast in ashes, ma-tsi'u-, roast on coals.

These are but some of the numerous examples to be found in the dictionary. That a series of gradations was originally indicated is definitely suggested by the different ablaut grades met with in the same stem. In most cases, of course, it has not been possible to obtain

translations of a sufficient degree of accuracy to show exactly what the nature of these semantic differentiations was.

A few examples must suffice:

ma-p-ε'li, roll; pame-pō'le, roll up; pame-pi'le, roll up.  
 cō'i, burn; tē-u, burn; ts-i, sparks fly.  
 ho-la'ε, crack; ts'u-le'-tce, cut; lat-, hit.  
 wi'hi, discuss; wai'ite, deliver speech; wō'ti, be garrulous.  
 ha-, say; hu-, say; ha'i-, say.  
 hu-ke'hi, shove; kō'-c, shove; ke'ya-, push to one side.  
 t'i'i, hold in hand; t'u'i, have in hand; o-ta'n, hold over coals; o-te'n, hand.  
 to, touch, t'ul-, fondle. t-a-, fondle.  
 ka, touch; huku'i-, bump head; -k'o'yε-, crush.  
 o-teo'', fall down; o-tsa'i-, tip it over; ma-tse'u-, drop.  
 tea'te, scrape with fingers; ts'u'te, scrape pan; cō'te, scrape with knife.  
 o-te-u'l, lie on one side; hu-si''le, lie on back; tsō'i, flat object lies.  
 ma-tsi'k, squirt water; ma-tsa'i, pour in (liquid?); ma-tsu'le, pour in water.

8. *Hortatory-subjunctive -a-*.—That the terminal vowel of all dissyllabic stems must change to -a- for the hortatory admits of no exception. The stem vowel of monosyllabic bases is apparently not effected. Whether the -a- that appears irregularly in subjunctive forms is identical with this hortatory -a- it is difficult to prove but this is extremely likely.

(a) Hortative:

tekuwa'yasi, let him run; itcoho'halasi, let me walk; tepa''asi, let him eat; temo'kasi, let him drink.

(b) Subjunctive:

tsete'tu tse'w-a-sa, that they ask him; tehes-a'-laki, if you don't give him; mo''omuy-a-lv'ktsel, when he disappears.

This -a- also appears in the subjunctive -ta-

tecote't-a-si, he might comb; ma'o'nt-a-si, it might get rotten; hot'a't-a-si, he might divide.

The t-a forms are not found in the texts often and the -a- subjunctive is on the whole not frequent. It would seem as if the subjunctive is indicated not so much by change of terminal vowel to -a- as by an irregular vocalic mutation. Cf. discussion §72.

9. *Expanded or increment bases*.—To the numerous changes in the nature of the base wrought by vocalic and consonantal ablaut we must add those transformations caused by the fusion of suffixes with the original verb-stem. As we have pointed out before these suffixes belong to distinct strata in the language. Some must have lost whatever meaning they possessed at an early period, others are only half understood and half functional today, while others are frequently used. As

in very many instances these formatives are so firmly fused with the stem that it is quite artificial to separate them, and as they have had, after all, a long independent history, we shall treat the forms possessing them as definite bases and call them expanded and increment forms.

Some of the suffix-formatives are fairly clear, e.g., -tɛ-, -ta-, -l, -c-, -s-; others moderately felt like -h<sup>v</sup>, -w<sup>v</sup>, -y<sup>v</sup>, etc., while a long series, the petrified suffixes, are quite vague. Examples will be found in the section on verbal suffixes (§34-64). Here only a few instances will be given:

tsa'i-, tip over, tsul, tsel, turn over; kas, ka'tt, wear, wear around neck; tɕɕ, tɕhi, tɕ'yi, put; tɕ'o'tɕ', tɕu-su'p, tɕ·ul, tɕ'ap-, ts'up-, take or related meanings.

The reason for the disappearance of the older method of forming aspects by vocalic and consonantal ablaut is to be ascribed to the development of a large number of suffixes with aspect significance, to the marked extension of such suffixes as the iterative and the continuative, and lastly, to the spread of the concept of tense. There seems little question that such suffixes as -s<sup>v</sup>, -c<sup>v</sup>, -mi, -ki did not originally have a predominatingly aspect connotation. The first three were probably plurals and the last simply the past tense. What seems to have taken place is the gradual transference to them of meanings inherent in the vowel of the base. In some cases, as in a number of indefinites in -s<sup>v</sup>, -c<sup>v</sup>, the old ablauted vowel was preserved. Generally it was lost. Perhaps the present development of the passive illustrates exactly what occurred. Although -u- is beyond the shadow of a doubt the sign of the passive and -ki merely the tense suffix, the idea of the passive is being transferred to -ki to such an extent that passives are now being formed without -u-.

It is just conceivable that some of the old ablauted bases have been preserved in the vowels of the indefinite suffixes for we have the series, -mi, -mɛ-, -ma; -sɛ-, -si, -sa; -cɛ-, -ci, -ca, and -i, -a, -ɛ.

#### §47. *Historical Discussion*

Today the old specific meanings of the nine bases are, with few exceptions, gone. Only the passive in -u- and the hortatory in -a- and a few of the expanded or increment forms have survived in any functional sense. They have all apparently had slightly different histories. The intensive and diminutive have simply increased the vocabulary. The same is true of the durative and to a lesser degree of the active and inactive. These last three, particularly the first, have survived

in certain of the tense-aspects. In large measure, however, the original changes that characterized all but some of the increment forms have been levelled down. The original, unchanged, and unincremented form, which apparently expressed single momentaneous activity, has lost that force and acquired an indefinite significance. The increment bases, especially those in *-tε*, *l-*, *-møk-*, *-lek-*, have become restricted to the future and past tenses.

A few irregularly distributed survivals of some of the intensive and diminutive forms occur, giving rise to peculiar forms for the passive, for the reflexive, for the transitive and intransitive, and even for certain tenses and modes.

#### §§48-50. VERBAL TENSE-ASPECT ROOTS

##### §48. *Wappo Verb Base from a Phonetic Viewpoint*

The Wappo verb base, as we have just seen, is from a phonetic viewpoint exceedingly variable, a variability due to both phonetic and morphological causes. In §§51-53 we shall group all the verbs in the language according to the nature of the differences between the various tense-aspect stems. Here we wish merely to present them in terms of the number of roots each verb shows, leaving aside, for the moment, the question whether they are primary or secondary.

Looked at in this way the verbs fall into three divisions: those that have but one root, i.e., show no change; those that have two roots; and those that have three. The first group need not detain us except to state that it contains, at most, forty percent of the verbs, possibly really not more than thirty per cent. The majority of the verbs belong to the second and third divisions. As many examples are given in the section on Types of Stem-Formation, I shall give here only enough to show the nature of the stem variability. I am not including the increments *-lek-* and *-møk-*.

##### §49. *Verbs with Three Roots*

*a's-a*, *a'sisi*, *a's-ta*, give (*a-i-v*<sup>34</sup>); *i'li*, *i'lesi*, *ilta*, bind (*i-ε-v*); *omiso'mci*, *omiso'mvci*, *omisomike*, become evening (*v-u-i*); *o-i'se*, *oye'lsi*, *o'ye*, move (*i-[y]el-ε*); *oli'tsmi*, *oli'tsa-tasi*, *oli'tse*, fill up (*v-a-ε*); *onana'pise*, *onana'pelsi*, *onana'piyel*, graze (*i-[ε]ll-yel*); *ot-a'pmi*, *ot-a'pesi*, *ot-a'pte*, stab (*v-ε-tε*); *otsø'kmi*, *otsø'kesi*, *otsø'kuta*, shove (*v-ε-u*); *ha'ε*, *ha'yesi*, *hai'yi*, say (*ε-ye-yi*); *hawi*, *hawesi*, *ha'ota* (*hawta*), pick up (*i-ε-v*); *hole'wi*, *hole'uta* (*holewta*), *hole*, hunt (*i-v-v*, the imperative loses *-w'*, the past *-ε*); *hukalice*, *huk'allesi*, *huka'le*, think (*i-el-ε*); *huke'hi*, *huke'hesi*, *huke'ta*, *huke'hel*, shove (this is a fourfold differentiation, *i-ε-v-l*); *husi'le*, *husi'huki*, *husi'hula*, lie on back (*lε-v-la*).

<sup>34</sup> *v* indicates loss of vowel.

With a few exceptions all these verbs really exhibit but two roots, for the third base is clearly due to slight phonetic variations and is so clearly bound up with the whole question of the nature of the final vowel of the indefinite, possibly being either the terminal vowel of the stem of a tense-aspect suffix or both, that no importance need be attached to this apparent triple change. The type of change met with in verbs possessing two roots is quite different, as we shall see.

#### §50. *Verbs with Two Roots*

ε'lice, ε'lteki, dig a hole (i-v [tε]); ε'lusa, elta, keep hold (u-v); ikapo'tuce, ikapo'telsi, bother (u-el); omima'kci, omima'kasi, rain (v-a); onu'cki, onu'ci, be human (v-i); o't'asa, o't'asta, suck breast (a-t); o't'ise, o't'aki, drown (i-a); o-ε'lta, o-ε'lε, dig out (v-ε); o-i'se, o'ye, move (v-ε [oy-se-oyε]); okε'laci, okε'luski, be lonesome (a-u); ola'tomi, ola'tesi, hit (o-ε [t]); omoti'se, omoti'ase, overflow (v-a); omv'kise, omv'kasi, lie (i-a); otc'o'me, otc'o'hasi, fall down (v-o); utu'ca, uto'ci, be deaf (u-oi); c't'sce, c't'selci, be wet (v-el); ho-ε'wiya, ho-ε'wusi, be ignorant of (i-u); hokakaiya, hokaketa, crawl (a [ai] -ε).

It will be noticed at once that all these changes are of two kinds, loss of vowel and change of vowel. Both are old traits of the language and of fundamental importance. Yuki also possesses them. As they are intimately connected with the formation of tense-aspect they will be found discussed in detail there.

We can now turn to the specific classification of the phonetic changes manifest in the different tense-aspect stems.

#### §§51-53. TYPES OF STEM-FORMATION

##### §51. *The Irregularity of the Wappo Verb*

The marked characteristic of the Wappo verb is, we have seen, its irregularity. In most cases it is extremely difficult to determine the exact verb-stem because of the numerous phonetic alterations that the various tense-modal bases have undergone. The nature of these changes is quite transparent. They are of a three-fold nature, loss of original vowel or syllable, mutation of original vowel, and insertion of an increment. The first two changes are confined mainly to the indefinite and preterit and the last to the future-preterit stem. If to the foregoing we add the influence of the tense-modal suffix upon the preceding terminal vowel of the stem, the secondary shifting of accent in some futures, and the mutation of the terminal vowel of stem for morphological purposes, some indication of the intricacy of the verbal system will be given. A few examples will perhaps make this clearer:

a's-a is the indefinite of the stem, to give. The preterit is a's-ta. One might therefore have assumed a stem a· or a's-a. The future and imperative however give us a's-i-si and a's-i'; a's-i unquestionably is the true stem.

ε'lice is the indefinite of the stem, to dig a hole, the future and past being ε'l-təsi and ε'l-tēki. Here obviously ε'li- of the indefinite is the stem. Our difficulties however begin as soon as we realize that -i is associated with the indefinite and the durative mode-aspect and that in another form of this verb o-ε'li (to dig) we have a future in o-ε'le-si and an imperative in o-ε'le'. Now as a rule the form of the unincremented future-imperative is closer to the original verb-stem than the indefinite and we might perhaps postulate \*εl as original or still better \*el. However in a clearly related stem o-i'se-mi (dig for water), which can be analyzed into o- prefix, -i- verb stem, -s- durative suffix, -ε either inorganic or reduced vowel of suffix, we have the stem appearing as \*i. Now all these changes, puzzling as they are at first, become intelligible as soon as we realize that the stem vowel of a verb is not infrequently changed to express different kinds of aspects and modes. Our quest for the original stem has clearly proved futile.

Let me give one more example: ɔ't-i-sε is the indefinite of the intransitive verb, to drown. The future and past are ɔ't-a-si, ɔ't-a-ki. The stem ought to be \*ɔt·a, because we know that -sε the indefinite-durative suffix can cause the change of original -a to durative -i. However the transitive form is ɔt-i-a'tε-ki, -a being an old causative increment and -tε- the frequentative increment. The stem itself is an old root for water and appears in numerous forms (ta, ti, tɔ, tu). In our particular case it is quite impossible to determine whether \*ɔti or \*ɔta is the stem. The chances are that it is \*ɔti because a number of futures have taken the hortatory base characterized by the vowel -a- when the indefinite ended in -i-sε to prevent the confusion of the two forms; secondly, only transitive-active verbs, in the main, use the -a base; and lastly, the causative increment -a is an old formation of the language and is likely to have preserved the older form of the stem.

The way out of our difficulty would be to regard all terminal vowels of disyllabic stems as true morphological elements. From one point of view this is correct. Wappo today certainly gives the impression of connecting terminal vowels with mode, voice, and aspect, and this has probably led, as much as any other cause, to a generalization of -i for indefinite, -ε for imperative, -u for passive. Historically, on the other hand, we must postulate the disyllabic stem formation (c+v +c+v) as representing a fairly old phase of the language.

To bring order into this maze of forms is not easy. Since the phonetic variations of the stem are due as much, if not more, to morphological considerations they should logically be treated together with the formation of tense, mode, voice, aspect. But this would result in a rather cumbrous and highly artificial arrangement. We have therefore decided to discuss the whole problem here phonetically, and since it is impossible to determine the verb-stem with any degree of exactness, to make our groupings dependent upon the relation of the future-preterit to the indefinite stem. In those cases where the preterit does not coincide with the future, special mention will be made in the respective sections.

Only the principal types are given. Since the arrangement is confessedly artificial and definitely circumscribed by our basis of comparison, some of the minor variations of the latter will not be given. They will however be found in the preceding section on Verb Bases.

In the table that follows, c=consonant, v=vowel, v<sup>v</sup>=diphthong, v<sup>'</sup>=accented vowel, v<sup>h</sup>=aspirated vowel, and v<sup>h</sup>=mutated vowel. The other letters have their literal meaning.

§52. *Table of Types of Stem-Formation*<sup>35</sup>

Type number	Formula of indefinite stem	Formula of future-past stem	Example of indefinite stem	Example of future-past stem
1	regular	regular	ləl-, dance	ləl
2	c+v	c+v+v	(hu)ci'-, like	(hu)ci'a-
	c+v+c	c+v+c+v	(o)li'ts-, fill up	(o)li'tsa-
3	c+v	c+v'	(ə)t-i'-, drown	(ə)t-a'-
4	c+v <sup>h</sup>	c+v+h+v	(ho)te'-, melt	(ho)te'hi
5	c+v+i	c+v+y+v	(ho)mu'i-, think	(ho)mu'yε-l-
6	c+v+u	c+v+w+v	(ma)li'u-, help	(ma)li'wa-
7	c+v+c	c+v+c+v+l	ci'ts-, be wet	ci'ts(ε)-l-
8	v+c+v	v+c+te	e'li-, dig hole	e'l-te-
9	v+c+v	v+c+v+ste	e'na-, be afraid	e'ne-ste-
10	c+v	c+v+kte	(hu)ku'i-, bump	(hu)ku'i-kte-
11	c+v+c	c+v+c+v+k	(o)tcu'l-, lie on side	(o)tcu'l(ε)-k-
12	c+v+c+v	c+v+c+v+lek	cutu'-, hang on	cutu'-lek-
13	c+v+c+v	c+v+c+v+mək	piti'-, take out of water	piti'-mək-
14	c+v	c+v+c	(no'a)t'a'-, have pleasant taste	(no'a)t'a'-c-
15	c+v+c+v	c+v+c+v+ts	həmi'-, pull	həme'-s-
16	c+v'+c+v	c+v+c+v'	(ome)tə'te-, touch	(ome)tə'te'-
17	c+v+c+v	c+v+c+ts	(ma)pa'ki-, shoot	(ma)pa'ktus-
		(past)		(past)

<sup>35</sup> Theoretically most stems appear in five forms: c+v, c+v<sup>v</sup>, c+v+c, c+v+c+v, v+v. Only the more characteristic are given in the formula of the indefinite stem. Examples of all the formulae will be found with each type.



### §53. Types of Stem-Formation

Of these seventeen types the first, the regular, is most frequent. Types 2, 3, 4 are, on the whole, rare; 5, 6, 7, 8, 9, 12, 13 fairly common; 10, 11, 14 extremely rare; and 15, 16, 17 not common.

How these types arose is fairly clear. The loss of vowel and mutation of vowel in the indefinite is due to the morphological significance of the suffixes of the indefinite, all of which refer to durative and progressive aspect. This has caused, on the one hand, the terminal stem vowel to change into durative -i and, on the other, the elision of old causative -a as redundant. That, in origin, the vocalic mutation was due to phonetic, specifically accentual conditions is quite plausible, even probable, but this vocalic instability was perpetuated and then extended because it had secondarily become associated with a specific morphological significance. Similarly, vocalic elision in the indefinite may have been caused originally by the influence of accent, or better, the preservation of the vowel in increment forms may be due to shift of accent. Its subsequent extension was due to the realization of the force of the indefinite suffix as progressive, durative, etc., so that the causative -a- was felt as redundant. The future and preterit suffixes referring only to tense proper are associated with no phonetic changes except an occasional loss of reduced -ε- or -ι- for the past. It is true that the preterit in -ki does, at times, round the preceding vowel, but this is due to the fact that it has become confused with the passive -ki which fairly regularly changes a terminal stem vowel to -o, -u, -a.

The second type of change, the insertion of increments in the future and preterit, and more irregularly in the imperative, is entirely morphological in origin. The only question to be answered here is why the indefinite stem does not possess them. Again this may possibly be explained by the influence of the suffixes of that tense-aspect, for these have essentially the same force as many of the increments. That at bottom it is the suffix that has been the obstacle to the extension of increments to the indefinite is proved by the fact that the moment these suffixes are omitted these increments can be and are employed. Indeed we may assume that in an older phase of the language, before the fusion of the indefinite stem with so many aspect suffixes, the indefinite (probably a true present tense at that time), did actually possess the increments -tε-, -l-, and possibly -m<sup>v</sup>-, for a fairly large number of verbs contain a petrified -t- and -l- that is certainly identical with increments -tε- and -l-. It is a notable fact that the vast majority of these verbs do not take the aspect suffixes (-mi, -se, -ce, -ya) in the indefinite but use the vowels (-i, -ε, -a) instead.

In general then it may be said that the absence of the increments (-tɛ, -l, -lɛ[k], -mɔ[k]) in the indefinite is secondary and that they lost them subsequently, just as they lost certain vowels. Two of the aspect suffixes, -s<sup>v</sup> and -c<sup>v</sup>, are still found frequently fused to the indefinite stem, and it is this fact that makes types 15 and 16 so rare.

With regard to the third type of change, the shift of accent in the future, this is definitely phonetic in origin and represents a type of change that was extended in order to avoid confusion with the indefinite which in all these cases ends in -s<sup>v</sup>. We shall see in the discussion of the future tense that three methods were adopted to prevent the future and indefinite of certain verbs from falling together; the one mentioned above, the use of -yaomi instead of -si, and the use of the hortatory -asi instead of the regular -esi. I am inclined to believe that -ɛ'si (shifted accent) is the oldest, and that it in reality does not at all represent a shifting of accent but a preservation of an original pitch accent. A satisfactory proof unfortunately cannot be given. At any rate we are in this instance concerned with a purely phonetic change that became significant and was extended because it served a definite morphological function.

We shall now turn to a discussion of the different types.

*Type 1.*—Fully fifty per cent of the verbs belong to this type. All the following stem forms are found: c+v, c+v<sup>v</sup>, c+v+c, c+v+c+v, v+v, v+c+v.

1. c+v.

ko''-ci, he boils	ko''-yaomi, ko''-ki, future, past
ta''-mi, he licks	ta''-si, ta''-ti, future, imperative
ce''-ce, (wind) blows	ce''-yaomi, ce''-i-ki, future, past
ka''-ci, he hears	ka''-si, ka''-ta, future, past

This group is not very common, is generally intransitive, and is found prevailing with -c<sup>v</sup> and -s<sup>v</sup> indefinites, occasionally with -mi. An inorganic -t- often occurs in the future.

2. c+v<sup>v</sup>.

ca''i-se, he jumps out	ca'ɛ'-si, ca''i-ki, future, past
cɔ'i-ce, it is burnt	cɔi-ya'omi, cɔ'i-ki, future, past
cu'i-mi, he throws	cu'i-si, cu'i-ta, future, past
k-u'i-se, he runs	k-u'e-si, k-u'e-ki, future, past
(ma)pɔ'i-mi, he kicks	(ma)pɔ't-si, (ma)pɔ't-ki, future, past
(mɛ)tca'i-mi, he rolls	(mɛ)tca'i-ti, (mɛ)tca'i-ti, future, imperative
na-u'-mi, he makes fun of	na'u-esi, na'u-ta, future, past

It is somewhat difficult to decide whether in these forms we are dealing with examples of a vowel elision that has become generalized for all tenses, in other words, instances of types 6 and 7 where -ɛ- has

been lost on the analogy of the indefinite, or with old diphthong stems connected with durative and semi-passive aspect. The second interpretation is by far the more likely. Whether however we are to regard these diphthongs as ultimately secondary in origin, i.e., consisting of stem vowel plus -i durative and -u semi-passive, or simply as vowel mutations to express aspect, must remain an open question.

3.  $c+v+c$ .

(o)l <sup>o</sup> 'l-mi, he dances	(o)l <sup>o</sup> 'l-esi, (o)l <sup>o</sup> 'l-ta, fut., past
(o)nt <sup>o</sup> 'c-mi, he turns in water	(o)nt <sup>o</sup> 'c-esi, (o)nt <sup>o</sup> 'c-ta, fut., past
(o)pt <sup>o</sup> 'l-mi, he fills	(o)pt <sup>o</sup> 'l-esi, (o)pt <sup>o</sup> 'l-ta, fut., past
(o)po <sup>o</sup> 'n-mi, he closes	(o)po <sup>o</sup> 'n-esi, (o)po <sup>o</sup> 'n-ta, fut., past
(o)ta <sup>o</sup> 'p-mi, he stabs	(o)ta <sup>o</sup> 'p-esi, (o)ta <sup>o</sup> 'p-ti, fut., past
(o)te <sup>o</sup> 'l-mi, he makes flat	(o)te <sup>o</sup> 'l-esi, (o)te <sup>o</sup> 'l-ti, fut., imp.
(o)wt <sup>o</sup> 'c-mi, he puts in receptacle	(o)wt <sup>o</sup> 'c-esi, (o)wt <sup>o</sup> 'c-ta, fut., past
ci <sup>o</sup> 'c-mi, he clears nose	ci <sup>o</sup> 'c-esi, ci <sup>o</sup> 'c-ta, future, past
(ma)tu <sup>o</sup> 'l-mi, he penetrates	(ma)tu <sup>o</sup> 'l-esi, (ma)tu <sup>o</sup> 'l-ti, fut., imp.

All the above forms either end in functional aspect suffixes (-c, -l) or in petrified suffixes (-n, -p); the latter however are rare. Are we to regard these forms, in consequence, as merely special developments of  $c+v$  formula or as verbs that have lost terminal vowel? The future has a weak vowel but all futures have such a vowel and in many cases it is inorganic. Having due regard to the meaning of the verbs of this class which is often strictly comparable to stems of  $c+v$  formula, they can be best understood as variants of  $c+v$  stem.

All these verbs seem to take their indefinite in -mi. This may be due to the fact that indefinites in -s<sup>v</sup> and -c<sup>v</sup> would merge with final -s and -c and would tend to develop a weak inorganic vowel after final -l, -n. On the other hand, -mi may have been preferred in order to prevent the confusion that would have resulted between the indefinite and the future had -s<sup>v</sup> or -c<sup>v</sup> been frequently suffixed. Some such phonetic-morphological reason has probably been at work, for the significance of the verbs themselves would not account for the preference of -mi.

4.  $c+v+c+v$ .

(o)ci <sup>o</sup> 'pi, he sews	(o)ci <sup>o</sup> 'pe-si, (o)ci <sup>o</sup> 'pe, fut., imp.
(o)cu <sup>o</sup> 'tu-mi, he extinguishes	(o)cu <sup>o</sup> 'tu-si, (o)cu <sup>o</sup> 'tu-ti, fut., imp.
(o)hi <sup>o</sup> 'pu-mi, he saves	(o)hi <sup>o</sup> 'pu-si, (o)hi <sup>o</sup> 'pi-ta, fut., past
(o)hi <sup>o</sup> 'li, he builds	(o)hi <sup>o</sup> 'le-si, (o)hi <sup>o</sup> 'le, fut., imp.
(o)ka <sup>o</sup> 'le-mi, he hangs	(o)ka <sup>o</sup> 'lu-si, (o)ka <sup>o</sup> 'lu-ta, fut., past
(o)ka <sup>o</sup> 'tu-mi, he hitches up	(o)ka <sup>o</sup> 'tu-si, (o)ka <sup>o</sup> 'tu-ta, fut., past
(o)ts <sup>o</sup> 'pu-ci, he paints red	(o)ts <sup>o</sup> 'p-yaomi, (o)ts <sup>o</sup> 'pu-ta, fut., past
(o)ya <sup>o</sup> 'la-sa, he moves up and down	(o)ya <sup>o</sup> 'la-si, future
(ho)k <sup>o</sup> 'e'tse, he cuts	(ho)k <sup>o</sup> 'e'tse-si, (ho)k <sup>o</sup> 'e'tse-ta, fut., past
(ho)ma <sup>o</sup> 's-a-sa, he misses	(ho)ma <sup>o</sup> 'sa-si, (ho)ma <sup>o</sup> 'sa-si', fut., imp.
ka <sup>o</sup> 't'a, it is mouldy	ka <sup>o</sup> 't'a-ci, ka <sup>o</sup> 't'a-ki, fut., past

Most of the verbs of type 1 belong to this group. In spite of their number, however, probably many are historically secondary in origin, consisting of an old monosyllabic stem (c+v) with the addition either of a petrified aspect suffix or of an aspect suffix still functional. The former, on the whole, decidedly predominate so that whatever may have been their ultimate origin, they are now felt as integral portions of the stem. This is further emphasized by the fact that vowels of various timbre always follow this apparently petrified or functional suffix and that when the tense-aspect affixes (-mi, -s<sup>v</sup>, -c<sup>v</sup>) are added it is always to the vowels. Of still greater importance is the fact that practically all the vowel thematic indefinites belong here and when it is remembered that one-sixth of all the verbs in the language form their indefinites in -i, whether we regard this -i as the mutated original vowel or not, we must, for all practical purposes, call it part of the stem. We may therefore confidently postulate stems of the form c+v+c+v for a very old period of the language. Some of these, many perhaps, are of great antiquity but secondary, others belong to the very oldest strata of Wappo and Yukian, for not all -l, -t, -p, etc., need necessarily be identical with old petrified or still functional suffixes nor need all -i represent mutated vowels. The existence of the stem form c+v+c+v is of far-reaching significance both for a proper understanding of the Yukian stock and for its relation to other languages and that is why we have given so much space to proving it.

It is noticeable that very few of these indefinites take -s<sup>v</sup> or -c<sup>v</sup> and also form regular futures and pasts. There are probably not more than half a dozen in the whole language. The reason is simple enough. The vast majority of indefinites of the form c+v+c+v have an irregular future-past, and since the increment future and increment past stems are connected with aspects, we have here an additional proof of the definitely felt force of -s<sup>v</sup> and -c<sup>v</sup>. This incidentally also indicates that -mi is not any longer felt to possess any meaning except that of an indefinite tense, an interpretation abundantly borne out in other ways.

5. v+v.

i'u-mi, he moves

i'u-si, i'u-ki, future, past

Only one example of this formula was found. However if we include those with irregular future-pasts the number can be slightly increased, e.g., a'o-, to be hidden, u'i-te, to be taken out. They are really stems consisting of a single vowel, the second vowel being of secondary origin. It is possible that they began with an initial h- now lost.

6.  $v+c+v$ .

a's·a, he gives	a'si-si, a'si·, future, imperative
ε'lu-sa, he keeps hold	ε'lu-si, future
i'li, he binds	i'le-si, future
o'ti-ci, he sucks	o'ti-si, o'ti-ta, future, past
(o)ε'li, he digs out	(o)ε'le-si, (o)ε'le, future, imperative
u'ye, he dips out	u'ye-si, future
(ma)'o'ni, he digs	(ma)'o'ne-si, (ma)'o'ne, future, imperative
(me)'u'ti, he puts on top	(me)'u'te-si, (me)'u'te-ta, future, past

Possibly a few more verbs of this form might be obtained from those beginning with initial prefix *o-* and from those with irregular future-past, but even then their number is inconsiderable. It is however quite likely that a number of verbs have lost an initial vowel so that it is probable that more examples of this form existed at a former time. On the other hand it is also conceivable that most of the verbs that originally possessed an initial vowel, now lost, belonged not to a  $v+c+v$  stem but to a  $v+c+v+c$  stem, of which there are at present no well-authenticated examples at all.

The distinct impression conveyed by the examples given above is that they are all secondary in origin, some being expansions of a single vowel stem, others developments of the forms  $v+c$  or  $c+v$ .

The very meager development of verbs beginning with a vowel seems to point to a fairly old tendency of Wappo to slur original vowels. This is apparently not a general Yukian trait because Yuki appears to have a considerable number of such verbs.

7. Trisyllabic stems ( $c+v+c+v+c$ ;  $v+c+v+c+v$ ).

u'tcuwa-ca, it gets dark (really)	u'tcuwa-ci, u'tcuwa-ske, fut., past
u'tcuwac-ca)	
(o)ci'kalt-k, he is stingy	(o)ci'kali-ce, fut.
(o)po'kel-sa, he wraps body	(o)po'kel-si, (o)po'kel-ta, fut., past
cate'l-ki, it is rough	cate'l-si, fut.
(ho)ka'lel-la, he keeps	(ho)ka'lel-si, (ho)ka'lel-ta, fut., past
la'lök-me, he dies	la'lök-se, la'lök-ta, fut., past
(mo)hu'lek-se, he peeps	(mo)hu'lek-usi, (mo)hu'lek-ta, fut., past
(te)we'lel-ce, he comes back	(te)we'lel-si, (te)we'lel-ki, fut., past
(tcoma)te'hel-se, he lets loose	(tcoma)te'hel-si, (tcoma)te'hel, fut., imp.
ts'o'lel-se, it wilts	ts'o'lel-si, ts'o'lel-ki, fut., past

If we include stems with irregular future-past, the number of verbs belonging to this group is really quite considerable. They are all, however, secondary expansions of the  $c+v+c+v$  formula as is quite evident from the frequency of *-l* as final consonant.

## 8. Irregular formations.

Two slight irregularities occur in verbs of type 1. The future of  $c+v+c$  forms have an inorganic *-ε* or *-i* after the last consonant and

the past in *-ta* frequently causes the elision of the terminal vowel of the stem. This is probably due to the ruling analogy of the increment forms in *-te-* and the influence of indefinites with elided vowels.

No additional examples of futures with inorganic vowel are needed. Many are quoted in the previous sections. A few instances of irregular pasts in *-ta* follow:

a's-ta, he gives	a's-a, a'si-si, indefinite, future
e'l-ta, he kept hold of	e'lu-sa, e'lu-si, indefinite, future
(o)e'l-ta, he dug out	(o)e'li, (o)e'le-si, indefinite, future
(o)ce'-ta, he guessed	(o)ce'ha-sa, (o)ce'ha-si, indefinite, future
(o)ci'p-ta, he sewed	(o)ci'pi, (o)ci'pe-si, indefinite, future

*Type 2.*—Only formula  $c+v+c+v$  and  $c+v+v$  occur.

(omi)so'm-ci, it becomes even- ing	(omi)so'mv-ci, (omi)so'mi-ki, fut., past
(o)li'ts-mi, he fills up	(o)li'tsa-tasi, (o)li'tsa-tasta, fut., past
(o)moti'-se, it overflows	(o)moti'-ase, (o)moti'a-ke, fut., past
u'k-ce, he drinks	u'ki-si, u'ki', fut., imp.
ci'ts-ce, it is wet	ci'tsel-si, ci'tsel-ki, fut., past
(ho)li'-mi, he drives animals	(ho)li'-esi, (ho)li'e, fut., imp.
(ho)ko'm-se, he thinks	(ho)ko'ma-si, (ho)ko'ma-ki, fut., past
(ho)ni'-se, he rides in boat	(ho)ni'e-lsi, (ho)ni'e-l, fut., imp.
(ho)so''-se, he is tired	(ho)so'a-si, (ho)so'a-ki, fut., past
(hu)ci'-se, he likes	(hu)ci'a-se, (hu)ci'a-ki, fut., past
(ma)me'-ce, he takes home	(ma)me'a-si, (ma)me'a-ki, fut., past
k-e'k-ce, he hates	k-e'ka-si, k-e'ka-ki, fut., past
(ma)ni''-se, he goes by boat	(ma)ni''a-si, (ma)nia''-ki, fut., past
(ma)pe'k-ce, he tracks	(ma)pe'ka-si, (ma)pe'ka-ki, fut., past
(me)tc'o'tc'-se, he is unwilling	(me)tc'o'tc'a-si, (me)tc'o'tc'a-ki, fut., past
mut'e'-se, it smoulders	mut'e'a-si, mut'e'a-ki, fut., past
mut'i'-mi, he lights	mut'i'e-si, mut'i'e, fut., imp.

Since many verbs of type 5, 6, and 7 really exhibit the same phenomenon they ought, strictly speaking, to be included here, thus making this the largest irregular group in the language.

If only a weak *-e* had been elided it might have been put down to a possible error in recording, but the elision of *-a* definitely excludes this possibility. The syncope of *-a* might be ascribed to the influence of the durative suffixes *-s<sup>v</sup>* and *-c<sup>v</sup>* as previously suggested. This would not however account for the loss of *-a* before *-mi* or that of *-e* before both. It is therefore probably more reasonable to assume that purely phonetic causes were at work and that the original *-a* of many indefinites became reduced to *-e* for accentual reasons and then disappeared entirely. The vast majority of indefinites that show syncope of vowel take *-s<sup>v</sup>* or *-c<sup>v</sup>*, only a very few having *-mi*.

That *-a* or *-e* are not part of the original stem wherever they occur as second members of a diphthong seems fairly certain. The meaning

of these verbs justifies us in regarding this -a and secondary -ε as the petrified causative suffix. Where however -a occurs alone (oli'ts-a, hokó'm-a, mapé'k-a, etc.), this explanation does not always hold. It may hold in the case of ma-pé'k-a, where -pε- is foot, -k petrified suffix, and -a petrified causative, but not for many others. The -a of oli'ts-a, hokó'm-a, is consequently to be regarded as original.

Related forms like honi'-ε-l and mani'-a indicate how easily -a lost its timbre. Indeed the change of a > ε and ε > a is one of the striking peculiarities of the language.

*Type 3.*—The vast majority have the stem formula c+v+c+v, a few v+c+v and c+v.

1. Indefinites in -s<sup>v</sup>, -c<sup>v</sup>.

o't-i-se, he drowns	o't-a-si, future
ti'ya-ca, he is thirsty	ti'yi-ci, future
t'a'pi-se, he shouts	t'a'pa-ki, past
(o)mv'ki-se, he lies	(o)mv'ka-si, future
u''kti-si, he is drunk	u''kta-si, future
u'tu-ca, he is deaf	u'to-ci, future
utsi'-tsi-ce, it gets dark	utsi'tca-si, future
he'wu-se, it grows	he'wa-si, future
hutsa'ti-se, he gets well	hutsa'ta-si, future
huye'ke-se, he is glad	huye'ka-si, future
ka't'i-se, he twists	ka't'a'-si, future
ka.'t'a-ce, he laughs	ka.'t'i-ce, future
k-u'pi-se, it is rotten	k-u'pa-ke, future
(ma)a'pō-se, he carries up	(ma)a'pa-si, future
ts'ilu'-ce, he is unwilling	ts'ila'-si, future
pti'-se, he takes	pta'-se, future
(te)lō-se, (fish) run	(te)la'-si, future
tce'te-se, he twists	tceta-'ja'si, future
(me)le'pi-se, he is exhausted	(me)le'pa-si, future
k'o'pi-ce, it thaws	k'o'pa-si, future

The past stem is identical with that of the future.

There can be no question but that the future in many of these cases contains the true, and the indefinite contains the mutated stem. This is shown by the unanimity with which the past agrees with the future. On the other hand phonetic considerations have, at times, led to secondary changes in the latter so that it can be said that this stem too does not correspond to the true root. Indefinites in -ca, for instance, seem to preserve original -a, the vowel of the future in these cases being reduced as in regular stems. Similarly the -i of u'tsitsi is original (u'tci, night). The original vowel of monosyllabic stems (o')ti, o'ta, (te)lō', (te)la' is probably preserved in neither form. Such variations as u'tu, u'toi, (te)lō', (te)la', and probably o't-i, o't-a, (ma)a'pō, (ma)a'pa

are all mutations of original vowel to indicate aspect, which have been secondarily preserved in the future.

Practically every vowel is found in the indefinite forms (a, ε, i, ə, u) and only two in the futures (a, ι). This greater variability of the indefinites we have seen is due to the preservation of original -a and original -ε. The -u in ts'i'l-u-εε he'w-u-εε is passive, and -i is the intransitive and durative formative.

## 2. Vowel mutation of indefinites in -mi of type 1.

I am mentioning them here again to point out briefly the difference between the pseudo-ablaut series found here and the true ablaut series found in type 3.

(mōna)cō'tu-mi, he pares off	(mōna)cō'tε-si, future
mō'nō-mi, he hides	mō'na-ki, past
mu'ku-ki, he lies	mu'ka-si, future
pa'lε-mi, he makes deer drive	pa'lε-si, future
patcō'to-mi, he wrinkles	patcō'tε-si, future

In all these cases purely phonetic considerations—the influence of m, k, u and ə—have given the unstable terminal vowel an -u, -o, -ə timbre. mu'k-u-ki, may however simply be the passive form of mu'ki-εε.

*Type 4.*—These are all secondary c+v+c+v stems although appearing in the indefinite as c+v.

(o)ha''-mi, he fans	(o)ha'hε-si, future
(o)hi''-mi, he buries	(o)hi'hε-si, future
(o)ke''-mi, he lies down	(o)ke'hε-si, future
(o)tco''-mε, he falls down	(o)tco'hε-si, future
(hu)na''-sε, he carries on shoulder	(hu)na'ha-si, future
ma''-sε, it smoulders	maha'-si, future
t'u''-ci, it leaks	t'u'hi-si, future

This is a fairly extensive group, in reality a special case of syncope of terminal vowel. The past behaves quite irregularly sometimes following the future, more often, however, the indefinite. Indefinites in -i, -a are absent.

For the most part it can be assumed that this -h<sup>v</sup>- is identical with petrified causative -a. The meaning of the verbs and the occurrence of the same stem, without -h<sup>v</sup>, seems to bear this out. This will not, however, account for all cases. For instance, ha'hε I prefer to regard as reduplication and in (hu)na'hε- it is actually the stem itself that is elided, \*hε being the root of the verb "to carry." -h<sup>v</sup>- seems to have been retained in a number of verbs, e.g.:

(tu)ke'hi, he rakes; nu'hε, he is jealous; (mε)ne'hε, he takes food out of ground; (ma)tco'hi-mi, he puts down; (ma)li'hi, he pokes; lu'hi, he plucks off; (hu)sō'hε-k, it is ended; (hu)cu'ha-ya, it steams; (hu)ke'hi, he shoves; (hopa)t'o'hε, he fights to kill; cε'ha-sa, he hits with arrow; (o)cε'ha-sa, he guesses.



Most of the examples with retained  $-h^v$ - have indefinites in thematic vowel, thus suggesting that  $-h^v$ - was regularly elided before the tense-aspect suffixes  $-mi$ ,  $-s^v$ ,  $-c^v$ . The reason for the behavior of the past tense  $-ta$  and  $-ki$  is not clear. Phonetically the problem had perhaps better be posited in another way, namely, not why the aspect indefinites and the past have elided  $-h^v$ - but why the future and imperative have preserved it, and this admits of an answer (§§68, 70, 71).

*Type 5.*—These are all  $c+v+c+v$  stems appearing as  $c+v^v$ .

1. Without increments.

(o)he'i, he sharpens	(o)he'yε-si, future
ha'i-cε, he shoots arrow	ha'iyε-si, future
ho'iyi, he cheats	ho'iyε-si, future
(ma)t-o'i-sε, he goes in water	(ma)t-o'ya-si, future
(mepi)ca'i-sε, he carries in arm	(mepi)ca'ya-si, future
(me)le't-si, he shoves	(me)le'iyε-si, future
(o)wə'ε-si, he rubs	(o)wə'yε-si, future
(ho)wa'i-sa, he forbids	(ho)wa'iyε-si, future

2. With increments.

(o)-i'-sε, he moves gently	(o)i'yel-si, future
(ho)mu'i-cε, he thinks	(ho)mu'yel-si, future
(ho)te'i-cε, he hovers	(ho)te'yel-si, future
(ma)mu'i-sε, he sinks	(ma)mu'yel-si, future
(me)tc'u'i-sε, he gets up from bed	(me)tc'u'yel-si, future
(na)mo'i-sε, it itches	(na)mo'iyel-si, future

We are dealing here apparently with the syncope of  $-ε$  and vocalization of  $y$  to  $i$ , to judge by the future and imperative. In all likelihood, however, the  $ε$  is merely reduced  $-a$ , preserved in a few futures, barring a few exceptions. This  $*-ya$  is the auxiliary verb "to go" that has become fused to many stems. In those cases where the future shows that we are dealing with a true diphthong this is to be regarded as a vowel mutation expressing aspect (hai, le-, wai-, moi-).

*Type 6.*—Only  $c+v+c+v$  occurs, although  $c+v^v$  in the indefinite in the form.

ci'u-mi, he whistles	ci'wɪ-si, future
hi'u-mi, he shakes	hiwe'ε-si, future
(home)le'u-si, he swings	(home)le'wɪ-si, future
(ma)ki'u-mi, he stretches	(ma)ki'wɪ-si, future
(ma)li'u-si, he comes and helps	(ma)li'wa-sε, future
(ma)t'o'u-mi, he knocks	(ma)t'o'we-si, future
(tε)li'u-sε, he pursues	(tε)li'wa-ki, future

This is not a numerous group, because most verbs in  $-w^v$  have thematic vowel indefinites. The elision of the vowel  $-ε$  (reduced  $-a$ ) and  $-a$  is again connected with the tense-aspect suffixes. The  $-w^v$  itself is unquestionably the petrified suffix  $-wa$ . The pasts in  $-ta$  are irregular

as in the  $c+v'$  and  $c+v+i$  forms, and the remarks made (types 3 and 5) apply here likewise.

*Type 7.*—Apparently the three forms of the stem found represented are  $c+v$ ,  $c+v+c$ , and  $c+v+c+v$ .

i-ka $\rho$ 'tu- $\epsilon\epsilon$ , he bothers	ika $\rho$ 'tel-si, future
kaw $\iota$ 'tu-ci, he gorges	kaw $\iota$ 'tel-si, future
( $\alpha$ )i'- $\epsilon\epsilon$ , he moves gently	( $\alpha$ )i'yel-si, future
(onana)pi'- $\epsilon\epsilon$ , he grazes	(onana)pe'l-si, future
ci'ts- $\epsilon\epsilon$ , he is wet	ci'tsel-si, future
ha'ta, he knows	ha'tel-si, future
ha'n- $\epsilon\epsilon$ , he groans	ha'nel-si, future
hunte $\rho$ '-me, he dreams	hunte $\rho$ 'hel-si, future
(ho)no'me- $\epsilon\epsilon$ , he travels	(ho)no'mel-si, future
(ho)mu'i- $\epsilon\epsilon$ , he thinks	(ho)mu'yel-si, future
(ho)ni'- $\epsilon\epsilon$ , he rides in boat	(ho)ni'el-si, future
hu'e- $\epsilon\epsilon$ , he teaches	hu'el-si, future
(hu)ka'li- $\epsilon\epsilon$ , he thinks	(hu)ka'lel-si, future
ko'te- $\epsilon\epsilon$ , he snores	ko'tel-si, future
k-u'-ki, he stands	ku'hel-si, future

Vowel-thematic indefinites are rare and it can be said that the characteristic indefinite is either  $-\epsilon\epsilon$  or  $-\epsilon$ . The  $-l-$  increment while devoid of any specific meaning now had unquestionably a plural force at one time, and some verbs still form their plural in this manner (cf. §85). There seems little doubt but that at one time  $-l-$  was as regularly suffixed to the indefinite as to the future and preterit but was then displaced by usitative and durative  $-\epsilon\epsilon$  and  $-\epsilon$  or lost entirely, just as it is practically slowly disappearing from the future-preterit. It is perhaps best preserved in the imperative where it was protected by the imperative plural suffix  $-mi$ . However, it is not infrequently preserved in the imperative singular even in cases where it is lost in the indefinite, future, and preterit.

$-l-$  regularly reduces the terminal vowel of the stem to  $-\epsilon$ .

*Type 8.*—In the main the formulae  $c+v$  and  $c+v+c+v$  are found.

k'i'ni, he opens	k'i'nte-si, future
k'o'yi, he kneads	k'oye'te-si, future
(ma)' $\alpha$ 'ni, he digs	(ma)' $\alpha$ 'nte-si, future
(ma)hi'n- $\epsilon\epsilon$ , he gets up	(ma)hi'nte-si, future
(ma)hu'- $\epsilon\epsilon$ , he goes in	(ma)hu'te-ki, past
(ma)hu'-mi, he bets	(ma)hu'te-si, future
(ma)ko'li, he roasts	(ma)ko'l-te-si, future
(ma)k-e'ke-mi, he throws	(ma)ke'kte-si, future
ma'me, he gambles	ma'mte-si, future
(mo)te'-mi, he dresses up	(mo)te'te-si, future
mu''- $\epsilon\epsilon$ , he gets stuck	mu''te-si, future
(na)ha'pi- $\epsilon\epsilon$ , he dances up and down	(na)ha'pite-si, future
(na)hi'li- $\epsilon\epsilon$ , he swings	(na)hi'lte-si, future
(na)ka'- $\epsilon\epsilon$ , he strikes with mouth	(na)ka'te- $\epsilon\epsilon$ , future

Of the increment forms *-te-* is by far the best preserved, owing undoubtedly to the influence of nominal plural *-te*. It occurs with indefinites of all types although *-ce* and *-se* predominate. Its original force, now entirely lost with those futures and preterits that take it regularly, was iterative and plural. As in the case of *-l-* it was certainly extensively used for the indefinite at one time, but was displaced by *-ce* and possibly by *-se*, or lost entirely as shown by the large proportion of thematic vowel indefinites.

With but a few exceptions *-te-* regularly causes the loss of terminal vowel of disyllabic stems (*c+v+c+v*).

As in the case of *-l-*, *-te-* is frequently preserved in both the imperative singular and plural. It is even possible that the imperative in *-ti* is really a variant of *-te-* (cf. §71). Even if *-ti* is unconnected, its generalization as the regular imperative singular suffix was quite likely due to the influence of this old *-te-*.

*Types 9, 10, 11.*—There are too few cases to determine whether any particular formula was more characteristic than another.

<i>é'na-me</i> , he is afraid	<i>é'nesté-si</i> , future
<i>hupi'kali</i> , he is sleepy	<i>hupi'kalesté-si</i> , future
<i>(ho)é'we-ce</i> , he is ignorant of	<i>(ho)é'wisté-si</i> , future
? <i>(ho)na'nu-ki</i> , it is open	<i>(ho)na'nu-kte-si</i> , future
<i>(hu)ku'i-ce</i> , he bumps his head	<i>(hu)ku'i-kte-si</i> , future
? <i>tse'l-ke</i> , he stays behind	<i>tse'lek-si</i> , future
<i>(tc·a)pi'ki-ya</i> , he pulls out	<i>(tc·a)pi'kək-si</i> , future
<i>ts'i'mi-yo</i> , he carries etc.	<i>ts'i'mik-yaomi</i> , future

The future-preterit is a secondary formation in all these cases. The *-s-* of *-ste* is of course durative. In all probability the indefinites of *é'na-me*, *hupi'kali*, and *ho-é'wu-ce* had an *-s-* which has either been lost or displaced.

The *-k-* of *-kte-* is petrified suffix *-k*, meaning unknown. However I place no great value on either the forms of types 10 or 11. They may be special forms and not really regular futures.

*Type 12.*—All formulae are represented: *c+v*, *c+v+c*, *c+v+c+v*, *c+v+v*. The frequency of *c+v+v* is quite striking. *c+v+c* is rare.

<i>(ho)pe''-se</i> , he looks around	<i>(ho)pe'helek-si</i> , future
<i>(ho)pi'li-ke</i> , it shakes	<i>(ho)pi'hilek-si</i> , future
<i>(hu)si''-le</i> , he lies on back	<i>(hu)si'hulek-si</i> , future
<i>(hu)tce'u-k</i> , he is glad	<i>(hu)tce'ulek-si</i> , future
<i>(hu)tsi'wi-ce</i> , he smiles	<i>(hu)tsi'wilek-si</i> , future
<i>(hu)wa'o-mi</i> , it sticks out	<i>(hu)wa'lek-si</i> , future
<i>k-é'li</i> , he eats mush	<i>k-é'lelek-si</i> , future
<i>le'pu-ki</i> , he stands	<i>le'pulek-si</i> , future

(ma)k'ó'i-sé, he gets close	(ma)k'ó'ilek-ta, past
(ma)pó'n-ki, it is locked up	(ma)pó'nlek-si, future
(me)ca't'í-ki, he holds fingers together	(me)ca't'ílek-si, future
(na)hé'tsi-cé, he kneels	(na)hé'tsilek-si, future
(na)su'ti-cé, he bows	(na)su'tílek-si, future
ne''-cé, he lies	nehé'lek-si, future
p'i'u-mi, he skins	p'i'ulek-si, future

-lek- has no influence upon the vowel of the stem in marked contrast to -l- and -te. Not only is the stem kept quite intact but indefinites in ' regularly expand to -hé-. The -k is inferential and the original force of -lek was probably conditional or subjunctive. The -k was unquestionably added after -l- had ceased to be suffixed to the indefinite. Why it has become the regular future-preterit of so many verbs is not at all clear. The best explanation is that it was at one time associated with indefinites in -lé-sé or lé-cé and, as it would have been difficult to keep it apart from the future, the regular future was displaced by the special future-conditional or subjunctive.

There is today no tendency for -lek- to be associated with any particular type of indefinite.

*Type 13.*—The formula is prevailingly  $c+v+c+v$ :

(ho)lé'i-ya, he runs	(ho)lé'omök-si, future
(me)lé'pi-ya, he gets up	(me)lé'pumök-si, future
(me)ma'ni-ya, he picks up	(me)ma'numök-ta, past
(ma)we'mi-ya, he picks up long object	(ma)we'mök-si, future
(me)ka'li-ya, he picks up	(me)ka'lmök-si, future
(me)ka't'i-ya, he picks up	(me)ka't'umök-si, future
(napi)có'li-ya, he whispers	(napi)có'limök-si, future
(tc-a)wa'li-ya, he dodges	(tc-a)wa'lumök-si, future

This form is strictly parallel to -lek-. -k is inferential. -mök is still extensively used. It has probably become idiomatically fused with the regular future of certain verbs for the same reasons as -lek-. The indefinites certainly once had -mó, thus making confusion with the future quite frequent. -(i)ya for these indefinites is secondary.

-mök probably has no influence upon the terminal vowel of the stem. If the future forms seem to indicate such an influence, this is due to the fact that the indefinites in -(i)ya, all have -i-, probably secondary in most cases. The stem as it appears in the future is nearer the true form than that of the indefinite.

*Type 14.*—There are too few instances to permit of any formulae being selected as dominant.

(nó'ó)t'ó'ó-mi, he fills up	(nó'ó)t'ó'óc-ki, past
(nó'ó)tc'ai'-i-cé, it has pleasant taste	(nó'ó)tc'ai'-iytc-ki, past
p'ti-ca, he has diarrhoea	p'ttc-ki, past
ti'ya-ca, he is thirsty	ti'ytc-ki, past

There is always the possibility that the pasts given are not the regular ones although a strong presumption exists that they are. That there ever were many verbs that showed this irregularity is doubtful for, in the main, verbs in -c- preserved the -c- in all forms.

*Type 15.*— $c+v+c+v$  and  $c+v+v$  are the prevailing formulae.

uka'ciya-ki, he is pretty	uka'ciyus-ki, past
uya'tca-si, he will carry	uya'tcus-ki, past
hi'na-sa, he gets there	hi'nus-ta, past
hə'mi, he pulls	həme's-ta, past
(hu)ci'ia-ke, he gets well	(hu)ci'-iyuc-ki, past
(ma)cə'iyā-sa, he makes hot	(ma)cə'iyas-ta, past
(mε)wi'ma, he goes along	(mε)wi's-ki, past
(na)'we'ya-sa, he comes around	(na)'we'yus-ta, past
tu'tsa-ci, he is large	tu'tsus-ki, past
(tc-a)le'i, he breaks	(tc-a)le'us-ta, past
we'ela-sa, he pulls off	we'els-ta, past

Some of these pasts are not the regular but the usitative pasts. The loss of -s- in the indefinite is probably just as rare as the loss of -c-.

*Type 16.*—The prevailing formula is naturally  $c+v+c+v$ . However  $c+v+c$  also occurs.

(ome)tə'tu-si, he touches	(o'mε)tote'si, future
cuka'lt-si, he drags	cukale'si, future
(home)pu'te-si, he stirs up	(ho'mε)pute'si, future
(home)te'l-si, he flattens	(ho'mε)tele'si, future
(home)tc'o'l-si, he knocks	(ho'mε)tc'ole'si, future
(o)wə'ε-si, he rubs	(o)wəye'si, future
(ho)pi'hi-si, he shakes	(ho')pihie'si, future
kə'c-si, he shoves	kəce'si, future
kə'tei-si, he tickles	kəte'e'si, future
k-ə'tse-ε, he creeps	k-ətsē'si, future
(me)sa'wi-si, he smooths	(me)sawē'si, future
(na)mv'tsu-si, he sharpens	(na)mutse'si, future
(na)mu't'ε-si, he sucks candy	(na)mut'ē'si, future
ya'el-si, he climbs	yaelē'si, future

The apparent shift of accent seems clearly due to necessity of keeping indefinite and future apart. Whether however "the shift" was originally developed for this particular purpose or whether—which is far more likely—it was formerly connected with all futures, it is, as before indicated, difficult to say. The forms ho'metelē'si, kəce'si, yaelē'si are of considerable interest, because the accented -ε- appears as secondary and inorganic. Certainly -tel- and yael never ended in a vowel. These forms definitely suggest that the future suffix is not -si but -vsi.

*Type 17.*—The few examples obtained are prevailing  $c+v+c$ .

o't-a-sa, he sucks breast	o'tis-ta (o'titusta), past
(o)li'ts-mi, he fills up	oli'tsats-ta, past
co'i-tasa, it scorches	co'its-ta, past
(ma)pa'k-i, he shoots through	(ma)pa'ktis-ta, past
(pa)tc'o'ta-sa, he frightens	(pa)tc'o'tis-ta, past
t'o'lta-sa, he catches in net	t'o'lts-ta, past

These verbs simply show how the causative conjugation has secondarily become the regular conjugation in a few instances. Of interest is the fact that while the past *-tusta* regularly appears, the present *-tasa* is at times dropped (oli'ts-mi, mapa'ki, o'tasa).

The above classification into seventeen types is one based on phonetic considerations. In order to understand fully the irregularities of the verb, another grouping is necessary, one based on the specific suffix used in the formation of the indefinite tense-aspect; and to this we shall now turn.

#### §§54-64. CLASSES

##### §54. Introduction

Wappo may be said to have eight, strictly speaking only six, conjugations or classes. While in one way any arrangement into classes is artificial, in another it seems to correspond to the historical fact that each independent tense-aspect was correlated with a different method of forming the future-past. Today this still holds for four of the groups. The original eight classes were probably the following:

	<i>Indefinite</i>	<i>Future</i>	<i>Past</i>
1	thematic vowel	-si	-ta, -ki
2	-mi	-lsi (?)	-lta, -lki (?)
3	-la, -li	-leksi	-lekta, -lekki (leki)
4	-ma, -mø	-møksi	-møkta, -møkki (møki)
5	-ca	-csi (si)	-cki, -cta
6	-ce	-tesi	-teki, -teta (ta)
7	-se	-ssi (si)	-sta, -ski
8	-ki	-si	-ki

Today 2 has become merged with 1; the future-past of 3 has lost special association with any particular indefinite suffix; 5 and 7 have, for the main part, become fused with 6 and 1; and the *-ma* indefinite of 4 has given place to *-ya*. We have thus really left four classes:

1. thematic vowel, -mi; -si; -ta, -ki.
2. -ce, -ca, -se; -tesi; -teki.
3. -ya; møkxi; -møkta.
4. -ki; -si; -ki.

I do not mean to imply that -mi forms do not at times take a future in -tesi, etc., for today everything is in a considerable state of flux, but a glance at the dictionary will show that this fourfold grouping does hold.

Let us now return to our original eight classes.

-mi probably lost its significance as aspect at a very early period and began to displace the thematic vowel indefinites. This must have occurred before the periphrastic class developed. Otherwise it would be difficult to understand why it did not fall together with -ma, -mɔ.

-la, while still surviving in some verbs, seems to have disappeared early, due probably to two factors, its erroneous analysis into -l plus vowel, which would place it in the first class, and the ease with which it was confused with the imperative and the semi-passive. The analysis into l plus vowel has given rise to the not infrequent disyllabic and trisyllabic stems in l plus ε. In the texts indefinites in -li are not uncommon.

By this loss of specific reference to certain classes the -l- and -lek- increment futures and pasts became free to associate themselves with any of the indefinites.

What may possibly also have led to the loss of -la is the increment -lek- itself. This is composed of -lε- and -k inferential and is today still extensively used as a subjunctive. -la never had this force.

-ma, -mɔ has held its own much better than -la. It probably gave way to -ya because like -la it could be confused with so many other suffixes that were phonetically identical.

-ca was probably always rare. It is the inchoative suffix. On the other hand that it too was felt as c plus vowel and thus often confused with conjugation l, I have little doubt.

-cε is not to be confused with -ca. It is an entirely different element, namely the durative-usitative suffix. This is a very old class, probably as old as the disappearance of the -tε- in the indefinite.

-sε like -la seems to have been analyzed into s plus vowel and brought into class l. The large number of stems in -s suggests this very definitely.

For -ki indefinite two explanations are possible, either the indefinite forms have been lost or it has been incorrectly analyzed into stem plus ki instead of into a k- auslaut stem with thematic vowel, thus making it originally identical with the first class. I strongly incline to the second interpretation, for the disappearance of the indefinite tense is not very likely to have occurred often.

Turning now to the question of the best practical method of presentation of the many irregularities, we have for the sake of clarity made a grouping into eight classes, each class having a number of sub-types. They are not real conjugations as the original eight classes were.

## §55. Class 1

Subtype	Indefinite	Future	Past	Imperative
1	-mi	-si	-ta	-ti
2	-mi	-si	-ta	-ε
3	-mi	-si	-ki	_____
4	-mi	-tesi	-teki	-te
5	-mi	-stesi	-steki	-ste
6	-mi	-elsi	-teki (?)	-l
7	-mi	-leksi	-lekta	-ε, -le (?)

## §56. Class 2

Subtype	Indefinite	Future	Past	Imperative
1	-i	-si	-ta	-ε
2	-ε	-si	-ta	-ti
3	-a	-si	-ta	-i
4	-a	-ci	-ski	-i
5	-i	-si	-sta	-ε
6	-i	-tesi	-teki	(-te)
7	-i	-leksi	-ki	_____

## §57. Class 3

Subtype	Indefinite	Future	Past	Imperative
1	-se, -sa	-si	-ta	-ε
2	-se, -sa	-si	-ki	ε (?)
3	-se	-elsi	-elki	-ε
4	-se	-moksi	-mokta	_____
5	-sa	-s-i	-sta	-i (-si)

## §58. Class 4

Subtype	Indefinite	Future	Past	Imperative
1	-ce	-si	-ta	-ti
2	-ce	-ci	-ki	_____
3	-ce	-tesi	-teki	_____
4	-ce	-elsi	-elki, -elta	_____
5	-ce	-leksi	-lekta	_____
6	-ci	-si	-ki	_____
7	-ci	-si	-ta	-i
8	-ca	-ci	-cki	_____
9	-ca	-ci	-ta	_____

## §59. Class 5

Subtype	Indefinite	Future	Past	Imperative
1	-ya	-si	-ki	-mō
2	(i)ya	-moksi	-mokta	(-mō)



## §60. Class 6

Subtype	Indefinite	Future	Past	Imperative
1	-ki	-si	-ki	-i
2	-ki	-tesi	-ki	_____
3	-ki	-leksi	-ki	_____

## §61. Class 7

Subtype	Indefinite	Future	Past	Imperative
1	-ma	-si	-sta	_____
2	-mo	-tusi	-ta	_____
3	-mo	-moksi	,-mokta	-ε

## §62. Class 8

Subtype	Indefinite	Future	Past	Imperative
1	-la, -le	-lsi	-ta	-i
2	-la	-si (-se)	?	-ti

## §63. Subtypes

These eight classes are found distributed among the seventeen types of stem-formation in the following fashion. Class 1 is found mainly in type 1, with a few examples in types 2-6, absent in type 16, and exceedingly rare in the others. Class 2 is fairly common in types 1 and 5, absent in types 2 and 16, very rare in 3, 4, 5, 6, rare in 7-17. Class 3 is common in types 1, 3, 4, 5, 6; uncommon in 2; and rare in the others. Class 4 is exceedingly common in types 7-17 and frequent in all the others. Class 5 occurs in all types except 3 and 16. Naturally all the increment types except -møk- are excluded. Class 6 is common in type 1 and rather rare in all the others. It does not occur at all in types 2, 3, 5, and 7-17.

The present distribution of verbs among the eight classes gives 234 for class 1, 164 for class 2, 146 for class 3, 209 for class 4, 123 (provisional) for class 5, 34 for class 6, and the remaining 58 (?) for classes 7 and 8. It therefore cannot be said that of the four main classes any one is really dominant. My impression is that classes 1 and 4 are displacing the others, that in class 2 the indefinite tense is developing into a participial-absolute form, that class 3 is disappearing, and that classes 5 and 6 are being extended.

*Class 1. Subtypes 1 and 2.*—Subtype 1 represents the strictly regular method of conjugation. Some of these verbs can also take a past in -ki, i.e., they still preserve what was probably the old distinction between -ta and -ki, simple past and responsive past. The imperative is always -ti.

The only difference between subtype 1 and 2 is in the imperative. Here subtype 2 is older. It is not very common.

Examples,<sup>36</sup> subtype 1:

ocu'tumi, extinguish fire; oha'mi, fan; ohi'mi, bury; oka'lemi, hang.

Examples, subtype 2:

oi'semi, dig for water; oli'tsmi, fill up; ot-a'pmi, stab; ho'limi, drive animals.

*Subtype 3.*—These form their parts in -ki. The imperative is uncertain but probably -ti. This -ki today has become associated with intransitive and neuter verbs, with passives, and with transitives without object. It is probably for some such reason that -ki has displaced -ta entirely. Verbs like ho'ts'ami, kill, ho'ts-apumi, break, used intransitively, either use another verb for the transitive (t'o'ta, he killed) or a special construction like the causative (hots-a'pitusta, he broke). Not many verbs belong to this group.

hots-a'pumi, break round object; ho'ts-ami, kill; otc'o'me, fall down; hoki'tumi, turn around.

*Subtypes 4-7.*—Only comparatively few verbs are found here for class 1 is, on the whole, not addicted to increment expansions of stem even secondarily except -c- and -s-.

ko'mi, put beads on; ku'pmi, soak; mahu'mi, bet; napi'cu'mi, rub sticks; e'name, be afraid.

hunteo'me, dream; huwa'omi, stick out; p'i'umi, skin; no'o't'oomi, fill up; ho'mi, pull.

The imperative is irregular, sometimes having -ti and sometimes the future-past base, very rarely -e.

*Class 2. Subtype 1.*—The indefinite is probably a present tense-ending fused with an original terminal vowel. -ki is practically never used even to form a secondary past tense, its place being taken by a rather recent formation, the proclitic *u*. Imperatives are always -e.

i'li, bind; o-e'li, dig out; oci'pi, sew; ohe'i, sharpen; ohi'li, build.

*Subtype 2.*—This is a rare but extremely interesting group. The indefinite is apparently the stem, very likely with reduced terminal vowel. Probably to avoid confusion, the imperative suffixed -ti, -i, or was entirely irregular. It forms no -ki pasts.

opa't'e, shout; oto'he, kill (with irregular imperative); ha'e, say (irregular imperative); ho'e, bark; hoka'le, stretch.

*Subtypes 3 and 4.*—Indefinites in -a are very rare today and extremely irregular. They were clearly more frequent at one time, to judge from

<sup>36</sup> I only give the indefinite. The other tenses will be found in the dictionary.

the fairly large number of -la, -sa, -ca forms where the -a of the suffix is the same element. Like -ε it is probably the original terminal vowel of the stem. Why the imperative should be -i, especially when this gives rise to homonyms with the future, is not clear. -ta is generally the past, -ki occurring sporadically.

a's'a (a's-sa?), give; ha'ta, know; ka't'a, be mouldy; me'wōya, muss up; ta''osa, tell untruth; mai''oket-a, be lean.

*Subtypes 5, 6, 7.*—These are as rare as the increment forms in class 1. -tε- of course takes a past in -ki but strangely enough -lek- also appears with a past in -ki. The imperatives are irregular.

oka'li, talk; cu'tui, hang on; hō'mi, pull; k-ε'li, eat mush; k'i'ni, open; k'o'yi, knead.

*Class 3. Subtypes 1 and 2.*—We find here the same division as in class 1, subtypes 1 and 2, a fairly large class that only take a past in -ta or in -ta and -ki, and an equally large class that take a past in -ki. The imperative in subtype 1 is -ε and in subtype 2 uncertain but probably -ε. Apparently no example of -ti imperative is found. The verbs with -ki past are practically universally intransitive. The indefinite in -sa, with old -a, probably preserved to avoid confusion with future.

Examples, subtype 1:

cu'kalusi, drag; homepu'tsi, stir up; homete'lsi, flatten; home-te'ō'lsi, knock; hopi'hisi, shake; hopi'hiwesi, squeak; oce'hasa, guess; ce'hasa, hit with arrow.

Examples, subtype 2:

ot'i'se, drown (intransitive); oha'wesi, bet; omoti'se, overflow; omu'kise, lie; opu'tcisi, break; u''kūtsi, be drunk; ome'isa, be wet.

*Subtypes 3, 4, and 5.*—Increment futures and pasts are not rare in this group although limited to -el- and -s- in the main. The important -tε- and -lek- increments are entirely absent with few exceptions. -mōk- is quite uncommon. The latter might perhaps best be regarded as a variety of class 2, subtypes 3 and 4. It is characterized by the imperative in -i and its identity form with the future.

ō'ise, move gently; onana'pise, graze; hi'nasa, get there; hōnō'mese, travel; homa's-asa, miss; honi'se, ride in boat; hope'se, look around; huna-tsa'se, yawn; mepu'lsi, bubble; pika'hasa, squeak; pitsa'pise, mash.

*Class 4. Subtypes 1 and 2.*—Neither of these types is very common, for class 4 is preeminently the "increment" group. These are probably all verbs that have but recently been included in this class owing to the extension of -ε. They probably belonged to class 2 formerly.

## Examples, subtype 1:

otsa'ice, tip over; u'kece, drink; ha'ice, shoot arrow; howa'lee, wish for.

## Examples, subtype 2:

oka'ce, answer; ce''ce (wind) blows; co'ice, be burnt; hote''-ce, melt.

*Subtype 3.*—This subtype really represents an old conjugation-class. Most of the verbs with future-past increments in *-te-* belong here. The past is *-ki* in all cases, *-ta* having contracted with *-te-* and then lost. While the imperative in *-te* is still preserved in some cases, it is in the main on the verge of extinction. Apparently it could not compete with imperative *-ti*.

ε'lice, dig hole; i'wuce, move; hi'uce, rock; hæ'wuce, be ignorant of; hoka'nice, carry round objects; huku'ice, bump head; ko''ce, get hurt.

*Subtypes 4 and 5.*—Future increments in *-el-* are probably as frequent as those in *-te-*. *-lek-*, likewise, is not uncommon, for class 4 has attracted to itself all the increments except *-møk*. Subtype 4 has both *-ki* and *-ta* in the past although the latter is rare. The imperatives are uncertain. However both *-l* and *-la* are not infrequently found.

## Examples, subtype 4:

ci'tscee, be wet; ha'nce, groan; hankø'tecee, snore; homu'ice, think; hote'ice, hover; huka'lice, think.

## Examples, subtype 5:

ote-u'lee, lie on one's side; ha'kuce, be hungry; hutsi'wice, smile; nahe'tsice, kneel.

*Subtypes 6 and 7.*—Two distinct suffixes are involved here, *-ci* variant of *-ce* corresponding to *-se*, *-si*, *-ε*, *-i*, and *-ci* inchoative (rare). *-ki* appears as the past of most verbs. The imperative is irregular and uncertain.

ote'wici, be dead; ohu'puci, dive in water; otsi'puci, paint red; ka''ci, hear; ke'leci, be ashamed; ko''ci, boil; kø'leci, flow down.

*Subtypes 8 and 9.*—Here again we have two distinct suffixes, *-ca* analogous to *-sa*, *-a* (rare) and *-ca* inchoative. The latter always has a past in *-ki* (*cki*), the former in *-ta*. The imperatives are uncertain.

ε'laca, get deep; omico'iyaca, be hot; omø-u'tcuwa'ca, get dark; okε'l-aca, be dumb; u'tuca, be deaf; ka'laca, ache; ku''ca, stink; nale''eca, be angry.

*Class 5. Subtypes 1 and 2.*—Subtype 1 is not uncommon and is irregular. It is difficult to decide whether the future-past has lost its increment *-møk-* or whether it never had it. *-ki* appears as the past, *-ta*

being rare. The imperative is -mǝ. Subtype 2 is the remnant of the old conjugation-class 4, the indefinite in -ma having been displaced by -(i)ya. The imperative is irregular.

Examples, subtype 1:

omanǝts'ε'wiya, be afraid; ho-ε'wiya, be ignorant of; hoka'kaiya, crawl; hucu'haiya, steam; pu'liya, run away.

Examples, subtype 2:

mawε'miya, pick up long object; mele'piya, get up; mema'niya, pick up; meka'liya, pick up; meka't'iyā, pick up; tc-āpi'kiya (irregular future); tc-āwa'liya, dodge.

*Class 6. Subtype 1.*—This class and all its subtypes have only intransitive and semi-passive verbs. The imperative is uncertain but generally -i. The future and imperative thus frequently fall together.

ǝ'nεki, be human; ǝtka'lεk(i), be stingy; oli'tεaki, be full; ca'telki, be rough.

*Subtypes 2 and 3.*—Both subtypes are irregular because one would naturally expect -tεki and -lεkta in the past. The imperative is uncertain. Neither type is numerous, but -lεk- is far commoner than -tε-. It contains some of the most important verbs in the language.

ca'siki, sit down; cu'tunki, stoop; hǝ'l-ki, stand; hona'nυk(i), be open; husǝ'hǝk(i), be ended; k-u'ki, stand; lε'puki, stand; picu'uki, be cool.

*Class 7. Subtypes 1 and 2.*—These are both rare and unimportant groups, quite irregular and fragmentary. The -ma, -mǝ indefinite is not to be regarded as a variant of -mi but a secondary recrudescence of -mǝ.

oka'ma, inform; ǝtε'mǝ, spread; mewi'ma, go along.

*Subtype 3.*—The imperative excepted, this is the old conjugation-class 4 that has survived with a few verbs.

ce'p'uma, limp along; hoku'yuma, dive around.

*Class 8. Subtypes 1 and 2.*—These are both fragmentary and irregular types exceedingly rare. The first is possibly the remnant of the old conjugation-class 3. I am not including verb-stems in terminal -l (c+v+c+v+c) although they possibly belong here (hoka'lεla, hoka'tala, homa'nala).

okalai'yεle, crawl; li'pele, kill many.

§64. *Verbs with Double Forms for Tenses, etc.*

Forming a class by themselves are a number of verbs that allow of more than one method of forming the different tense-aspects and imperative. Extreme irregularity exists here and the various doublets require separate explanations. That the same verb should have both -ki and -ta in the past is merely the persistence of a trait that at one time all verbs shared. That however a verb should have two ways of forming the singular imperative, that the indefinite should end in both a vowel and -mi, is a morphological phenomenon of an entirely different order. That, finally, the same verbs should possess a simple and an increment future and past, can be explained either on the assumption that they have preserved an old characteristic once common to all verbs, or that the increment forms are being displaced by the simple ones.

As we have evidence (sometimes unfortunately not quite clear), indicating the former existence and present persistence of two forms for each tense-aspect—a responsive and a direct—we must try to separate these from the others. As far as could be ascertained these are -ta direct-past, -ki responsive past; -si direct future, -yaomi and possibly -l- increments, responsive futures. For the independent tense-aspect no difference exists. Barring these, the doublets are to be interpreted as secondary extensions of one or the other suffix and as representing the first stages of the displacement of one by the other. Where -ti and -ε imperative exist, -ti is the secondary extension; where -mi and thematic vowel indefinite are found, -mi is secondary; where -mi and -ce, -se or -ya are encountered in the indefinite the latter are secondary; where increment and non-increment forms exist side by side (-lek- and -mæk- excluded), the former are primary.

1. *Verbs with doublet indefinites.*

ci'umi, ci'we, whistle; ok'ə'ci, ok'ə'atasi, k'ə'tasi, boil (the last two forms are causatives); omanots'ε'wuce, omanots'ε'wiya, be afraid; honə'mese, honə'mala, travel; hotə'kse, hotə'kala, float; ma'nsi, ma'nala, carry flat object; mame'ce, mame'sa, take home; mapika'ce, mapika'hasa, creak; matə'yese, matə'yala, wade; mepu'lsi, mepu'laiya, mepu'lmi, be full; mə'n-ε, mə'nomi, hide; te-api'imi, te-api'ici, take out; ts'ε'se, ts'ε'sasa, bathe; te-oho'tseli, te-oho'tsesi, turn over; tse'we, tse'usa, ask.

It is easy enough to see what the difference in meaning originally was, except in the case of -mi and thematic vowel indefinites. Today, however, only -la, -ya and, at times, -se have a distinct force. The preceding examples also give a fairly reliable indication of the manner in which -ε(si) is displacing the other suffixes.

### 2. Verbs with doublet pasts.

cuka'l-ta, cuka'lki, drag; casi'ta, casi'ki, sit down; cuka'pta, cuka'pki, tumble off; hunteo'ta, hunteo'helki, dream; hots-a'pki, hots-ap'ttsta, break round object; kakima'kusta, kakima'ke, hail; ka't'aki, ka't'icki, be mouldy; k-u'ki, k-u'helki, k-u'helekta, run; le'puki, le'pelki, stand; ma'wita, ma'wiski, hang up; muso'ta, muso'ki, be at end; metsa'pta, metsa'pki, grab; pitso'weke, pitso'waista, be stained; temecu'tita, temecu'telki, grab; ta'k-eki, ta'k-aista, itch; to't'iki, to't'elki, lie rotting; tu'tsaki, tu'tsuki, be large; t'o'lteki, t'o'ltusta, catch in net; t-ute'ta, tutehe'lki, forget; tse'wki, tse'usta, ask; tsotse'lta, tsotse'lki, tip over; ?pe'tsoki, pe'tsolekta, shine (the first form is probably indefinite, the second past); tse'lke, tse'lekta, stay behind; tcu'huki, tcu'hitsta, blow away; ikapo'teta, ikapo'telke, bother.

The possibility of double formations in the past, considering the large number of existing increments, many of which are still functional, is of course greater than in the indefinite. In many of the examples there is likewise a perceptible degree of difference in meaning. This applies particularly to the -s- forms ma'wita, ma'wiski; ta'k-eki, ta'kaista; tu'tsaki, tu'tsuki; tse'wki, tse'usta). The distinction between non-increment and -l- increment forms, we have seen, is possibly that between direct and responsive; and the difference between non-increment and -lek- increment, while lost now, can easily be imagined, namely the contrast of simple with the inferential-conditional past. pe'tsoki, pe'tsolekta is very significant, for if the first is felt today as simply the indefinite, it suggests what is normal enough in the history of language, a secondary differentiation of what were felt to be identical forms.

The complete absence of doublets in -teki and -mokta is rather surprising. It is to be explained unquestionably by the fact that -te- has retained a good deal of its old iterative-plural force and would therefore not appear in the singular of non-increment forms and that -mok- still keeps its definitely progressive significance. The causative (-tusta) is really a method of forming transitives from intransitives.

### 3. Verbs with doublet futures.

o-ka'leksi, oka'luleksi, crawl; oke'tsi, oke'ttsi, feather arrow; oko'hési, oko'hete'si, fasten; hoki'tési, hoki'telsi, turn around; hope'hési, hope'heleksi, watch over; ku'pisi, ku'ptési, soak; ku'pase, ku'patasi, be decayed; k-a'lesi, k-a'ltesi, pull; k-e'lesi, k-e'leleksi, eat mush; k'i'nesi, k'i'ntési, open; k'o'yési, k'o'yetsi, knead; ma'ttasi, ma'hasi, burn low; mai'mepi'yahasi, mai'mepi'yahatesi, go past; ma'ónesi, ma'ónntési, dig; mako'lesi, mako'ltesi, roast in oven; ma'k-ekesi, ma'k-ektesi, throw; panak'a'ési, panak'a'tési, bite; picu'hasi, picu'tési, carry short objects; pi'uwesi, pi'uleksi, skin; t'ai'yési, t'ai'yasi, sell; tsaki'ltesi, tsaki'ltesi, untie.

The vast majority of these have -tesi as one of the doublet forms, in direct contrast to the past. The best explanation for this marked

survival of what is possibly the increment *-te-*, is its secondary interpretation as a subjunctive or a conditional future. As such it is extensively used in conversational Wappo and it is perhaps more correct to regard these *-esi*, *-tesi* doublets as really fairly distinct in meaning. *-lek-* has likewise developed (or retained?) a subjunctive force.

4. *Verbs with doublet imperatives.*

*mawa'lti*, *mawa'le*, climb; *meyo'teti*, *meyo'tce*, jerk.

5. *Verbs with doublet formations for more than one tense-aspect.*

? *ohe'yesi*, *ohe'tusi* (?) (future) *ohe'ita*, *ohe'ytista* (past) sharpen; *hopi'helsi*, *ho'pihileksi* (future) *hopi'lake*, *hopi'leta* (past) roll up; *huka'lelsi*, *huka'lte'si* (future) *huka'le*, *huka'ltasi* (imperative) think; *ke''esi*, *ke''etesi* (future) *ke''eta*, *ke''eki*, *ke''eteki* (past) break; *k-u'helsi*, *k-u'heleksi* (future) *k-u'ki*, *k-u'helekti* (past) stand; *maki'umi*, *maki'wumi* (indefinite) *maki'wisi*, *maki'witesi* (future) *maki'uta*, *maki'wita* (past) stretch; *malo'masi*, *malo'mtesi* (future) *malo'mlaki*, *malo'meski* (past) put in sack; *ma'nsi*, *ma'nala* (indefinite) *ma'nsi*, *ma'nelsi* (future) *ma'n-ta*, *ma'nuski* (past) carry; *mecu'tesi*, *mecu'telsi* (future) *mecu'teki*, *mecu'telki* (past) grab; *mo'nce*, *mo'nomi* (indefinite) *mo'nasi*, *mo'nusi* (future) hide; *monaco'tesi*, *monaco'telsi* (future) *monaco'telki*, *monaco't-ta* (past) pare off; *t'i'tesi*, *t'i'lkisi* (future) *t'i'-tski*, *t'i'-lkta* (past) hold in hand; *tc-ake'n-mi*, *tc-ake'ni* (indefinite) *tc-ake'nusi*, *tc-ake'ntesi* (future) peel skin; *wilelsi*, *wi'teleksi* (future) *wi'lelki*, *wi'lki* (past) object lies extended.

§§65-69. FORMATION OF TENSE

§65. *Introduction*

Wappo seems originally to have possessed an indefinite tense, a future, and two pasts. This gives us then:

Indefinite	-i (-a, -ε).
Future	-si (-ʷsi).
Past	-ta, -ki.

A certain significance attaches to this duplication because of the repeated insistence by my informant upon two forms for each tense, one used in a general statement, the other in what he called "answer to a question," i.e., a responsive. Such responsive forms occur in some American languages (Salish, Central Wintun, Southwestern Pomo) and have probably been overlooked in others. I suspect that some other meaning is or was at one time connected with this responsive—namely, presence and absence. Unfortunately either this responsive is very irregular and passing out of existence, or my interpreter could not explain the matter adequately—the fact remains that there were numerous contradictions. What seems to be reasonably clear is that *-ta* was often used as direct-past, *-ki* responsive-past, *-si* direct-future.



-yaomi (a periphrastic form) responsive-future. The indefinite which has a vague present-momentaneous connotation would naturally have only one form.

Now the first question that presents itself is this: If the responsive (or whatever was its former meaning), is an old trait why is it connected with a secondary and late formation of the future -yaomi? If -yaomi has displaced an older formation is there any trace of it today? The hortatory -a- immediately occurs to one's mind. Many things speak in favor of this -a- (really a petrified ablauted terminal vowel), being an old responsive. First, some responsives are formed by ablaut and secondly -a- with the meaning of hortatory-subjunctive impresses one as secondary.

The second point concerns the history of -ta and -ki. -ta is unknown in Yuki proper. It is common enough in many Indian languages. -ki appears in Yuki as a present and verbalizer of adjective stems. This latter function is also characteristic of its force in Wappo. However it is also quite likely that there are two -ki, one a general verbalizer, the other a past tense.<sup>37</sup> The Yuki forms for the past are -wi-(u) ordinary and -wic (obviously related to -wi), completed past. As two forms for the future occur, -pa future and -mik immediate futurity or future intent, one is tempted to equate them with the Wappo responsive formations. However until more information upon Coast Yuki and Huchnom is forthcoming this would be too hazardous.

#### §66. *Indefinite Tense*

Here we are only concerned with the indefinite as it occurs today. There are as we have seen ten methods of forming it:

1. Vowel theme, -a, -ε.
2. -mi (-mε).
3. -se, -si, -sa.
4. -cε, -ci, -ca.
5. -(i)ya, -(a)ya.
6. -ki.
7. -mɔ, -ma.
8. -la, -le, -li.
9. Double formations.
10. Irregular formations.

<sup>37</sup> Ultimately probably nothing to do with past specifically but referring to indirect, invisible activity.

1. *Vowel themes*.—Indefinites in vowel theme (-i, -a, -ε) present considerable difficulty. The vowel is clearly not a tense formative but part of the stem. On the other hand it is obviously not the original vowel. As practically all verbs in -i (-si, -mi) are transitive-active, those in -a (-sa), causative, and those in -ε (-sε, -cε), intransitive-neuter, we may confidently assume that these vowels are essentially modal-aspect formatives. Indefinites in -a and -ε are rare, the vast majority ending in -i. Why, it may therefore be asked, has -i been preserved and -a, -ε lost? The answer is comparatively simple. -i was preserved because it contained a vowel that contrasted with the regular imperative stem -ε.

It is extremely important to remember that the vowels of the suffixes (-mi, -si, -sε, -sa -cε, -ci) are identical with the -i, -a, -ε indefinites and that the terminal vowel of stems taking -mi, -s<sup>v</sup>, -c<sup>v</sup>, -ya undergo fairly extensive changes.

Examples will be found in §53. Only a few will be given here.

k-u'yi, he puts on; mali'hi, he pokes; mako'li, he roasts in oven; ma'mε, he gambles; hopats-ε'li, he turns around; mewo'ya, he musses it up; nu'he, he is jealous; nu'he, he robs (intransitive); pek-a'ohe, he slips.

2. *-mi, -mε*.—It is probably cognate with Yuki -am, -yam implying continuative habitual activity and consequently being merely a variant of collective -am. It might also possibly be equated with -mi of Wappo plural imperatives. -mε passive contains this same suffix.

In the overwhelming majority of cases -mi occurs only with transitive verbs, but the idea of transitivity is contained in the -i not in the -m-. The variant -mε is extremely rare and is suffixed to the intransitive. -m<sup>v</sup> frequently rounds the vowel preceding it. Not infrequently it occurs with a syncopated base. For examples cf. §53.

3. *-si, -sa, -sε*.—This is to be analyzed into -s- durative and -i, -a, -ε transitive, causative-transitive, and intransitive respectively. -s<sup>v</sup> has no influence upon preceding vowel, but owing to its durative force it is at times found with durative and with syncopated base. Examples will be found in §53. The contrast in force of -si, -sa, -sε is seen in the following forms:

cuka'lt-si, he drags it; ε'lu-sa, he keeps hold of it; omv'ki-sε, he lies.

4. *-ci, -ca, -cε*.—Here we have formations analogous to the preceding, -ε- being the usitative-durative followed by modal-aspect -i, -a, -ε. Both -ci and -ca have however developed the secondary meaning of "become" and in the large majority of the cases appear with that meaning. Cf. examples §53.

omik-ε'uci, it becomes daylight; omiso'mci, it becomes evening; omv-u'tcuwa-ca, it becomes dark; ε'la-ca, it gets deep.

-ci has preserved its original usitative-transitive force in

o'ti-ci, he sucks; otsu'pi-ci, he paints it red.

-ce has preserved its original significance of intransitive-neuter-usitative.

ce'-ce, wind blows; ci'ts-ce, it is wet; ha'ku-ce, he is hungry; co'i-ce, it is burnt.

-v has no influence upon preceding vowel but frequently occurs with syncopated base.

5. -(i)ya, -ya.—(For examples cf. §53). In origin this is the auxiliary verb to go. It has lost that force today and retained mainly the general significance of continuous, durative action. At times only a vague implication of its durative meaning remains, as in ho-e'wi-ya, he is ignorant of, and o'manots'e'wi-ya, he is afraid. It seems to appear mainly with the durative base of the stem (-i) and also regularly changes a terminal -e of the stem to -a- or -ai-.

ke'ha-ya, he lies down (\*kehe); ha'wa-ya, he rests (\*hawe); hucuha'i-ya, it steams (\*hucuhe); hokakai'ya, he crawls (\*hokake).

6. -ki (-ke, -ka).—Indefinites in -ki give the impression of being pasts. They were in fact first interpreted as such. It is fairly clear however that they are either stems in -k- followed by -i, -e, or far more likely, survivals of the old force of -ki still quite definitely felt in Yuki and preserved in Wappo in the adjective conjugation. In Yuki -ki, -ek, -k is the present tense. In Wappo strictly analogous forms occur, -ki, -ke, -k. Unquestionably -ki (-k-i) was originally transitive and -k-e intransitive. Today, however, they have fallen together, -ki prevailing with an intransitive meaning. Still, in such forms as hola'eki, he cracks open, and hopi'hilike, he shakes (intransitive), the old force of -ki and -ke seem to survive.

Since we are justified in analyzing -k<sup>v</sup>- into -k-i and -k-e, it is extremely likely that like -m-, -s-, -c- it had, at one time, a definite non-temporal significance. It may have implied continuance as suggested by Kroeber for -ek, in Yuki.<sup>38</sup> We may consequently equate it with the -ku- of Wappo plural imperatives.

oli'tca-ki, it is full; hutce'uk, he is glad; ca'si-ki, he sits down; mak'i'-i-ke, he places in cradle; cuti'n-ki, he stoops; mapa'-ki, he shoots through; hai'ya-ka, he is glad; mapo'n-ki, he locks up; ha'we-ki, he takes rest; pitaki'ya-ke (water) is cool; ho'l-ki, he stands.

7. -ma, -mao.—It is very doubtful whether -ma and -ma, although cognate, belong together with -mi, -me. -ma is very rare and need not

<sup>38</sup> This series, 9:362.

detain us. -mō is clearly the continuative-progressive suffix with intransitive force.

oka'-ma, he informs; ce'p'u-ma, he limps along; hoku'y<sub>l</sub>-ma, he dives around; pu'lu-mō, he runs along; mewi'-ma, he goes along.

8. -a, -le, -li.—These are simply the continuative -l- with the modal aspect formatives -i, -a, -ε. With the exception of -la and occasionally -le, it is somewhat difficult to decide whether we are dealing with true indefinite tenses or participles. It is fairly safe to assume that whatever participial force they have today is secondary. -la and -le are often difficult to distinguish from passive and semi-reflexive -la, -le. It is rarely conceivable that these two suffixes are related.

okalai'yε-le, he crawls; cō'tε-le, it twitches; li'pε-le, he kills many; matō'ya-la, he wades; temetse'la-li, they hit; tucu'yō-le, throwing it toward; tek-ane'-li, packing them; holi'wa-la, chasing them.

9. *Double formations.*—A few verbs have more than one suffix for the indefinite. For examples and interpretation cf. §64, 1.

10. *Irregular formations.*—A few verbs are found with terminal stem reduplication in the indefinite only. They are all iterative in meaning.

pe'tsetsesi, it is shining (pe'tse); ts-i'kikisi, he squirts (ts-i'ki); t<sub>i</sub>'titisi, it shakes (titi).

### §67. *Influence of Indefinite Suffixes on Terminal Stem-Vowel*

All the preceding suffixes appear with preserved, reduced, and apocopated terminal stem-vowel, as the following examples show:

1a. -mi with preserved terminal stem-vowel.

ε'name, he is afraid; o-i'semi, he digs for water; oka't<sub>i</sub>mi, he hitches up; ota'n<sub>i</sub>mi, he holds on coal; otsa''emi, he tries; oya'omi, he names; hoyu'emi, he takes all; hots'a'emi, he kills; howa'emi, he divides.

1b. -mi with mutated terminal stem-vowel.

oēu't<sub>i</sub>mi, he extinguishes (fire) (oēu't<sub>i</sub>); ohi'p<sub>i</sub>mi, he saves (ohu'pi); ohi't<sub>i</sub>mi, he pounds acorn (ohi'tse); ola't<sub>i</sub>mi, he hits (ola'ti); omō't<sub>i</sub>mi, he arranges hair (omō'ti); opō't<sub>i</sub>mi, he ties (opō't<sub>i</sub>); ota'k'umi, he hits round object (ota'k't<sub>i</sub>); otcō'p<sub>i</sub>mi, he makes warm (otcō'pe).

1c. -mi with apocopated terminal vowel.

otcō'mε, he falls down (otcō'he); otsō'k<sub>ε</sub>me, he shoves with elbow (otsō'ke); oye'm<sub>i</sub>, he sets trap (oye'he); ci'umi, he whistles (ci'we); hi'umi, he shakes (hi'we); holi'm<sub>i</sub>, he drives animals (holi'ε); hometsi'm<sub>i</sub>, he wrings clothes (hometsi'ε); mai'ts'o'm<sub>i</sub>, he smudges (mai'ts'o'we); matsi'k<sub>mi</sub>, he squirts water (matsi'ke).

2a. -s<sup>v</sup> and c<sup>v</sup> with preserved terminal stem-vowel.

ε'lusa, he keeps hold of; ε'laca, it gets deep; o't-asa, he sucks breast; oce'hasa, he guesses; opi'tcasi, he breaks; ce''hasa, he hits with arrow; ha'kuce, he is hungry; hoka'nice, he runs on four legs; hosi''wese, they run away; ko'lci, it flows down; ku''laca, it smelts; mahu''ece, he goes out doors; mahe''tase, he carries.

2b. -s<sup>v</sup> and -c<sup>v</sup> with mutated terminal vowel.

oha'wese, he bets (ohawa); omu'kise, it lies (omu'ka); u''kitise, he is drunk (u''kita); utsi'tcise, it gets dark (utsi'tca); he'wuse, it grows (he'wa); huye'kese, he is glad (huye'ka); ka'tusi, he twists (ka'ta).

2c. -s<sup>v</sup> and -c<sup>v</sup> with apocopated terminal vowel.

omisə'mci, it becomes evening (omisəmv); əmima'kci, it rains (əmima'ka); omoti'se, it overflows (omoti'a); u'kce, he drinks (u'ki); homu'ice, he thinks (homu'ye); honatsa'se, he yawns (honatsa'e); hope''se, he watches over (hope'he); hote'ce, it melts (hotehe); hosə'se, he is tired (hosə'a).

## 3. Indefinites in -ya, -(i)ya, -(ai)ya.

It has been impossible to formulate any rules which would explain when these various suffixes are used. All that can be said about them is that -ya has a definite influence on the terminal stem vowel, -e changing it to -a- or -ai- and -ə, -o, -u vowels change to -i. -a- is uncommon.

## a. Indefinites in -ya.

ha'waya, he rests (ha'we); hunwe'ya, they slept (hunwe'—without vowel change); teyo'keya, he flew (yo'ke); meiya'ya, he sweats (mei'ye); tsatsa'ya, it gets cold (tsa'tsa).

## b. Indefinites in -iya.

metco'hiya, he is going away (metco'ho); uka'hiya, (I) suppose (uka'ha?); ho-e'wiya, he is afraid (hoe'wu); hole'iya, he runs (hole'u); mahe'tiya, he picks up (mahe'ta); male'piya, he gets up (male'pu).

## c. Indefinites in -aiya.

hoka'kaiya, he crawls (hoka'ke); no'maiya, they go to bed (no'me); hucuhai'ya, it steams (hucu'he); mepulai'ya, it is full (mepu'le); mewel'aiya, he bumps (mewe'le).

## §68. Formation of the Future

There are two futures in Wappo, a simple and a periphrastic, respectively -si and -yaomi. Every verb in the language can practically use both forms although a few occur with -yaomi only. This latter is clearly composed of three elements -ya- (old verb "to go"), -o- probably an old formative possibly related to petrified suffix -w<sup>v</sup> (cf. §35), and -mi indefinite tense. It is, in other words, the indefinite form of \*ya, to go, and means he-is-to-go. Both -si and -yaomi are unknown to Yuki proper, the futures in that language being -pa and

-mik, of which the latter is identical with Wappo -mæk-. The -am, -yam continuative and habitual usitative of Yuki is not related to Wappo -yaomi but to -mi, -mō progressive.

In addition to -si there are a large number of increment forms based on -si (-təsi, -elsi, -mōksi, -leksī, -ksi, -stəsi) and a few based on -yaomi (-kyaomi, -lekyaomi). For examples of these cf. §46.

The main characteristic of the future stem is that in contradistinction to the indefinite and many pasts in -ta, it generally preserves the terminal vowel of the stem. At times, however, this vowel is reduced to -ε and occasionally assimilated to -ə. It is completely lost only in -tε- increment futures.

1. *Futures with preserved terminal vowel.*—

as-i'si, he will give (indefinite, a'sa; past, a's-ta); omima'kasi, it will rain (indefinite, omima'kci); ə't-asi, he will drown (indefinite, ə'tise); oe'lesi, he will dig out (indefinite, oe'li; past, oe'lta); oci'pesi, he will sew (indefinite, oci'pi; past, oci'pta); oha'hesi, he will fan (indefinite, oha'mi; imperative, oha'ti); oha'wasi, he will bet (indefinite, oha'wese); ole'wesi, he will tie up (indefinite, ole'umi); oli''tsatasi, he will fill up (indefinite, oli'tsmi); omoti'ase, it will overflow (indefinite, omoti'se).

2. *Futures with reduced terminal stem vowel -ε.*—These are practically all increment futures -lsi, -ksi, etc.

ene'stəsi, he will be afraid (ε'na); oka'sumeksi, he will put around neck (oka'sə); ona'napelsi, he will graze (na'napi); ci'leksī, he will pass out of sight (ci'la); ha'telsi, he will know (ha'ta?); hūpika'lestəsi, he will be sleepy (hūpi'kali); hōcu'pēpelsi, he will turn from side to side (cu'pēpi); hō'l-eksi, he will stand (hō'la); hoka'telsi, he will carry round object (hoka'tala); hoki'telsi, hoki'tesi, he will turn around (hoki'ti, hoki'tu); hope'heleksi, he will look around (pe'hela); ikapo'telsi, he will bother (ikapo'tu).

3. *Futures with assimilated terminal stem vowel -ə, -u.*—

omisə'muci, it will become evening (sə'mi); otə'həsi, he will shoot (tə'he); otə'həsi, he will fall down (tə'he); mai'hot-a'nusi, he will warm himself (hot-a'ne); mohule'kusi, he will peep (mole'ke).

4. *Futures with lost terminal stem vowel.*—

ε'ltesi, he will dig a hole (ε'li); oka'ltesi, he will talk (oka'li?); oka'stəsi, he will wear beads (oka'sə); hoka'n-təsi, he will run on four legs (hoka'ni); k'i'ntəsi, he will open (k'i'ne); mahi'ntəsi, he will get up (mahi'ni?); make'ktəsi, he will throw (make'ke); malo'mtəsi, he will carry in hand (malo'ma); ma'mtəsi, he will gamble (ma'me); ma'ntəsi, he will hold flat object (ma'ni).

5. *Futures with inorganic -ε.*—These are all stems ending in a consonant.

metce'nesi, he will catch etc. (tce); metcu'lesi, he will take off (tcl); olə'lesi, he will dance (lə); onu'cesi, he will turn in water (nuc); opu'ləsi, he will fill (pl); opu'nesi, he will close (pon); ota'pəsi, he will stab (tap); otele'si, he will make flat (tel); owi'cesi, he will put acorns in (wic); ci'cesi, he will clear nose (cc).

6. *Futures in -ci.*—These are all due to assimilation of terminal -c with -si.

omiso'iyaci, it will be hot; omiso'muci, it will become evening; omik-ε'uci, it will become daylight; omə-u'tcuwa'ci, it will become dark; ocika'lice, he will be stingy; okela'ci, he will be lonesome; okel-a'ci, he will be dumb; ok'o''ci, it will boil; o'manots'ε'wuεε, he will be afraid; utə'ci, he will be deaf.

7. *Futures in -yaomi only.*—The accent is always shifted.

otsɣya'omi, he will paint red; catɣya'omi, it will be bitter; cə-ya'omi, it will be burnt; he'lɣya'omi, it will steam; hoto'yɣya'omi, he will wade in water; howa'lɣya'omi, he will crawl; hucu'heya'omi, it will steam; hule'ekya'omi, it will stick out; huwa'tsiya'omi, he will hold fingers entwined; kə'ya'omi, it will boil.

8. *Futures with shifted accent.*—(For examples and discussion cf. §53, type 16).

### 69. Formation of the Past Tense

Wappo possesses two suffixes and one proclitic for expressing the past tense, -ta, -ki (k), and u. Of these we have seen (§32) that -ta had probably a different function originally and that -ki was inferential in meaning. We are thus left with u, an element not very extensively used today. Yet a comparison with Yuki proper shows that it is the original sign of the past. In Yuki the past is -wi, -u.

Both -ta and -ki appear in a large number of increment forms (-lta, -lekta, -məkta, -kta, -sta, -cta and -lki, -təki, -stəki, -ski, -cki). The forms -teta, -lekki, -mək-ki, which one would naturally expect, do not appear at all or in only a very few instances. -teta has probably contracted to -ta and -lekki and -məkki have been displaced by -lekta and -məkta.

1. *Pasts in -ta.*—ta has in many instances a very definite influence on the preceding vowel. It either caused its complete disappearance or its reduction to -ε- or -ɪ-. It sometimes follows the analogy of the indefinite, sometimes that of the future, and sometimes behaves quite independently. It is not commonly used with indefinites in -s<sup>v</sup>, -c<sup>v</sup>.

a. *Pasts with preserved terminal stem vowel.* (Not common).

ik'ε'ta, he pewked (ik'ε'); oca''ita, he payed (ca''i); ohi'pita, he saved (hi'pi); otso'kuta, he shoved with elbow (tso'ku?); hoyu'ita, he took all (yui); hot'a'eta, he divided (t'a'ε); huwa'ota, it stuck out (huwa'o).

b. *Pasts with reduced terminal stem vowel* (-ε-, -ɪ-).

ikapo'teta, he bothered (ikapo'tu); o'tita, he sucked (o'ti); ola'tita, he hit (la'ti); otə'hota, he shot (tə'he).

c. Pasts with apocoped terminal stem vowel.

The vast majority belonging to this group.

a's-ta, he gave (a's-i); e'l-ta, he kept hold (e'lu in indefinite and future); i'ltā, he bound (i'le); oce'tta, he guessed (ce'ha in indefinite and future); ohi'tta, he buried (hi'hi, follows indefinite); ole'uta, he tied up (le'we?, follows indefinite); ona'tta, he saved (na'he, follows indefinite); otai'ta, he went around (tai'ye); oye'tta, he set trap (ye'he, follows indefinite); u'k-ta, he drank (u'ki follows indefinite); ci'uta, he whistled (ci'we): ha'tta, he said (ha quite irregular); ha'ota, he picked up (ha'we); holi'ta, he drove animals (holi'e follows indefinite); homa's-ta, he missed (homa'sa); ka'n-ta, he took one after another (ka'n-o in indefinite and future); mai'hota'nta, he warmed himself (hota'nu in indefinite and future).

d. Contracted forms.

ku't-a (for ku'teta) he built fire (ku'te); mahu't-a (for mahu'teta) he bet (hu).

2. Pasts in -ki, -ke, -k.—ki has, on the whole, comparatively little influence upon the preceding terminal stem-vowel and tends to preserve this vowel with its original value almost to the same extent as do futures in -si. It follows generally the analogy of the future. In some cases it preserves the terminal stem-vowel where the future has lost it.

a. Pasts with preserved terminal stem-vowel.

Practically always confined to intransitive, inactive, and passive, etc., verbs.

omima'kaki, it rained (ma'ka follows future); o't-aki, he drowned (o't-a follows future); oha'waki, he bet (ha'wa follows future); omoti'ake, it overflowed (moti'a follows future); u'ku'take, he was drunk (u'ki'ta follows future); utsi'teaki, it got dark (utsi'tea follows future); ca'taki, it was bitter (ca'ta, future ca'tu-); ho-e'wuki, he was ignorant of (ho-e'wu follows future); omiso'mike, it became evening (somi, future omiso'muci).

b. Pasts with apocoped terminal stem-vowel. (Not common.)

opa't'ki, he shouted (opa't'e); otc-u'lki, he lay on one side (otc-u'l-a); ho'lki, he stood (ho'l-a); hotco'lki, he walked (hotco'ha); kakima'ke (for kakima'kke), it hailed (kakima'ka); ko'ki, he was lame (ko'hu preserved in indefinite and future).

3. Pasts in u.—u is undoubtedly an abbreviated form of u'ku, already. Its specific force is considerably lost today and it is rarely found as the sign of the past tense as such, but is always accompanied by the past tense suffixes -ta, -ki, occasionally with indefinite -ca, -i, etc. With verbs that take the indefinite and past in -ki it is not infrequently used to indicate the past.

It is not used frequently by the younger people today.

u'k-am'i, he was crying (ka'm'u, having cried is also found); unale'ica, he was angry; auho't'at-a, I divided it; u'atc-ahel'ta, I took it out already; a'uowa'tita, I hit it; uola'tike, he was hit by someone; utsu'tsike, it was cooked.



## §§70-73. Formation of Modes

There are three modes in Wappo, imperative, subjunctive, and hortatory. Of these the first two are quite irregular and are formed in a variety of ways.

## §70. Formation of the Imperative Singular

It is exceedingly doubtful whether there are any true imperative prefixes and suffixes, the prefixes found, *ma-*, *ho-*, *tε-*, being pronominal objects, and the suffixes *-ti*, *-mɔ*, *-la*, *-tε*, etc., either only secondarily connected with the imperative as *-ti*, or stems with aspect increments. The vowel ending *-ε'* found with so many imperatives is either the original stem-vowel or a reduced form of it. Be this as it may the Wappo today definitely associates an imperative force with all these elements.

*Imperative prefixes ma-, ho-, tε-*.—These have all been amply discussed before. *tε-* is the most frequently employed. *ma-* is possibly of a double origin, from *ma-* objective indefinite pronoun and from *ma''a* a conjunction meaning "would that!"

*Imperatives in absolute stem*.—In a large number of cases the imperative is simply the stem. As we mentioned before there apparently was a vowel suffix (?) *-a* connected with the imperative in Yuki proper, and Wappo *-a* may be a survival of it. The whole subject has, however, become obscured in Wappo by the fact that almost all stems end in a vowel. When the imperative ends in a vowel it is followed by a marked glottal catch much stronger than that accompanying most terminal vowels and generally carries, likewise, a secondary stress accent. Imperatives in *-ε* are generally associated with indefinites in *-i*, *-a*.

*a's-i'*, give!; *i'k'ε'*, *pewk!*; *o't-i'*, suck!; *o-ε'le'*, dig out!; *o'ye'*, move! (indefinite *oi-*, future *oyel*); *ole'te'*, notch!; *oli'tse'*, fill up! (indefinite *lits-*, future *litsata*); *otc-u'la'* lie! (indefinite *teul-*, future *teu'le*); *ots'a'ε'*, try!; *u'k-i*, drink!; *ci'la'*, pass out of sight!; *ci'u'*, whistle!; *hɔ'l-a*, stand!; *hunteco'hel*, dream!; *hocu'pepel*, turn from side to side!; *hoka'lel*, keep!; *homu'yel*, think!

As the absolute stem only occurs with the imperative (certain participial forms excepted), this can be considered just as definitely a method of forming this mode as if prefixes, suffixes, or stem modification of any kind had been employed. It might, in fact, be contended that imperatives of this type are formed by vowel contrast, the indefinite *-i* being set off against the imperative *-ε*, *-a* against *-i*, loss of vowel against *-a*, etc.

In a few cases owing to the contraction of a terminal -s or -c with the future suffix -si the imperative has fallen together with the future:

hutsila''ci', be blind!, future hutsila''ci (from hutsila''ci-si); mahɫ-nasi', go across!, future hɫ'nasi (from hɫ'nas-si); na'oasi', show!, future na'oasi (from na'oas-si); nale''eci', be angry!, future nale''eci (from nale''ec-si); ohoi'tesi', begin!, future ohoi'tesi (from ohoites-si); homa'sasi', miss!, future oma'sasi (from oma'-sas-si); homata'wisi', pretend!, future homata'wisi (from homata'wis-si).

*Imperatives in -ti.*—*ti*, we have seen, is probably participial in origin and is not infrequently used as such in the texts. Its imperative force is, however, quite definite now and is more specifically associated with indefinites in -mi. Phonetically it exercises a definite influence upon the preceding vowel, either reducing it to -ɪ or causing it to disappear entirely, thus following the analogy of the indefinite and past in -ta. If the terminal stem-vowel has been retained more frequently than is the case for indefinites in -mi, -s<sup>v</sup>, -c<sup>v</sup> and pasts in -ta, this is probably due to the influence of the imperatives in -ε, -i, -a and the analogy of the future.

(1) -ti with preserved vowel.

cu'ti', throw! (cu'i); hi'uti', rock! (hi'u); huci'ati', like! (huci'a, indefinite hu'ci); huki'tati', be dizzy (huki'ta, indefinite huki'ti); huna'hati', carry! (huna'ha, indefinite huna''); huye'kati', be glad! (huye'ka, indefinite huye'ke); maka'lati', take in! (maka'la, indefinite maka'l); ma'nati', cross the water! (ma'na); mani'ati', go by boat! (mani'a, indefinite ma'ni); hoto'yati', wade! (to'ya, future and past, to'ye).

(2) -ti with reduced vowel (very rare).

ohi'tsuti', pound acorn! (hi'tse); hotca'uti', split! (tca'ε); mapa'keti', shoot! (mapa'ka?).

(3) -ti with apocopated vowel.

oha''ti', fan! (oha'hε); ohi''ti, bury! (ohi'hi); olε'uti', tie up! (olε'we); omε'sti', make! (omε'si); ona''ti', sew! (ona'hε); hoɫ'a'ti', divide! (hoɫ'a'ε); huwa'tsti', cross fingers! (huwa'tsi); mai'otc-ai'ti', curl up! (otc-a'iye); mahe'oti', jump! (mahe'we); mame'ti', take home! (mame'a); p'o'ti', smoke! (p'o'hε); sa''toti', cover! (sa''tohε); ɫu'ti', skin! (ɫu'i); tc-atse'uti', outdistance! (tse'we).

*Imperatives in -te.*—This -te is, of course, simply the increment stem, so that we are really dealing here with a variety of *b*. As a rule -te imperatives only occur with verb bases that show -te- increment in the future or past, although there are exceptions.

ε'neste', be afraid! (increment future etc.); ot-a'pte', stab! (non-increment future etc.); hɫpika'lestε', be sleepy! (increment future etc.); mahu'ete', go out! (increment future etc.); ma'm-te', gamble! (increment future etc.); ma'nte', hold! (increment future etc.); mawi'te', go along! (non-increment future etc.); nahi'lte', swing! (increment future); naka'te', strike with mouth (increment future); napicu'te', rub! (increment future); napo'lite', play ball! (increment future); naye'mete', play! (increment future); piye'tete', carry! (increment future); tc-ats'u'te', flay! (non-increment future etc.); ts-atsa''te', uncover! (non-increment future etc.).

*Imperatives in -mǝ.*—This, like *-tε* and the following *-la*, is really simply the increment stem in *-mǝ(k)-*. It is specifically associated with futures and pasts in *-mǝk-* although there are numerous exceptions. For examples cf. §§38.

*Imperatives in -la'.*—This is the increment *-lε(k)-* with the terminal vowel strengthened to *-a*. It is clearly felt still as merely an expanded continuative form of the absolute stem as is indicated by its frequent participial use. For examples cf. §38.

*Supplicative-imperative -mε.*—The origin of *-mε* is not clear. I am inclined to regard it as an old imperative suffix cognate with *-mi*, found in the imperative plural *-lumi*, *-tumi*. For examples of §38.

#### §71. Formation of the Imperative Plural

There are two primary suffixes indicating the imperative plural, *-lumi* and *-tumi*. To these must be added *-kumi* probably dual in significance, *-tlumi* and *-klumi*.

That *-l(u)-* and *-t(u)-* are variants of *-lε-* and *-tε-*, the continuative and distributive affixes, is quite clear. Under no conditions, however, are they to be regarded as variants of *-lε-* and *-tε-* when used as increments of certain verbs. These plural imperatives have developed quite independently. The *-mi* is far more puzzling and is to be taken either as the personal pronoun second singular or as an old imperative suffix that survives in *supplicative-imperative -mε*. I personally incline to the second belief. *-tlumi'* represents probably the increment *-tε-* and *-lumi* the corresponding *-lεlumi*, both having contracted respectively to *-lumi* and *-tumi*. *-klumi* is not at all clear but possibly represents the increment *-k-* and *-lumi'*. No consistent difference in meaning could be obtained for *-lumi'*, *-tumi'*, *-tlumi'*, *-klumi'*, and there is only partial justification for crediting *-kumi'* with a dual force. For examples cf. §38.

#### §72. Formation of the Subjunctive

What has the force of a true subjunctive is formed by the affixation directly to the future base, of three suffixes *-tasi*, *-təsi*, and *-leksī*, the first having an indefinite present force, the second something of the value of the imperfect, and the third that of an aorist with indefinite plural subject. To these must be added the suffix *-ukəsi* with the value of a passive subjunctive and lastly, an apparent mutation of the terminal stem-vowel.

Up to the present no examples of *-tasi*, *-təsi*, and *-leksī* with the values assigned to them here have been found in the texts, but this

function was so consistently and repeatedly assigned to them while obtaining the "principal parts" of the verbs that I see no reason whatsoever for questioning it. The very fact that only a limited number of verbs were credited with possessing, now one, now all of these three forms, should go far toward proving them to be authentic.

Terminal stem-vowel mutation is, on the contrary, abundantly illustrated in the texts, although one is often left in doubt whether to consider this vowel change as connected with the subjunctive proper or with general subordination.

*Subjunctives in -leksī, -tesī, -tasi.*—In spite of their number I append all the forms obtained.

naka'ptesī, he might hold in hand; ke''etesī, he might break; tecō'tetasi, he might comb; ohī'ltesī, he might build; pik'oi'yetesī, he might crush by trampling; pik'oi'leksī, they (indefinite) might crush by trampling; ku'patasi, it might get rotten; ma'ō'ntesī, he might dig; ma'ō'ntasi, he may dig; ohupi'tesī, he might dive; ohupi'tasi, he may dive; ohupi'leksī, someone might dive; ho'ā'eleksī, someone might divide; ho'ā'tasi, he might divide; i'kamile'ksi, what can they do?; cuka'lteki, he might drag; ke'leleksī, someone might eat; ocute'tesī, he might put it out; okōhe'tesī, he might fasten; ok-e'itesī, he might feather; hoī'yetesī, he might fool; mahe'stesī, he might give; mahe'sleksī, someone might give; oka'tetesī, he might be hitched up; howi't'etesī, he might iron; howi't'etasi, he may iron; howi't'eleksī, someone might iron; mahe'wleksī, someone might jump; k'o'yetesī, he might knead; k'o'yeleksī, someone might knead; k'a'tesī, he might knead; omohut-ai'tasa, he might make a light; ke'yetesī, he might look for; ocai'tesī, he might get paid; ocai'teki, he might get paid; tc-ake'ntesī, he might peal; ohī'tsetesī, he might pound acorns; teohopu'tesī, he might pull apart; teohopu'leksī, someone might pull apart; k-a'ltesī, he might pull; maku'itesī, he might put something through; honi'eleksī, someone might ride around; k'i'ntesī, he might rip; k'i'nleksī, someone might rip; mako'ltesī, he might roast; hī'uleksī, someone might shake; hohe'yetesī, he might saw off; hoyu'letesī, he might scatter seed; hoyu'letasi, he may scatter seed; hoyu'l-eksī, someone might scatter seed; hopihī'tesī, he might shake; ohe'ytesī, he might sharpen; he'k'etesī, he might shave; he'k'eleksī, someone might shave; ku'ptesī, he might soak; maki'wetesī, he might stretch; huka'litesī, he might think; mak-e'k-etesī, he might throw; mak-e'k-eleksī, someone might throw; hoso'atasi, he may be tired; tc-amele'etesī, he might twist; homeka'tetesī, he might twist; tc-aki'ltesī, he might untie; tc-amako'ltesī, he might wash dishes; mek'ō'ltesī, he might wash; mek'ō'ltasi, he may wash; mek'ō'l-eksī, someone might wash; t'ō'l-eksī, someone might whip; patco'tesī, he might wrinkle; hunatsa'tesī, he might take a deep breath.

How to explain the force of these three suffixes is not very easy.

-leksī and -tesī are formally identical with the increment futures. Are we to regard the subjunctive significance as a secondary development from simple increment futures or, on the contrary, to interpret the subjunctive force as original? Certain facts point toward the first alternative, others toward the latter. -lek, for instance, resolves itself readily into -le- continuative-increment and -k inferential, thus pointing to a subjunctive-inferential meaning as original. -tesī, on the other

hand, is the regular increment future. *-tasi* is puzzling, but is perhaps best interpreted as *-t-* increment and *-asi* hortatory, although this is not quite convincing.

With regard to their age all seem to be secondary developments within Wappo, although further data from Yuki proper is required before this can be definitely proved.

*Subjunctives with vowel mutation.*—All the examples are taken from the texts.

*huka''iya ɽ'si ha'tasukla'ke*, I guess we don't know (indefinite *ha'tase*); *tse'tetu tse'wasa*, that they've asked me (indefinite *tse'usa*); *misana'wi'tsel*, when you find them (indefinite *na'oci*); *mehi'witsel*, when (I) shake it (indefinite *mehiusi*); *tehe'salaki*, if you don't give it (indefinite *he'si*); *ihuka'ya miku'c-a*, I guess you're smelling me (indefinite *ku'ce*); *mi'imama'ni*, when you take me (indefinite *ma'n-ce*); *okelu'uctsel*, when (you) get lonesome (indefinite *okelu'waca*); *mehutco'pakwen*, when they got warm (past *teo'pki?*); *cu''ititsel*, when fire goes out (*cu'ti*); *ma'a atco'husi*, well I'll go anyhow (*teo'he*, *teo'ho*); *me'i temata'le'*, you had better sprinkle water (indefinite *mata'li*); *kuweya'owen*, when (I) was about to run (indefinite, *k-u'ise*); *me'o'nema*, that you should dig (indefinite *'o'ni*); *meho'mema*, that he might get (indefinite *ho'mi*); *tc-aka'letsel*, when he pulled it out (indefinite *tc-aka'li*); *ye'mitsel*, when I set snares (indefinite *ye'mi*); *mehe'witsel*, when one jumped up (indefinite *maheoci*); *meyo'keyo*, when they fly away (indefinite *yo'kse*); *temehu'kitsel*, when he wants it (indefinite *hu'ke?*); *k'o'meli*, that there was boiling (*k'o'mele*, *k'o'mela*); *la''ki no'mi hemul i'sa noma*, no one lives here where we live (*no'mi-no'ma*); *ow'o'cola'*, that you should not break it (*w'o'ci*); *mahu'ni-ala'ki*, no one could get through (*mahu'ni*); *hok'u'wati*, running (*hok'u'we*); *pu'lasi*, he should run (*pu'li*); *tsa'm-usi*, (that) he's doing it (*tsam-*); *oma mule'kesi*, ah indeed I'm going to look (*mule'ke*); *atsa'usi*, I just said it (*tsa*, *tsai*); *mai'yi' mihe kamola'ki*, no one did this to you (*ka'mi*); *tetco'hutsel*, (that) he should come (to us), (*teo'ho*, *teo'he*); *me't'o'hetsel*, where he kills them (*t'o'he*); *mihotco'hali*, as you walk (*teo'hel*); *mi te''i kamoha'tel lak''usi*, you won't know what it does to you (*ka'mi*); *ketela'ki*, it should not break (*ke'te*); *ko'l-etsel*, when I cook (meat), (*ko'l-ε*); *me'o'npī yo'kuce*, he can live (stay) there (*yo'ke?*); *ha'tsiki*, maybe she knows (*ha'taski*, she knows); *mu'kice*, maybe someone lies (*mu'ku-*, *mu'-ka-*); *ke'l-isi*, why should (I) be ashamed (*ke'le*); *tali tc-a'ok*, what I should say (*tc-a*); *hoyo'k'itsel*, when (we) win (*yo'k'ε*).

That there is a vowel mutation here is quite clear. It appears to be somewhat confused in its operation but one fact stands out quite distinctly,—that this irregular vocalic mutation is associated with a subjunctive force and with the general idea of subordination. It seems quite justifiable to assume that the expression of the subjunctive lay in the vowel mutation and that the rule was for the terminal vowel to change its timbre.

### §73. Formation of the Hortatory

This is one of the most regular constructions in the language, all terminal stem vowels without exception changing to *-a-*, followed by the future suffix *-si*. In origin the hortatory is to be regarded as connected with the subjunctive.

§§74-80. FORMATION OF THE PASSIVE, SEMI-PASSIVE, ASPECTS,  
AND ABSOLUTE

§74. *Introduction*

Two special elements appear to be associated with the passive, the formative -u and the suffix -la, -le. The suffix -ki that generally follows -u, did not, we have seen, originally possess any passive significance. This lay entirely in the -u character of the stem.

The interpretation of -la, -le is more difficult. On the basis of the Wappo facts only two possibilities seem warranted, either that it is an historically old passive or semi-passive suffix or a special development of the plural -l, -le. If the latter interpretation is true then it is hardly to be regarded as a true passive but as the plural subject of a transitive verb, i.e., I was killed by him=they (indefinite) killed me. Such "psuedo-passives" occur in Achomawi and Southwestern Pomo. Composite forms such as -mele, -sele, -cele, -kele speak in favor of this view and so does the Yuki evidence of Kroeber where these suffixes (-mil, -sil, -cil, -kil) have no passive significance. On the other hand, the medio-passive force of -la in ca'kula, it split, hu'pla, it jumped out, picu'ula, it is breezy, hutsi'ula, to smile, etc. speaks against it. There is a way out of the difficulty, namely, to regard -la as -l- continuative with an -a of unknown force. We may indeed be dealing with two distinct elements, one plural and the other passive.

Under the circumstances I prefer to regard -la, -le as an old passive although -la passive as a development from -l- continuative has many attractions.

There are a number of composite passives -mele, -sele, -cele, -kele formed by the fusion of the tense-aspects -me-, -ce-, -se-, and -ke- with -le. Of these -mele seems to have developed the special significance of a passive of known agent.

§75. *Formation of Aspect*

Two types of aspect formation are found characterized respectively by change of stem-vowel (terminal or basic) and consonantal ablaut, or by special suffixes. True ablaut is no longer functional except in one aspect, the responsive, in the passive voice, and in a few modes. Its importance at one stage of the language clearly was very great. The following aspects were expressed by this method.

Intensive—by diphthongization of basic vowel.

Miscellaneous activities—by various mutations of basic vowel.

Diminutive—by initial consonantal ablaut.

Active intransitive, intransitive-impersonal, durative responsive—by ablaut of terminal stem vowel.

It is rather significant to note that of all these activities only one is specifically expressed today, the durative, and this by a suffix.

The second method, suffixation, is still extensively used. Of the aspects found indicated by this method the most important are the causative, continuative, iterative, durative, usitative, and progressive.

*Formation of causative.*—The causative is expressed in five distinct ways: by the suffixes -a or -ha, -sa, -tasa (-tasi, -tasta) -mesi (mesta) and a special conjugation (-si first person singular; -ti second person singular, and -mi in the other persons). Of these -a (-ha) is no longer functional. There are thus three distinct elements involved here -a, -s<sup>v</sup>- and -mesi, all of which are probably old verb stems although only for -mesi can this be definitely proved. Yuki has -si, -s but not the others. Yuki possesses likewise a causative -tul and this suggests that the -ta- in Wappo -tas<sup>v</sup>- is also to be regarded as a distinct causative element. In that case -tas<sup>v</sup>- can best be analyzed into -ta- causative and -s- usitative and should be kept apart from -te- iterative and -ta- subjunctive.

One is tempted to analyze -mesi into -mε verbal stem "to do" and usitative -s- but there is not sufficient evidence for this.

a. Causatives in -sa.

-sa can best be analyzed into -s- causative and -a active base theme. It occurs mainly with stems that take -l- increment. It is not very common. -ista is apparently the past tense. It is used idiomatically with certain verbs.

atetco'palasa, I'm making him warm; atetco'alasa, I'm making him sick; apu'lasa, I'm about getting away (for I'm making myself run); ateyo'kelista, I made him get up; atehotco'elista, I made him walk; atehowa'lalista, I made him crawl; atehunto'ista, I made him sleep; atets'u'tsusta, I made him sneeze; ateka'piksta, I made him cough; hantco'husta, I made him dream.

It is not always easy to decide when we are dealing with an idiomatic use of causative -sa, -si (s+si) -ista and when with the usitative -s-. The frequency of -sta as the past of verbs in -sa and its rarity with verbs in -se, suggests that this may be the real difference between these forms.

o't-asa, o't-asi, o't-ista, to suck breast; ohoi'tesa, ohoi'tesi, ohoi'tesusta, ohoi'tesi, to begin; ome'esa, ome'esi, ome'ista, to feed; hi'nasa, hi'nasi, hi'nusta, to get there; homa's-asa, homa's-asi, homa's-ta, homa's-asi, to miss; mai'ots'i'lasa, mai'ots'i'lasi, mai'otsi'lusta, to dress up; na'oasa, na'oasi, na'osta, na'oasi, to show; na'we'yasa, na'we'yasi, na'we'yusta, to come around; ta''osa, ta''osi, ta''osta, ta''osi, to tell an untruth.

b. Causatives in *-tasa* (indefinite), *-tasi* (future), *-tusta* (past), and *-tasi'* or *-tusti* (imperative).

This forms a regular conjugation although *-tasi'* as imperative is rather uncommon. A number of verbs appear only with these causative suffixes.

*atehutsa'tatasa*, I'm making him well; *atehutsa'tetusta*, I made him well; *atehuki'tatasi*, I'll make him drunk; *atehuki'tatusta*, I made him drunk; *co'itasa*, *co'itasi*, *co'itusta*, to scorch; *mapu'latasa*, *mapu'latasi*, to blow; *mopu'letasi*, *mopu'letusta*, to fill with air; *patco'tasa*, *patco'tasi*, *patco'tusta*, *patco'tusti*, to frighten; *so'mitasa*, *so'mitasi*, *so'mitusta*, to spend; *t'o'ltasa*, *t'o'ltusta*, to catch in net.

c. Causatives in *-mesi* (indefinite), *-mesisi* (future), *mesta* (past), *-mesti* (imperative).

These forms are practically restricted to adjectives. The indefinite is rarely used, its place being taken by *-si*.

*tse'pi co'iya ome'si'*, he makes it hot (here *ome'si'* is an independent verb): *tse'pi tco'pusome'si*, he is making it hot; *atsa'ts'ome'sta*, I made it cold; *aotsa'ts'ome'susi*, I will make it cold; *mi-otsa'ts'ome'sti'*, make it cold!; *mi-co'iyome'sti'*, make it warm!; *ate'tcok'ome'sisi*, I'll make him go (literally, I'll make him the going).

d. Causative conjugation (*-si*, *-ti*, *-mi*).

This causative "conjugation" is utterly inexplicable. For a long time I regarded it as due to some error either on my part or on that of my informant, but the absolute consistency with which these forms were given again and again after long intervals of time precludes the possibility of error. It must be pointed out, however, that apparently no examples appear in the text. On the whole I am inclined to regard this conjugation as a purely secondary development within Wappo and not as a possible survival of pronominal suffixes.

For the second point, namely, what these suffixes are in origin, I can only suggest vague hypotheses. They occur only in the indefinite and prevailingly with adjectives, although I suspect that the small number of examples obtained where they are used with verbs is accidental. The series is as follows:

First singular	-si.
Second singular	-ti.
Third singular	-mi.
Plural	-mi.

One thing seems clear, namely that if *-mi* is the indefinite tense suffix, it represents the only instance in which it is used with adjectives. It is, indeed, extremely unlikely that we are dealing with *-mi* indefinite.



I am inclined to regard it as the original form of *-me-si*. This is, however, merely a guess. *-ti* second person naturally suggests the imperative singular suffix and *-si* first singular, the regular causative. But causative, imperative, indefinite suffixes all in one conjugation seem quite ridiculous.

*aotsa'tsusi*, I made it cold; *miotsa'tsuti*, you made it cold; *tsepi otsa'tsumi*, he made it cold; *usi otsa'tsumi*, we made it cold; etc.

Similarly are conjugated:

*aco'iyəsi*, I make it hot; *atu'tcesi*, I enlarge it; *aku'tyesi*, I make it small; *atetco'elasi*, I make him sick; *a'ok'e'nusi*, I make it long; *a'omi'tesi*, I make it shorter; *a'otu'tcusi*, I make it large; *a'otsa'tsi*, I make it cold; *a'otco'psi*, I make it warm; *a'mai'matsa'musi*, I do it for myself; *a'mai'homesa'wesi*, I fix it for myself.

#### §76. *Formation of the Responsive*

It is possible that the data obtained on this subject are not conclusive. The forms obtained suggest great irregularity.

*nako'teke*, they bloomed (responsive); *nako'telki*, they bloomed (direct).  
*?mecu'teki*, he grabbed (resp.); *mecu'telke*, he grabbed (direct).

*hotε'peki*, long objects lie (resp.); *hotε'pelki*, long objects lie (direct); *ote'puke*, long objects lie (direct).

*nata'meki*, they lie on stomach (resp.); *nata'melki*, they lie on stomach (direct).

*cutne'ki*, they stoop (resp.); *cutne'lki*, they stoop (direct).

*su'teki*, they stoop (resp.); *su'tlki*, they stoop (direct).

#### §77. *-mele, -cele, -sele, -kele*

Few elements in Wappo are more difficult to explain than these very extensively used suffixes. That they are to be analyzed into *-me-le*, *-ce-le*, *-se-le*, *-ke-le* seems rather obvious. The first part of *-cele* and *-sele* we can then equate with usitative and durative *-c-*, *-s-*. But it is just here that our real difficulties begin. The usitative and durative can be said to appear in two forms, as simple usitative and durative infix *-c-*, *-s-* and as usitative and durative tense-aspect suffix *-c<sup>v</sup>* and *-s<sup>v</sup>*. The first is historically much older than the second for Yuki proper possesses the first but not the second, thus indicating that it is secondary in Wappo. Since Yuki proper likewise has close parallels to all four of our suffixes (*-mil*, *-sil*, *-cil*, *-kil*) we are quite justified in regarding Wappo *-mele*, etc., as belonging to the same period as *-c-* and *-s-*. That has a very important corollary for it allows us definitely to exclude any possibility of *-mele* having arisen from *-mi*, or *-me* indefinite tense, or that *-kele* has arisen from *-ki* past tense. Indeed Yuki proper effectually disposes of any idea that *-mi* and *-ki* tense

suffixes have anything to do with the *-me-* and *-ke-* of *-mele*, *-kele*, for there the corresponding Yukiian forms actually follow each other and are recognized as such:

pimilmil, he played the flute (the first mil is Wappo *-mele*, the second Wappo *-mi*); a<sup>np</sup> cu'kik, I seat myself (the first k is Wappo *-ke* (*kele*), the second Wappo *-ki*).

In Wappo the situation is not so clear for no such form as *-melemele* or *-meme* exist. *-keke* (*-keki*) is occasionally found in the texts although these forms always puzzled my interpreter. In addition to *-mil*, *-sil*, *-kil* Yuki proper has *-til* and *-lil*. The first occurs sporadically in Wappo in the texts as *-tel*, the second is non-existent. *-tel*, *-tele*, and *-lele* do occur but in all cases they can be shown to consist of verb-stems ending in *-te* and *-le* respectively to which *-le* is suffixed.

Now with regard to the terminal *-le*, Yuki has a strictly comparable *-il* for which however Kroeber<sup>39</sup> could find no meaning. For Wappo we certainly can remedy this defect for there it is manifestly the continuative and the plural (leaving aside for the time the question whether the two are identical). In Wappo, however, we saw that *-le* in *-mele*, *-cele*, *-sele*, *-kele* possesses a passive and semi-passive significance, a fact that seemed to be borne out fairly convincingly by certain forms in *-la*. Here Yuki proper helps us out considerably for there we find *-lil* with a reflexive and reciprocal meaning. As we can analyze *-lil* into *-l-* and *-il* it must evidently be the first that contains the reflexive-reciprocal significance. This evidence consequently goes far toward justifying the view that the *-le* of Wappo *-mele*, *-cele*, *-sele*, *-kele* has nothing to do with the passive and that this passive type is to be regarded as a transitive verb with plural subject. For further discussion of passive *-la*, *-le*, cf. §39. Now, of the four forms, it is only *-mele* that was extensively used as passive and if we look around in Yuki proper for a suffix with which this *-mele* might be connected, we find one that seems to fit our case, namely *-mi* defined by Kroeber as indicating involuntary, inanimate actions and automatic motions, etc. Surely the idea of indefinite subject might be added.

A tabular presentation of the Yuki and Wappo forms will perhaps make the above remarks clearer:

*Yuki*

<ul style="list-style-type: none"> <li>-kil repeated action limited to single period.</li> <li>-til causative, transitive.</li> <li>-sil general idea of motion.</li> <li>-lil reflexive or reciprocal.</li> <li>-mil meaning unknown.</li> </ul>	<ul style="list-style-type: none"> <li>-k unrepeated, instantaneous action.</li> <li>-l intransitive, unintentional.</li> <li>-is continuative, iterative.</li> <li>-m involuntary, inanimate actions.</li> </ul>
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<sup>39</sup> This series, 9:359-360.

## Wappo

-kele meaning not clear, passive (?) force.	-ke meaning not clear.
-tel very rare, meaning not clear.	-te plural, iterative.
-sele, -cele usitative, durative and passive force.	-s-, -c- usitative, durative.
*-lele (non-existent).	-la, -le semi-passive and passive.
-mele meaning not clear; passive force.	-m (?) petrified suffix.
-le continuative, plural.	

On contrast of the two tables, Wappo -kele is considerably clarified by Yuki -kil and its plural force reinforced, but Wappo -ke- remains obscure; the semi-passive and passive significance of Wappo -la, -le is apparently corroborated by Yuki -l- of -lil; Wappo -mele is not greatly clarified by Yuki -mil (meaning unknown) and Yuki -il is explained by Wappo -le. Finally Yuki -lil practically disposes of the theory that any passive force initially inhered in the second -l.

§78. Continuatives -l-, -le, -la<sup>39a</sup>

Three distinctive uses of -l-, -le must be distinguished: as true functional continuative, as fairly petrified increment in the future and past of certain verbs, and as verbal plural suffix. To this must be added its idiomatic fusion as a suffix of a not inconsiderable number of verbs, a passive force (in -mele, -sele, -cele, -kele) and lastly a participial-absolute usage. The large number of stems in -l indicates clearly that fusion of the continuative with the verb-base is of a very considerable age. The existence of -l- increments in the future and past in Yuki proper suggests that what might be regarded as the second "petrification" of the continuative has likewise had considerable antiquity. Apparently a third, fairly old, permanent fusion is to be seen in such forms as:

hoka'lela, to keep; howa'lala, to crawl; tewelele, to come back.

Thus we have the interesting phenomenon of a morphological suffix having possibly become petrified at three distinct periods in the history of the language and still remaining functional, although it must be confessed that today it is only weakly so. In addition to its present vague continuative force it has, of course, also a plural function. Indeed it is more frequently used today in this sense than in its continuative sense.

Apart from its fusion with the verb-base -l, -le has at various times entered into union with certain morphological elements. There are

<sup>39a</sup> Cf. also §39.

two types, one in which it precedes, e.g., -lek-, and one in which it follows -cele, -sele, -mele, -kele, -tele. In all these instances it is not its continuative but its plural significance that seems to have survived. That in the case of -cele, etc., it should have developed a passive meaning is probably due to the influence of the unrelated semi-passive -la. The participial force it not infrequently possesses in narration is apparently merely a consequence of its appearing without a tense suffix, i.e., practically as an absolute form.

How to explain the remarkable tenacity of this suffix is not simple. The nominal collective plural -lu, -lo could have had no influence because it has long ago become petrified itself and the noun-formative -l could only have had an influence in developing its absolute-participial usage. However it must be pointed out that while it has survived as a morphological element its meaning has become more and more vague and elusive.

#### §79. -mɔ, -mā

-mɔ has a number of distinct uses, as progressive suffix, increment in future and past of certain verbs (-mɔk-), semi-passive, imperative singular, and participle-absolute. In addition, an old petrified suffix -m occurs that may be identical. In its usage it seems, therefore, somewhat parallel to continuative -le. Whereas however all the different significance of -le might be traced back to one and the same element (passive -la alone excepted), there is considerable reason to believe that for -mɔ a number of elements are involved. A comparison with Yuki proper shows that it seems to correspond to four distinct suffixes: -m involuntary, inanimate activities, -ma motion toward, -am continuative, habitual usitative, and -mik immediate future (?) or future intent (?). In Wappo itself there are a number of elements very similar phonetically: -mi-, to go, mɔk, to go, -mɛ, indefinite tense, -mɛ, suppletive imperative.

The Wappo evidence shows clearly that -mɔ as progressive and -mɔk- increment belong together. This indicates that Yuki proper -am and -mik are related. Kroeber's suggestion that -mik implies future intent is quite correct but this is given by the -k cognate with Wappo -k- inferential. Yuki -am, -ma, I am inclined to think, are quite unrelated—thus suggesting that some of the uses of -mɔ in Wappo, where there is no particular progressive sense attached, indicate that they possibly go back to Yuki -ma, motion to. This is perhaps particularly true of some of the -mɔ imperatives where there is no reason to believe that the -mɔ represents the -mɔ increment. -mɔ semi-passive I do not understand. -mɔ participial is the expanded absolute stem.

§80. *Absolute Formations (Participle and Infinitive)*

Wappo has a number of absolute constructions either with the force of absolute constructions or with the force of a participle or nominalized verb. These are formally expressed in three ways: either by the bare stem (original or expanded) without tense, modal or aspect suffixes; by the stem with tense-aspect suffixes with lost terminal vowel; and by special suffixes. The first method is apparently old for it is found in Yuki proper. The second is, I suspect, also an old Yuki trait but our Yuki evidence is too meager to demonstrate it. The third method is probably a secondary development within Wappo, at least -ti participial is.

An infinitive exists that is merely an instrumentalized verb, i.e., the verb-stem with prepositional suffix -ma, for. Instrumentalized verbs are quite common although only four prepositions seem to be used: -ma, for, -i, with, -noma, -nōmi, with, and -ka, together with. For further discussion cf. syntax §§117, 118 and for a possible relationship of -ti and -i participial and -ti and -i, with, cf. §93.

*Participles, unexpanded and expanded absolute stem.—*

ye'ka teu'tita, he told him to go after (ye'ka); pu't'a, broken (pu't'a); hu'tsi kə'k'ε ts-ate''eweelke, eyes swollen they came home; mapu'li, running (pu'li); mew'e'le, bumping (mew'e'le); teamet-o'yel, floating (met-o'yel); k-am, crying (k-am); tek-u'we, running (k-u'we); ho'teo, walking (hotco'').

*Participles with lost tense-aspect vowel.—*These are really nominal in force and are perhaps nominalized stems. It is characteristic of subordinate clauses.

ts'e'ilumi hōhō'lık, stop driving them; oko'lök tse-une''hi, he took out the buried; onu'ök tsa'mi ha'tuski, (you only) know how to steal; oka'luk tse'ita, he stopped talking; ok-a'mök tse'ita, he stopped crying; otco'lık tse'ita, he stopped walking; u'kic ona'oci, he saw him drinking; ts'e'suk hotsai'ose, he tried to swim; ot'öpūs, boiling; k'ö'uc a'ka''ta, I heard it boiling.

*Participles in -ti.—*This is perhaps the oldest and most extensively used of the participles. It does not seem to exist in Yuki. As indicated in §70 it is now used as the imperative singular suffix but the many examples in the text, where it has a participial force, show this to have been the primary meaning.

ht'ni ma''a we'talekti, (they) dropping to sleep; ma'uku'yukti, running after him; ka't'ati, laughing; tep'e'nati, falling down; muk'e'ukti, falling dead; t'ö'tati, finishing; hok-u'wati, running; teni'ati, going; ca''iti, going out; wi'iti, hanging; meyo'koti, flying up; p-a''ati, bursting.

*Participles in -i and -u.—*i is simply the indefinite tense formative. It is perhaps significant that today it is beginning to be felt as an absolute form. -u is apparently the old proclitic for past tense put to a

new use as indefinite vague past participle. As such it is regularly suffixed. Both -i and -u can be legitimately regarded today as true participial constructions. The former is being generalized as, for instance, in such cases as tek·ane'li, packing, mai'hope'li, rolling oneself, etc., and -u has lost practically all of its past significance. For examples cf. §42.

-l, -le, -mele, -cele, -sele with participial force.—In the texts all these suffixes are frequently translated as participials due to the fact, as pointed out above, that all forms without the tense-aspect suffixes (-mi, -s<sup>v</sup>, -c<sup>v</sup>, -ki, -ta, -si) are today felt as absolute formations. The continuative force of -l, etc., reinforces this tendency.

For examples of -l cf. §40. A few instances of the use of the others follow:

ye'mele, setting snares; holi'mele, driving (deer); ts'u'tele, skinning; mama'ncele, taking it home; mela'cele, driving them; tco'tcele, weaving baskets; mo'tcu'lusele, turning from side to side; wetco'sele, loving him.

## §§81-88. EXPRESSION OF PLURALITY IN VERBS

### §81. Introduction

The expression of plurality in Wappo does not play a rôle in Wappo comparable to that which it enjoys in languages like Pomo, Salinan, and Washo. Indeed it seems, on the whole, unimportant. There are, however, four methods of forming it, all vestigial, it is true, but still functional. If we add the plural imperative and the doubtful dual there are six methods. These are:

- |                         |                     |
|-------------------------|---------------------|
| 1. Stem differentiation | 4. -l               |
| 2. -ε                   | 5. -mi (imperative) |
| 3. -tε                  | 6. -ku? (dual)      |

The importance of these methods lies in the fact that the neighboring Pomo and Washo (?) possess all of them except -ε and that Salinan and Achomawi have a number of them. Indeed these particular elements and, in general, an exuberant development of the expression of plurality, are characteristic of Hokan. It seems not so characteristic of Californian Penutian but appears again in Sapir's extended Penutian (Tsimshian, Chinook). Pomo shows what must have been the original meaning of these numerous differentiations. There we find the singularity of the subject and object carefully differentiated from the plurality of the subject and object, in the first person, the third person, and the imperative, thus yielding the following scheme:

singular—singular	plural—singular
singular—plural	plural—plural

It is quite possible that the same scheme once existed in Wappo and Yukian in general and that such imperative forms as -lumi, -tlumi, -kulumi are the remnants of it.

### §82. Plural by Stem-Differentiation

Kroeber did not find it in Yuki proper,<sup>40</sup> but it is quite clear in Wappo although now, perhaps, on the point of being lost.

ha'weke, they sit; yo'eke, he sits.  
 ke'tki, they lie; mu'kuki, he lies.  
 hunwe'ake, they sleep; huntu'ke, he sleeps.  
 hole'aya, they run; (ku'we) hoku'wala, he runs.  
 hotco'me, they walk; (teo'ho) hotco'hala, he walks.  
 le'puke, they stand; ho'lke, he stands.  
 we'ake, they are dead; tco'elke, he is dead.  
 piye'tece, he carries (plur. obj.); ?he'tase, he carries (sing. obj.).  
 po'kci, they come out; (le') ts'ule'se, he comes out.  
 hosi'welki, they go away; pu'liya, he goes away, runs.  
 li'pele (li'pu) kill (plur. obj.); t'o'he, kill (sing. obj.).  
 hotce'ti, they sing together; otai'mi, he sings.

### §83. -e Plural

This is a very peculiar formation and seems to be connected with the responsive (cf. §76). But as all the responsives seem to be responsive-plurals it can be legitimately treated as plural as well. -e is not a suffix but either the original or a mutated terminal stem vowel. It is clearly contrasted with the singular where this vowel disappears. A few examples involving the disappearance of other vowels also occur. There is some evidence for a more general vowel mutation to express plurality but it is still too doubtful to warrant acceptance.

nako'teke, they bloomed; nako'tko, it bloomed.  
 cutu'eki, they hang on; cutu'ki, he hangs on.  
 oka't'emi, they hitch; oka't'mi, he hitches.  
 hote'peki, lie (plur. subject); ote'puki, lies (sing. subject).  
 nata'meki, they lie on stomach; nata'mki, he lies on stomach.  
 no'meki, they lived; no'mki, he lived.  
 cutne'ki, they stoop; cut'nki, he stooped.  
 su'teki, they stoop; su'tuki, he stoops.  
 husi'we, they said; hu'si, he said.  
 ?huye'kuse, they are glad; huye'kese, he is glad.  
 ?tewe'luce, they went out; tewe'lce, he went out.  
 tehi'aki, (many) came; tehe'ki, it came.  
 mewi'lce, they tell; mewi'lce, he tells.  
 ?oke'haki, they lie; ke'heki, he lies.

<sup>40</sup> This series, 9:371.

Needless to say there are any number of instances where the retention of the terminal vowel *-ε*, etc., is not connected with the expression of plurality. How this *-ε* plural developed it is difficult to say. It may represent an older use of nominal plural *-i* vestigial today even for nouns in Wappo, but which has remained the regular nominal plural in Yuki proper.

#### §84. Plural in *-te*

This has been partially discussed in a number of places before. It appears as the iterative verb suffix idiomatically fused with certain stems, the future-past increment of a large group of verbs, and as the regular nominal plural. As a functional plural suffix of verbs it is not common but the texts give a sufficient number of instances of its employment to indicate that its force is still distinctly felt. When used with the indefinite tense it takes no tense-suffix.

mai'otcai'ite, they are coiled up; mahe'teteki, they are carrying; tco'te, they go; oni sa'wiyati, they are well; ye'kateki, they went after; me'sateki, they brought them home; oka'lkete, they spoke; nu'telek-i, (how can I) steal these; nama'nte, they have (fish).

#### §85. Plural in *-le*

*-le* plural has been discussed in part in a number of places. Like *-te* it is fused idiomatically with certain stems; with others it is employed as a future-past increment and nominal (collective) plural (*-lu*, *-lo*) although rarely used as such today. As a functional plural suffix of verbs it is extensively used in present-day Wappo in contradistinction to *-te*. It probably occurs in the texts, too. But there it is so closely bound up with the whole question of *-le* passive that the two are difficult to keep apart. I shall therefore give as examples only cases where the plural force of *-l*, *-le* was definitely insisted upon.

nako'telki, blossoms come out (nako'teke, responsive plur.; nako'tke, sing.).

cu'telki, fires went out (ocu'tata, fire goes out).

w'elki, are extended (plur. subj.), (w'lki, sing.).

mela'cele, they hunt (mela'ce, he hunts plur. obj.).

tso'yelki, flat objects lie (tso'tki, sing.).

hote'pelki, long objects lie (hote'peki, plur. responsive; ote'puki, sing.).

ne'helki, short objects lie (ne'ki, sing.).

nata'melki, they lie on stomach (nata'meki, plur. responsive).

no'melki, they lived (nom-ki, sing.).

ku'helki, they stand (ku'ki, sing.).

ko'yelki, round empty objects stand (koi'ki, sing.).

cuti'nelki, they stoop (cuti'nki, sing.).

su'tilki, they stoop (su'tuki, sing.).



-mele, -cele, -sele were frequently translated in the texts as plural in force but this may merely represent a circumlocution for the passive. If they represent true plurals it is undoubtedly the -le that carries this meaning. -lek was likewise often rendered as a subjunctive with indefinite or plural force (cf. §72). Here too it was probably -le- that carried the plural significance.

#### §86. -mi Plural Imperative

This has been discussed in some detail in §71. No absolutely certain example of it with non-imperative force has been obtained unless it be the -me of hotco'me, they walk (contrasted with hotco'ho, he walks). Homonyms (-mi indefinite tense suffix, -mə, -ma progressive and passive?) have made it very difficult to get any satisfactory results. The pronoun mu' (mul), all, the nominal plural -ma and the extensive use of -ma in Southwestern Pomo, and the evidence of a number of other Hokan languages speak in favor of -mi having been more extensively used at an earlier stage.

#### §87. -ku Imperative Dual(?)

The meaning of -ku is problematical (cf. §38). -ku may be cognate with the very mysterious infix-suffix -ke-, that in its usage suggests the plural-dual. In any case its force is not felt today. If -ku- of -kumi is dual we would have a dual suffix followed by a plural suffix. The same would hold for -kele and -kete. This is not, however, an insuperable difficulty for it might only imply that the original meaning of -ku- had been completely forgotten, for we have exactly the same in the unquestioned dual pronoun koto which most likely consists of -kə- dual and -te plural.

The survival of the dual in Wappo is a very remarkable feature, for Yuki proper shows no trace of it and among Hokan languages it is apparently only encountered in Achomawi. It is, however, characteristic of all Californian Penutian languages and is actually ko in Yokuts.

#### §88. Expression of Plural Today

In present-day Wappo all the old methods of forming the plural are disappearing and the pronoun oni, they, seems to be carrying the whole burden. There is also a tendency to use -ti the nominal plural suffix and mul, all.

## §§89-99. THE NOUN

§89. *The Nominal Stem*

The nominal stem forms a much simpler unit than that of the verb. Like the latter it consists of a stem with prefixes and suffixes. The prefixes are, however, few in number. With the exception of the pronominal possessive there are only three very sparingly used formatives. True suffixes are on the whole scarce, being either old formatives or expressing case relations.

In addition to prefixation and suffixation the only processes used extensively are a loose type of stem-composition, sporadic reduplication (only with onomatopoeic words), and a few instances of stem-differentiation for singular and plural. Vocalic ablaut either basic or terminal is absent, although a few nominal bases differ from related verbal ones by vowel alternations. This appears, however, secondary and unimportant and is unconnected with the old fundamental vocalic mutation of the verbal bases.

## §§90-91. PREFIXATION

§90. *Introduction*

Prefixation is apparently an old process in nouns and one that is still exhibiting considerable strength. The noun-formatives *ma-*, *ho-*, *na-* and the possessive prefixes *mε-*, *tε-*, *-mesa*, to which must be added the vestigial *hai-*, *hu-*, and the reflexive *mai-*, are among the oldest in the language, while *k-a-*, human, *tε-* plural? -demonstrative, and *on-* plural are certainly very recent additions. It seems today as if the same tendency that has led *tε-* demonstrative to develop into a prefix is extending to other demonstratives (*tse*, *he*) and converting them into prefixed articles. In one word this has already taken place, *tse'hasi*, old man (literally, the old-one). The vigor of this drift is possibly only one aspect of nominal stem-composition, a process that shows no indication of abating.

*ma-*, *ho-*, *na-* are apparently old demonstratives, *ma-* non-existent today, *ho*, a variant of *he*, and *na-* non-existent today but perhaps identical with *nε-* in *nε-wela*, inside. All three are generally connected with nominalized verb or neutral stems.

## §91. Prefixes

1. *na-*, noun-formative.

na'-pic, ashes; na'-poli, ball; na-te'o'pis, deep cavity; na-ts'ai'yekε, corner; na-kat-a'lu, crutch (of tree); na'-hele, vapor; na'-tuma, wading-place; na'-kape, feather; na'-mi, the last.

2. *ho-*, *o-*, noun-formative.

o-hi'le, abalone-shell; o-k'o'e, basket; o-ho'la, basket; o-mapi'hiwuk, earthquake; o-pa'ok, food; ho-pe'ne, food; o'-manat-u'lvk, hole; o-k-a'na, load; tho'-tsa, sweat-house.

3. *k-a-*, human.

This is a variant of the noun ke'o, man.

k-a'-hutsi, human eyes; k-a'-hu, human head; k-a'-wil, human body.

4. *mai-*, reflexive pronoun.

In addition to its usual meaning of "own" it is also used simply as "his" or idiomatically.

mai'-huke'tsema, her shoulders; mai'-hu'tsi, his (non-human) eyes; mai'-p'e'hi, tracks; mai'-lu'luka, with his leg; mai'-na'nu, in his own mouth; mai'-la'ka, his arms.

5. *ma-*, noun-formative.

ma-ts'ai'ya, corner; ma'-tsanawe'ya, all kind of; ma-ala'i, big; ma-ku'tiya, little.

6. *mε-*, alienable possession.

i-mε-le'l, my rock; i-mε-teu'iteu, my dog; i-mε-me'tse, my arrow; i-mε-t-o'l, my hair (detached from body); i-mε-tse'ma, my ear (detached from body).

7. *te-*, his.

te-mem'si, his wife; te'metcu'iteu, his dog; te-tse'ma, his ear; te-t-o'l, his hair; te-mε-e'wi, her husband.

8. *on-*, their, and idiomatic.

This is the objective form of oni, they, people.

on-teu'ya, their houses; on-hi'ni, the rest of them; on-hu'tsi, their eyes; on-k'ε'-tcema, their waist; on-ya'we, their name.

9. *mesa-*, their.

This is really the old third person plural which has been displaced by on. It is today used occasionally as possessive.

mesa-teu'ya, their house; mesa-ε'o, their husband; mesa-ε'pa, their brother.

10. *te-*, the, plural.

While *te-* is clearly identical with *te-*, his, him, it apparently has become confused with *-te* plural, for it was generally translated as such. It seems to be used in this sense mainly with adjectives.

*te-ku'tiyi*, the small ones; *te-tu'tsi*, the large ones; *te-tsi'ti*, bones; *te-tco'pa*, the lungs; *te-hu'so*, the end; *te-sa'wiya*, the good ones; *te-pitsai'ya*, the bad ones.

11. *hai-*, my.

This is possibly an old possessive. It was only found once.

*hai-pe'u*, my penis.

## §§92-94. SUFFIXATION

§92. *Introduction*

No problems such as those connected with the verbal prefixes and suffixes have developed in the case of the noun suffixes. While their number seems considerable, after deducting those that are clearly recent adverbial postpositions, only a handful really remain and these are either noun-formatives, or case and number suffixes. Perhaps the most important are the noun-formatives which, as we pointed out before, are in the main identical in form with the plural-aspect affixes of the verb.

The nominal-adjectival stem rarely appears with more than one suffix. The adverbs and adverbial-prepositions, on the other hand, frequently have two and even three, all firmly fused together.

§93. *Nominal, Adjectival, Pronominal, and Adverbial Formatives*1. *-o*, nominal (on names of trees, etc.).

*co'm-o*, buckeye; *kat-eme'o*, elderberry; *opi't-o*, fir; *tei'te-u*, fir; *tea'n-o*, manzanita berry; *ko'tic-o*, black oak; *pi'p-o*, white oak; *teu'c-o*, pepper-wood; *na'y-o*, digger pine (*nai*, pine-nuts); *tse'o*, willow; *wol'tc-o*, mush-stirrer (*wolc*, to stir).

2. *-c*, nominal. Probably plural in origin.

*na-pi'-c*, ashes (*helpi'pol*, ashes); *mit'-c*, chestnut; *tsok't'-c*, elk (*tsot'ko*, elk); *hupi'ti-c*, fore-head; *metc'e'nt-c*, fore-arm; *pu'te-c*, hair on body; *mi'ti-c*, hazel-nut; *t'a't-c*, knee (*t'a*, foot); *tse'ki-c*, leather; *hantco'ti-c*, nape; *teu-c*, nails; *wo'lt-c*, paddle.

3. *-a(?)*, nominal. Rather rare and used with abstract nouns. Possibly simply the absolute verb-stem.

*no'm-a*, place (*nom<sup>v</sup>*, to live); *ka'ta*, laughter (*ka-t<sup>v</sup>*, to laugh); *oka'n-a*, load (*oka'n<sup>v</sup>*, to pack).

4. *-s*, nominal and adjectival. However two distinct suffixes may be involved.

t'o'uki-s, bag; pesi'ti-s, brains; nate'o'pu-s, deep cavity; oka'ti-s, crutch of stick; menaku'ti-s, diver duck; lakapu'-s, muscle; papa'ti-s, town; cika'ti-s, blue; humo'yi-s, fine; hupa'he-s, wide; matei'ti-s, encircling; natce'wi-s, old.

5. *-k*, nominal. Probably nominalized verbs.

pici'wu-k, breeze (ci'u, to whistle, breathe); na-ε'te-k, chin; omapi'hiwu-k, earthquake (hi'u, to move); opa'o-k, food (pa'ε, to eat); hutu'nu-k, kill; o'monatu-lu-k, hole; menale'o-k', headdress; cawe'le-k, jaw; huho'lo-k, neck, omaho'nanu-k, open place (hona'nu-k, to open).

6. *-l*, nominal, adjective, and adverbial. Probably plural in origin. However two distinct suffixes may be involved.

helpi'po-l, ashes; pu'ke-l, dance-hall; ?ni'we-l, drum; huk'i'wi-l, eye-brow; ho-l, wood; mu-l, everything; k'a'ye-l, white; t'e'ye-l, soft, tso'te-l, sticky, te'ε't'e-l, curly; tse'hu-l, loose; hopi'ho-l, twenty; mo'ke-l, quickly; tse-l, then.

7. *-ma*, nominal. Probably plural in origin.

te'ε'c-ma, bed; e'ye-ma, belt; holoye'-ma, bridge; hol-ma, woods; yo'ke-ma, chair; mahuco'te-ma, comb; ts'ai-ma, elbow; eole'ke-ma, fish-hook; pa'a-ma, grass; hutō'nok-ma, hot.

8. *-lo, -lu*, nominal. Really a collective plural.

humo'lo, bush; naka'ta-lu, crutch of tree; naku'-lu, bunch; tu'pu-lu, beads; hu'tsu-lu, window; mu'l-u (mul-lu), every time.

9. *-noma*, nominal (place-names).

lo'k-noma, Wappo village; cate'-noma, Wappo village.

10. *-wen*, nominal (seasons).

he'lo-wen, summer; tsa'-wena, winter; oma'-wōn, world.

11. *-ti*, nominal and demonstrative; meaning not clear, but probably a form of *-ta*, there.

ma-alai-ti, a big one; he'-ti, this; we'-ti, this; tse'i-ti, that, there; maye'ka-ti, down-below; le'a-ti, all; kila'k-ti, the brave man.

12. *-ya, -ye*, adjectival and adverbial.

e'n-ya, very; ita'i-ya, where (i'ta, where); huci'-i-ya, alright; ku'ti-ya, small (ku'ti, child); melo'k'e-ye, limber; sa'wi-ya, good; te''-ya, slow; te'o'-ye, lazy.

13. *-pi*, demonstrative.

tse'-pi, he, that; he-pi, this; we'-pi, that.

14. *-ki, -k*, numeral.

hopo'ka-ki, three of them; patena'o-k, six; pa'wa-k, seven.

15. *-ka*, demonstrative, interrogative.

*i'-ka*, what?, how?; *?upe'-ka*, anywhere; *?ci'-ka*, on one side; *tse'-ka*, that; *he'-ka*, this.

16. *-ta*, adverbial.

*o's-ta*, alright; *?ni'-ta*, larger, further down; *pa'-ta*, then; *tse'-ta*, there; *we'-ta*, over there; *he'-ta*, there; *i'-ta*, where.

17. *-o*, *-u*, adverbial, demonstrative. This is merely a variant of *-u*, *-o*, up, on, there.

*he'-o*, below; *he'-o*, there; *ke'-u*, early; *pat'a'-o*, between; *tsa'-o*, on top; *tse'-o*, up there.

18. *-pi*, nominal (female names).

*e'ka-pi*, daughter (*e'ka*, son); *iya'-pi*, younger sister (*ya'o*, brother); *tsiwa'-pi*, sister-in-law (*tsi'wa*, brother-in-law); *e'ce-pi*, daughter-in-law; *e'tsus-pi*, niece.

19. *-i*, nominal plural (rare). This suffix is the regular plural in Yuki. It appears to have been idiomatically fused in Wappo to certain nouns.

*ohola''-i*, baskets (*oho'la*, singular); *onu'ci'-i*, Indians (*onu'ci'*, singular); *hola'-yi*, stalks (*ho'la*, singular); *ho'l-i*, trees (*hol*, singular); *mai'pe'h-i*, tracks; *hu'-i*, nipples; *tu'-i*, breasts; *te-alai''-i*, clusters; *oko'l-i*, language (*oke'l*, word); *nu'-i*, sand; *pu'-i*, fish-net; *peku'-i*, sandal.

20. *-u*, nominal plural (rare). Only one case was found.

*teu'l-u*, knolls (*teul*, singular); *?kape'-u*, feathers.

21. *-s*, *-si*, nominal, pronominal, numeral plural. Only one example was found as nominal plural. Cf. also *-s* noun formative.

*peta'i-s*, eggs (*peta'i*, singular); *i'-si*, we (i, I); *mi'-si*, you (mi, thou); *me'-si*, they; *le'a-si*, many (*le'a*, many); *ci'ka-si*, often; *pa'wa-si*, once; *hopi'-si*, twice; *hina'-si*, separate (*hi'na*, other).

22. *?-ya*, nominal plural. The meaning of this suffix is doubtful.

*ce'i-ya*, much wind; *putca'-ya*, hair; *tsalaha'-ya*, things; *tsibila'-ya*, swamp; *tsi'mi-ya*, wild oats; *tsahanawe'-ya*, all kinds of things; *hucu'ho-ya*, snort.

23. *-te*, *-ti*, nominal and adjective plural. This is the regular Wappo plural.

*me'te-te*, women; *po'le-te*, boys; *ke'cu-te*, deer; *ke'u-te*, men; *anala'lak-te*, the dead ones; *teme-oka'n-te*, their relations.

24. *-tete*, *-tate*, nominal plural. Only used with relationship terms and human beings.

*pole'-tete*, boys; *me'te-tete*, women; *ke'u-tate*, men; *pitsa'l-tete*, girls; *k-an-tate*, relations.

25. *-ta*, numeral plural.

pa'wa-ta, one time; ho'pi-ta, two times; hopo'ka-ta, three times; mu'l-ta, many times.

26. *-tasi*, numeral plural. This means literally "in succession."

hopi-tasi, two times.

27. *-k'o'to*, *-k'o'ti*, pronominal dual.

tse'-koto, they (used as plural now); he'-koto, they (dual); o'-koto, they (dual); e'co-koto, their grandchildren (dual).

28. *-ku*, pronominal dual (rare).

e'ke-ku, our (dual) grandchild; k'o'ta-ku, they (dual).

29. *-i*, *-yi*, nominal and pronominal; nominative case.

ke'uw-i, man; tea'ls-i, girl; me'l-i, acorn; hu'-i, face; po'la-yi, boy; me'ta-yi, woman.

30. *-mela*, nominal vocative. Only used with relationship terms indicating relation by marriage.

otsina'-mela, son-in-law; t'o'e-mele, relations by marriage.

31. *-sta*, nominal referential-vocative. Only used with relationship terms and indicating that the person addressed is either far away or invisible.

na't-sta, mother; a'yi-sta, father; pa'hi-sta, aunt; ti'yi-sta, aunt; eya'o-sta, brother; e'ki-sta, son; ya'pi-sta, sister; e'pi-sta, brother; pi'tsu-sta, mother's father.

32. *-i*, instrumental—with.

me''-i, with the hand; pe''-i, with the foot; hu''-i, with the head; ca'h-i, with the teeth; he'l-i, with fire; ho'l-i, with stick.

33. *-ti*, instrumental—with.

hema'-ti, with basket; k-e'ye-ti, with boat; tse'-ti, with that; metcu'-c-ti, with arrow; holwe'-ti, with stick; teme-oka'n-ti, with his relations.

34. *-ka*, comitative—together with.

me-e'o-ka, together with husband; m'si-ka, together with wife; i'nok-ka, together with my friend; tsu'itsu-ka, together with my dog; meti'a-ka, with grandmother.

35. *-pi*, *-pe*, *-upe*, ablative—from, by.

t'a'-ope, from foot; matse'ta-pi, from there; ho'pa-pi, by each other; mu'ti-pi, from north; le'wa-pi, from outside, me'-upi, from hand; we'n-pi, from south; ho'ts-a-pi, from sweat-house; te-ela'ka-pi, from his arm; ts'o'-upi, from ground.

36. *-ma*, dative—for.

i'-ma, for me; te'-ma, for him; ino'k-ma, for my friend; po'le-ma, for the boy; o'no-ma, for them; me'te-ma, for woman; make'l-ma, for eating.

37. *-we*, dative—for.

*é'pa-we*, for (my) brother; *iya'pi-we*, for (my) sister; *imetsu'itsu-we*, for (my) dog; *ihu'tsi-we*, for (my) eye; *itsi'wa-we*, for (my) brother-in-law; *mi'-we*, for you.

38. *-u*, dative—to, toward, in, on.

*hi'n'-u*, to sun; *mi'ts'-u*, to, in road; *me'y-u*, in water; *he'l-u*, in fire; *ke'-u*, to the man; *ho'ts'-u*, at her throat; *tewi'l-u*, on her body; *tso'w-o*, on ground; *tse'-u*, from over there; *ha'n-u*, back (behind-at).

39. *-tu*, dative—to, toward. Really more of a postposition than a suffix.

*i'-tu*, to me; *ko'to-tu*, to them (dual); *ke'ute-tu*, toward the men; *ya'o-tu*, toward his brother; *meo'ca-tu*, to grand-father; *hu't'as-tu*, to coyote.

40. *-me*, possessive case. Also used as possessive suffix of pronouns.

*kanitu'tcima-me*, the captain's; *ke'u-me natai''i*, the man's sticks; *ke'u-me hai'yu*, the man's dog; *po'le-me natai''i*, the boy's sticks; *tseko'to-me*, their's; *me-a'ya-me*, your father's; *i'-me*, mine; *me'sa-me*, theirs.

§94. *Adverbial-Prepositional Suffixes*

The following suffixes are in the main postpositions as well as suffixes.

41. *-wela*, toward.

*tcu'ya-wela*, toward house; *no'ma-wela*, toward house, village; *mut'i-wela*, toward north; *onhu'tsi-wela*, up to their eyes; *tso'la-wela*, toward hollow; *o'p-wela*, down there; *sv'mu-wela*, toward evening.

42. *-la*, there; idiomatic. This is only used with adverbs and is a true suffix.

*ka'li-la*, long after; *wehuwe'li-la*, that's enough; *-we'-la*, toward; *ye'-la*, in front; *napawa'lq-pi*, from each side; *te''-la*, little ways.

43. *-wa*, there, at. True suffix.

*su'mu-wa*, in the evening; *u'tcu-wa*, at night; *k-e'u-wa*, in the morning; *pe'le-wa*, at bottom; *ka'pa-wa*, at that (time).

44. *-u'tci*, *-tei*, at (rare). True suffix.

*k-e'-utci*, *k-e'u-tei*, in the morning; *he'-tei*, through; *su'm-utci*, in the evening.

45. *-piya*, near. True suffix.

*nama-pi'ya*, near the house; *hopa-pi'ya*, near each other; *te-piya*, near him.

46. *-wilo*, against, on. This is really the noun *wil*, body, which has secondarily developed into a true suffix. The *-o* is a variant of *-u*, on.

*le'l-wilo*, against the rock; *k-e'ye-wilo*, against the boat; *te'pe-wi'lu*, on that.

47. *-la*, without. This is, of course, the negative adverb *la*, but it is used as a true suffix.

*tonoku'-la*, without a tail; *hu'tsi-la*, without eyes; *pe''-la*, without a foot.



## §95. Formation of Noun-Stem

There are three types of stems found among nouns, a true nominal, a neutral (identical with verb), and a nominalized verbal. The first includes human beings, body-parts, natural phenomena, numerous animal names, and a large number of manufactured articles; the second miscellaneous objects; and the third manufactured objects and some animal names.

The true noun-stem appears in two forms, without noun formatives and etymological prefixes and suffixes, and with them. They are either simple (composed of only one stem), or composite in origin. The composite forms may consist of two or more nouns, of a noun and a verb, and of a noun and an adjective. The neutral stem differs from a verb-stem in having some internal vowel change or is identical with it. The nominalized verb-stem consists either of a verb simply nominalized or of some verbal descriptive phrase nominalized.

*Primitive noun-stems.*—They are unanalyzable, may be monosyllabic or polysyllabic, and end in a vowel or a consonant. With regard to those that end in a vowel which is displaced by subjective -i, it is likely that this terminal vowel is in origin a noun-formative and not part of the stem.

mel, acorn; pice', antler; hel, anus; la'ka, arm (lak?); me'tsi', arrow; po'a, aunt; ts-i'ts-a, bear (ts-its-?); k-i'ta, belly; ts'i'ts'a, bird; ts'i'tsa, blanket; wil, body; ke'ye, boat; k-o'te, blanket; ts-i'ti, bone; lu'ka', bow; po'le, boy; ca'wa, bread; e'pa, older brother; tsi'wa, brother-in-law; ts-um, cloud; pot', clover; hut', coyote; k-a', crow; hin, day; t-om, deer; k'a'ya, duck; sum, evening; o'ma, earth; cat-, eel; hu, face; pe', foot; lok, goose; me'te, woman; e'ke, grandchild; e'ce, grandchild; ts'o, ground; e'tsus, nephew; e'tsa, younger sister; e'ka, son.

The number of monosyllabic stems is quite considerable.

*Composite noun-stems.*—

## a. Noun plus noun.

hile'p'e, abalone shell (ohi'le, abalone shell; p'e, ?); pelu'ku, ankle (pe', foot; luku, ?); he'lpipol, ashes (hel, fire; pi'pol, ashes); napu'tse, beak (na, mouth; pu'tse, ?); cunts-i'tsa, bear-skin blanket (cun, bear; ts-i'ts-a, blanket); tse'lakape, butterfly (tse'la, ?; ku'pe, wings); hu'mota, cheek (hu, face; mo'ta, elevation); teu'yanan, door (teu'ya, house; nan, mouth); mo'talel, heart (mo'ta, mountain; lel, stone); huk'i'wil, eyebrow, eye-lash (hu, face; k'i'wil, ?); hu'tsinaka'pe, eyelid (hu'tsi, eye; naka'pe, feather); meho'le, finger (me, hand; ho'le, ?); k'a'ni, human-being (k-a, man; o'ni, human); ho'lpel, leaf (hol, tree; pel, ?); lai'me'i, ocean (lai', white man; me-i, water); lutcele'l, tobacco-pipe (lu'tee, tobacco; lel, stone); name'i, saliva (na, mouth; me-i, water); nahe'le, vapour (na, mouth; he'le, steam); mets'i'ts-a, mud-hen (me-, water; ts'i'ts'a, bird).

It is quite clear that a large number of animal names are such composita, but the meaning of their individual constituents is unknown, e.g.:

ts'i'on'ol, unknown bird (ts'i-o'n'ol); ci'manapi, unknown bird (cima-napi); ce'k-tel, unknown bird (cek-tel); tsi'mitu, humming bird (tsi-mitu); ho'tsp'ui, duck (hots-p'ui); lo'lopote, eagle (lolo-pote); sunsna'tsel, eagle (suns-natsel); hits-ele'wi, unknown fish (hits-el-ewi).

*b. Noun plus adjective, etc. (rare).*

we'hasi, unknown animal (we, ?; -hasi, old); cuko'l-o', bottom ?(cu, back; down, -kolo', ?); kanitu'tcuma, chief (kani, Indian; tutei, big); pime'i, juice (pi-, diminutive; me-i, water).

*c. Noun plus verb (rare, cf. nominalized verbal phrase).*

k'a'nuci, aboriginal (k-a, man; on<sup>v</sup>, human-being; ci, to live).

*d. Onomatopoeic nouns.*

te'ktek, hawk; ts'ak', black-bird; k-a', crow; k'a'ya, duck; k'ek', crane; pi'pi, quail; tsa'tsa, mountain quail; ts:pitok'tok, robin.

*Primitive nouns with nominal prefixes, formatives, or suffixes.—*

na'pic, ashes (\*pi, cf. pi'pol, ashes); mi'tic, chestnut (\*miti); ca'tsma, comb (\*cats); a'pus, pigeon (\*api ?); ni'wel, drum (\*niwe); ts'ai'ma, elbow (\*ts'ai); o'pito, "fir"-tree (\*opit); hupi'tic, fore-head (hu \*piti); pitca'lis, girl (\*pitcala); pu'tic, hair (\*putc<sup>v</sup>); tsa'o, willow (\*tsa ?); cōmo, buckeye (\*cōm); la'kapus, muscle (\*lakapu); papa'tus, twin (\*papati); na-ε'tek, chin (\*na-ε'te); cawe'lek, jaw (\*cawele); huho'lok, neck (\*huhala); helpi'pol, ashes (\*pi); huk'i'wil, eye-brow (huk'iwi); ho'lma, woods (\*hol); pa'ama, grass (\*pa'a); pi'ma, basket (\*pi'); he'ma, basket (\*he).

*Neutral stems (rare).—*

hel, fire; he'lca, it burns.  
o'kel, oko'li, word, language; oka'li, to talk.  
meci'kce, breath; meci'kce, to breathe.  
? teu'ya, house; tcuyi, to live, dwell.  
ne'wela, intestines; ne'wela, inside.  
o'p-i, bottom; op, below.  
pe', foot; po't-, to kick.  
pil, snow; pili, to snow.  
natuma, wading place; tv, connected with water.  
ce'i, wind; ce', to blow.  
? hol, wood; oh'i'le, to build.  
? wil, body; (me)we'le, to bump.  
napo'li, ball; pe'le, to roll.

*Nominalized verbs.—*

pici'wuk, breeze (pi-, diminutive; ciu, to blow; -k, nominalizer); yo'kema, chair (yoke, to sit and -ma); mahuco'temō, comb (ma-, prefix; hu-, head, face, cote, to brush; -ma); omapi'hiwuk, earth-quake (oma, earth; pi-, diminutive; hiw-, to shake; -k); eole'kema, fish-hook (eo, fish; leke, to catch; -ma); he'se'el, grind-stone (hese, to grind; lel, rock); huto'nokma, hat (hu-, head; tonok, hill; -ma); mai'hupe'hemo, mirror (mai-, reflexive; hupehe, to look; -ma); wo'lic-o, mush-stirrer (wo'lic-, to stir; -o); omahona'nvk, open place (oma, earth; honan<sup>v</sup>, to burst; -k); le'oma, rope (leo-, to tie; -ma); huntsawe'ma, sleeping potion (hun, sleep; tsawe, ?; -ma); le'kuma, throat (lek<sup>v</sup>-, swallow; -c; -ma).

The instrumentalized verbs belong here too.

## §§96-98. FORMATION OF CASE

## §96. Introduction

Wappo possesses a large number of syntactical case forms all formed in the same way, by suffixes. The principal ones are the subjective, possessive, instrumental, ablative, locative, and a very specialized vocative. The objective is the stem itself. This latter fact is rather interesting because in Yuki proper, the suffix, which is the equivalent of the Wappo subjective, is employed as the objective and the stem is the subjective. This difference in usage is very interesting and suggests a secondary development in both dialects. Wappo throws no light on the subject but Yuki proper does. There we find an *-a* as animate of numerals and adjectives and an *-i* as inanimate of numerals. The Wappo subjective is *-i*, the Yuki proper objective *-a*. In addition a large number of Wappo nouns—a larger percentage than can be assumed on the basis of chance—end in *-a*. But even more significant, the normal method of forming the subjective of nominal stems ending in a vowel, is not to add *-i* but to have it displace the terminal vowel, thus suggesting that this *-a* is not part of the stem.

Now if we look among the adjacent languages we find that a suffixed vowel is characteristic of the objective in Yokuts, Miwok, Costanoan, and Northern Maidu. In Yokuts where we have the fullest data it is *-a*, *-o*, and *-i*. The examples given of *-i* show that it is used only with animal names and a few relationship terms.<sup>41</sup> A large percentage of nouns likewise show change of stem for the objective. A glance at Kroeber's list<sup>42</sup> demonstrates that the overwhelming number with a suffix are names of animals, body parts, and relationship terms. We thus have two series, one prevailing animate, the other inanimate.

In the Hokan group, a true subjective case occurs in Achomawi and Southwestern Pomo, and probably Pomo in general. In the former language it has two forms, *-ka* for masculine and animals and *-waka* for all others.<sup>43</sup> In Southwestern Pomo it is *-ya*, to be identified with Wappo *-i*, and is prevailing used with animate nouns. In Northern Yana<sup>44</sup> no subjective or objective case exists but there is a differentiation for male and female in the demonstratives and the substantial derivatives of verbs, the male form having a vowel and the female either no vowel or a vestigial one.

<sup>41</sup> This series, 2:196.

<sup>42</sup> This series, 2:198-199.

<sup>43</sup> The exact difference is not quite clear as yet. Author's manuscript.

<sup>44</sup> Sapir, *The Fundamental Elements of Northern Yana*, this series, 13:233-234.

The foregoing facts may have a bearing on the Wappo and Yukian subjective case. In the first case Yuki -a, as Kroeber has suggested,<sup>45</sup> is to be equated with Yuki -a animate numeral suffix, thus intimating that its subjective case significance is secondary. Wappo nouns, we have seen, have only -i subjective with no hint of division of nouns into either animate and inanimate or male and female, unless the -a of many noun-stems is to be interpreted as a vestige of some such grouping. Now this -i of Wappo can, I believe, be equated with Yuki -a objective and animate and its subjective force be regarded as secondary. We can consequently assume for generalized Yukian a noun-grouping into animate and inanimate and this in turn may be regarded as merely a special aspect of masculine and non-masculine and would be easily comparable to Hokan male-female and Yokuts male-female-body-part nouns contrasted with other nouns.

Summing up, therefore, we suggest that the Wappo subjective case is a secondary and late development of an older generalized Yukian animate-inanimate gender system and that that in turn is related to a Hokan male-female and a Californian Penutian(?) male-female differentiation.

Only a few words are necessary for the other cases. The instrumental, ablative, and locative are identical with the same elements in Yuki and have correspondences in Hokan (Pomo, Achomawi, Salinan, Yana?) and in Californian Penutian (Wintun, Maidu, Yokuts). The possessive case -mε is the Wappo general possessive pronoun, which is however always prefixed to nouns. The vocative -sta is a special local Wappo development with a very restricted meaning.

### §97. *Formation of the Subjective Case*

A few nouns make no change for the subjective case; the overwhelming majority, however, do. Those ending in a consonant and a few ending in a vowel add -i, a very few change terminal -ε to -ayi, -o dissimilates into -wi; two show metathesis, and two stem reduction.

#### 1. -i with consonant stems.

he'li, anus (hel); me'li, acorn (mel); ts'a'ki, black-bird (ts'ak); wi'li, body (wil); mi'tci, chestnut (mi'tc); hu't'i, coyote (hut'); t'u'li, country (t'ul).

#### 2. -i with terminal vowel stems.

so'koloi, anus; na'utu'i, beard; ts'ai-i, blue-jay; ts'i'ti-i, bone; hu'i'i, nipples; tu'i-i, breasts; to'ntci-i, cat; ha'la'i, centre-pole; p'e'tai'i, egg; hu'i, face; e'owei, fish-spear; com'i, food; pe'i, foot; me'wayi (mewai-i), giant; tsi'i, grass-hopper; hu'i, head; hi'i, louse; pi'i, meat; we'no'i, medicine; olo'i, step-father; ca'i, teeth.

<sup>45</sup> This series, 9:355.

## 3. -i (-yi) with terminal vowel mutation.

me'tayi, woman (me'te); po'layi, boy (po'le); napu'tsayi, beak (napu'tse); ci'ayi, grass (ci'e); so'kayi, star (so'ke); pu'tsayi, fire-stirring stick (pu'tse); laiya'kayi, thunder (lai'yak).

## 4. With double formations, -i and -ayi.

ko'si-i, ko'sayi, bones used in grass-game (ko'si); ? ts'a'yayi, ts'ai''i, bluejay (ts'ai); holopu'ti', holopu'tayi, basket (holopu'te).

## 5. -i with dissimilation of -o to -w.

e'wi, fish (e'o); e'wi, husband (e'o); tsi'wi, fly (tsi'u); k-e'wi, man (k-e'o); ne'wi, nest (ne'o); melka'wi, salmon (melka'o); tsa'owi, willow (tsa'o); ya'owi, older brother (ya'o).

## 6. Displacement of terminal vowel by -i.

Most of the stems ending in a vowel follow this method. The examples actually obtained, follow:

ats'o'li, pestle (ats'o'la); a'yi, father (a'ya); e'ki, son (e'ka); e'pi, younger brother (e'pa); e'tsi, younger sister (e'tsa); e'tsi, spider (e'tse); e'tci, creek (e'tcu); e'ce, son's son (e'ce); i'yapi, older sister (i'yape); o'mi, earth (o'ma); onu'tsi, child (onu'tse); k'a'yi, dusk (k'a'ya); k'e'ci, deer, meat (k'e'cu); le'omi, rope (le'oma); lolopa't-i, common-eagle (lolopa't-e); lu'ki, bow (lu'ka); lu'tci, fox (lu'tca); mo'ti, mountain (mo'ta); ne'wi, mother's brother (ne'wa); pici', antler (pi'ce); pi'tsi, mother's father (pi'tsa); pitsa'li, girl (pitsa'la); po''i, father's sister (po'a); ta''a, father's brother (ta''a); tco'ci, lump (tco'ce); tco'pi, lungs (tco'pa); tcu'ci, pepper-wood (tcu'c-o); te-u'hi, dew (te-uhe); tsu'mi, salt (tsu'me); tcu'itsi, dog (tsu'itsu); oka'ni, relation (oka'ne); o'ci, grand-father (o'ca); otsa'wi, flower (otsa'we); ci't'i, nasal-secretion (ci't'e) hai'yi, dog (hai'yu); ha'mi, intestines (ha'me); he'mi, packing-basket (he'ma); hitsi'', pitch (hitse''); ho'tsi, sweat-house (ho'tse); ho'ni, earth-worm (ho'na); ho'tci, cotton-tail rabbit (ho'tca); hup-a'ti, cheek-bone (hup-a'ta); ka't-i, elder-wood (ka't-e); hu'nti, day (hu'ntu); k-e'yi, cradle (k-e'ye); k-i't'i, belly (ki'ta); k-u't'i, rib (k-u't'e); k'aci'tsi, grown-up boy (k'aci'tse); k-a'tami, panther (k-a'tama); tcu'yi, house (tcu'ya); tc'o'ti, flea (tc'o'te); tselaka'pi, butterfly (tselaka'pe); tsa'tsi, mountain-quail (tsa'tsa); tsi'miti, humming-bird (tsi'mitu); tsi'pi, wild onion (tsi'pe); tsi'tsi, bear (tsi'tsa); tsi'wi, brother-in-law (tsi'wa); tso'toki, elk (tso'toko); ts'i'ts'i, bird (ts'i'ts'a); ye'ki, mush (ye'ke'); yo'mti, medicine-man (yo'mto).

## 7. Metathesis of terminal syllable.

tca'lsi, girl (tca'lis); ye'nci, rabbit (ye'nic).

## 8. Apocope of terminal syllable.

ku'ti'i, small (ku'tiya); ti''i, grandmother (ti'ya).

## 9. Unchanged stem.

e'cepi, daughter; po't'i, down-feathers; e'mli, father-in-law; pui, fish-net; t'a, leg; wo't'i, owl; pe'u', penis; pi'pi, quail; lu'ki, root; hu'tsema, shoulder; mi'si, wife.

There are probably others.

### §98. *Vocative, Possessive, and Oblique Cases*

Normally there is no change for the vocative, although a tendency exists to shorten stems with terminal vowel and to use the subjective form. A true vocative formed by suffixing *-sta* is used with relationship terms but only when the people addressed are either far away or invisible. The meaning of *-sta* is not clear. It may be *-s-* usitative and *-ta* pronominal-adverbial suffix "there." For examples cf. §93.

The possessive and the various oblique cases are quite regular. A list of them with examples is given in §§93, 94. What is possibly a special development of *-ti*, with, is found with a few nouns (cf. syntax §118), where it apparently has the force of a subjective or vocative case ending.

### §99. *Formation of Plural*

The plural is formed today, with a very few exceptions, by suffixing *-tε* (rarely *-ti*). There are however a number of other "vestigial" methods, e.g., the suffixation of *-i*, *-u*, *-s* (*si*), *-ya?*, *-lu*, *-ma*, different stem, and *-tεtε*.

It is difficult to decide definitely whether *-tε* is to be regarded as a secondary form of the verbal iterative *-tε* or a survival of a much older function. Yuki proper does not possess it. It is perhaps best to take it as a local Wappo development.

*-i*, vestigial in Wappo, although clearly fused idiomatically with a fair number of noun-stems, is normal in Yuki proper (with a variant in *-a*) although these are confined to names of animals and plants.<sup>46</sup> The Yokuts possess the same elements *-i*, *-a*, for persons and a few animals and Pomo has *-ya* employed only with persons.

*-s*, found in only one doubtful noun but the regular plural pronominal suffix and still functional in *-si*, "times," is still used for a few personal nouns in Yuki proper.<sup>47</sup>

*-lu*, slightly functional in a few cases in Wappo is unknown as a plural noun suffix in Yuki proper. It is clearly a secondary development of verbal continuative *-l*, *-le*.

*-ma*, noun-formative, most frequently used with nominalized verbs (cf. §93), is found in Yuki proper as *-am* collective.

Differentiation of stem for singular and plural occurs in one or two forms and is certainly not without significance. The examples are:

*onu'tse*, child, *o'koto*, children; *tu'tca*, large (singular), *ka'tomela*, large (plural); *mai'*, who (singular), *iu'nōki*, who (plural). The reduplicated plural *-tεtε* is purely local and restricted to relationship terms.

<sup>46</sup> This series, 9:353.

<sup>47</sup> This series, 9:353.

## §§100-108. OTHER PARTS OF SPEECH

## §100. Personal Pronoun

The personal pronominal series is comparatively simple. With the exception of *tε-*, *him*, *ɔn-*, *them*, really demonstrative in origin, they never fuse with the verb-stem. They appear in two forms, a subjective and an objective, and in three numbers, singular, plural, and dual, the last however found only in the third person. The forms follow:

	<i>Subjective</i>	<i>Objective</i>
I	a, ha	i
thou	mi	mi
he	tse'pi	tε-
we	t'si	t'sa
you	m'tsi	m'tsa
they (plural)	tse'koti, ɔ'ni	tse'koto, ɔn-
they (dual)	ɔ'koti	ɔ'koto

A comparison with Yukian proper, Coast Yuki, and Huchnom shows some interesting differences. Yuki proper is far more conservative. It has preserved an old singular suffix for the first person subjective, a first person exclusive plural (*mi*), and an old third plural. This old third plural has however been preserved in the possessive series (*mesa*). For the third singular Wappo has apparently selected one demonstrative (or more properly two), and the Yukian dialects, another. In the third plural Wappo has likewise developed two new forms, one on the basis of third singular *tse* (*tse'koti*) and the other from an old neutral stem *ɔni* (living beings, to live) and formed an irregular objective from it (*ɔ'n-*). The Wappo dual *ɔ'koto* is quite unknown in Yuki proper, Coast Yuki, and Huchnom. The dual element, to judge from its possessive form, is *\*ko* so that *koti* can be explained as *\*ko* with plural suffix *-ti*.

With regard to the peculiar suffixed pronominal(?) series in the causative conjugation, cf. §75, *d*.

The personal pronouns may be followed by any case suffix and then always appear in the "objective" form, e.g., *tε'ka*, with him, *ima*, for me, *ɔ'nwe*, for them, etc.

In subordinate sentences the objective forms are inconsistently used as the pronominal subject, but Wappo has lost the use of the objective as the subject of certain verbs, a usage still preserved in Yuki proper.

*i nai' tε'awo'ctawen*, when I broke his pine-nut.

However as the objective personal pronominal forms are also used as the possessive the foregoing usage has become merged in an idiomatic construction which consists in employing the possessive forms in indirect discourse and other subordinate sentences. In origin this is simply the persistence of the use of the objective form as the subject of the verb in subordinate clauses, mentioned above. The Yuki idiom of putting the object of certain transitive verbs in the possessive is clearly identical.<sup>48</sup> There, however, the possessive suffix appears with the pronoun, which is not the case in Wappo.

The question of the relation of the Yukian pronominal system is too large to enter upon here. It shows marked affinities with the Hokan series in spite of considerable divergence of detail.

### §101. Possessive Pronoun

The regular possessive pronoun is simply the objective series of the personal pronoun with a few changes. It appears however in two forms, one with and one without the possessive suffix *-me*, the first used with relationship terms and body-part nouns to indicate inalienable possession and the second with all other nouns to indicate alienable possession. The second series can however be employed with body-part nouns when they specifically express separation from the body.

The main difference between the personal and the possessive series is the use of the old form *mesa* for the third plural, and the dual *kə*, *ku* with all the plural forms, although *tse'kəto* is also found. The series follows:

	<i>Alienable</i>	<i>Inalienable</i>
my	<i>ime-</i>	<i>i-</i>
your	<i>mi'me-</i>	<i>mi-</i>
his	<i>te'me-, me'me-</i>	<i>te-</i>
our (dual)	<i>*isa'kəme-</i>	<i>i'saka-</i>
our (plural)	<i>i'same-</i>	<i>i'sa-</i>
your (dual)	<i>*mi'sakame-</i>	<i>mi'saka-</i>
your (plural)	<i>mi'same-</i>	<i>mi'sa-</i>
their (dual)	<i>me'sakame</i>	<i>me'saka-</i>
their (plural)	<i>me'sa-, tsekə'tame</i> <i>*(me'same, not found)</i>	<i>me'sa-, tsekə'to</i>

Phonetically all these forms are proclitics, but in the singular the fusion with the stem seems much closer.

#### 1. Alienable possession.

*i'memetai'*, my wife; *i'mel*, my rock; *imetcu'iteu*, my dog; *imeme'tse*, my arrow; *mimetcu'iteu*, your dog; *temetcu'iteu*, his dog.

<sup>48</sup> This series, 9:371-372.



## 2. Inalienable possession.

ia'ya, my father; ie'pa, my older brother; i'nuk, my friend; ihu'', my head; mit-ɔ'l, your hair; mits-ε'ma, your ear.

But:

imets-ε'ma, my (detached) ear; imet-ɔ'l, my (detached) hair.

Possessive -mε has, we have seen, become a general nominal possessive (cf. §93).

There are a few sporadic indications of an older series to which some weight should be attached. pe''u, penis, was found in the form haipe''u, my penis, and when this is compared with mai' reflexive pronoun frequently used as inalienable possessive third person one gets the impression of a series. \*hai-, first person, \*mai', third person, which might be analyzed into ha, I, ma-, indefinite object, and \*i possessive for inalienable possession to be contrasted with -mε.

An exceedingly important special use of the third person inalienable and alienable (tε-, memε-) in the sense of Latin eius and suus runs through the whole language (cf. §32).

Apparently Wappo as compared with Yuki proper has developed its possessive suffix independently, the former from an old demonstrative ma, used today as indefinite verbal object, and the latter from the demonstrative tε still found in both languages.

## §102. Demonstrative Pronouns

Wappo possesses five commonly used demonstratives: he, we, this; tse, te, that; ka, that (yonder). They all appear with a number of specific demonstrative suffixes whose force is not always clear but which seem to be prevalingly adverbial.

he'pi, this (emphatic ?); we'pi, this (emphatic ?); tse'pi, that (specialized into he); te'pi, that (emphatic); ka'pi, that (rare); he'o, this (here ?); tse'o, that (there ?); he'ta, this (here ?); we'ta, this (here ?); tse'ta, that (there ?); tse'uwa, there; tse'ti, there; he'ti, here; we'ti (?), here.

They are also found with the nominal case suffixes, the subjective excepted.

te'piya, near him; tse'ma, for that; he'tu, toward this; tse'wela, toward that; we'wela, toward there; we'pi, from this.

To the above five should be added the indefinite object of verbs ma-, of which -mε possessive is, we think, merely a variant. The indefinite object of verbs ho- is probably a variant of he.

A number of the demonstratives *he*, *tse*, *te* have developed into what is, to all intents and purposes, a true article. (Cf. syntax §§117-118).

Wappo, far more than Yuki proper, seems to have preserved the old Yukian demonstratives.

### §103. *Adjectives*

Adjective stems are of two types, either verbal in origin or primitive. There are comparatively few of the latter class and I imagine even their number would be reduced did we know more about their history. Most of those with prefixes or suffixes are apparently nominalized verb-bases.

#### 1. Primitive stems.

*uka'ci*, pretty; *u'wa'*, bad; *cika'tus*, blue; *huci'i*, good; *hupa'wa*, smooth; *humo'yus*, fine (possibly nominalized verb); *hupa'hes*, wide (possibly nominalized verb); *mi't-ε*, short; *po'te*, brown, gray; *sa'wiya*, good; *t'a'ka*, soft; *tu'tsa*, large; *tsa'pis*, thin; *tso'we*, black; *has*, old; *ku'tiya*, small; *k'a'yel*, white.

#### 2. Verbal (cf. also vocabulary).

*hok-ε'ta*, flat (*k-ε'*, to lie down); *hu't'ice*, crazy (literally "he is crazy"), *melo'k'eye*, limber; *motu'pake*, stiff; *mots-i't'ake*, dark; *natec'wus*, old; *natec'tus-ki*; ring-shaped; *t'e'yel*, soft; *ti'c-gi*, tight; *tca''le*, crooked; *te'e't'el*, curly; *te'o'ye*, lazy; *tsats*, cold; *tso'tel*, sticky; *tsume'*, sour; *ts'aci'wa*, quiet.

An adjective always agrees with its noun in case.

The adjective conjugation is characterized by the fact that the indefinite and past tenses are alike and always take *-ki* which is a true verbalizer. Frequently likewise *o-* is prefixed or *-ya* suffixed.

*ci'kali*, stingy; *oci'kalk*, he is, was stingy.  
*uka'ci*, pretty; *uka'ciyaki*, *uka'ciyski*, he is, was pretty.  
*ca'ti*, bitter; *ca'tiki*, *ca'taki*, it is, was bitter.  
*u'wa'*, bad; *u'wa'ki*, it is bad.

### §104. *Formation of Interrogative*

The interrogative is regularly formed by the proclitic *i* and the postposition *yo*, *yo*. The pronoun always follows.

*ina'otayo'a*, what did I see?; *ika'mtayo'a*, what did I do?; *itsa''tayo'a*, what did I say?; *itsa''ceyo tse'pi*, what did he say?

The suffix *-yo* is also found with the interrogative pronouns, e.g.:

*iha'yu*, when?; *ika'mema'yo'*, what for?; *itai'ya*, where? (*ita'i*, where); *mai'yi*, who? (*mai'*, who); *tal'yo'*, what? (*tal*, what); *ta'maya*, why?; *ik-a'yo'*, how?

### §105. *The Numerals*

The Wappo have words for numerals from one to one hundred.

pa'wa, one; ho'pi, two; ho'poka, three; o'la, four; ka't-a, five; patena'ok, six; hopitena'ok, seven; hopi'han, eight; pa'walak, pa'wak, nine; maha'lus, mahai's, ten; mahai's pawale'wen, eleven; mahai's hopile'wen, twelve; mahai's pokale'wen, thirteen; hopihol, twenty; hopihol pawale'wen, twenty-one; po'kohol, thirty; o'lohoh, forty; ka't-ahol, fifty; hai's-hol, one hundred.

The suffixes that appear with them, -tenaok, -han, -hol, -lewen, are of unknown meaning.

The numerals appear with a number of special suffixes, -k, -ki, -ta, -tasi, and the old plural -si.

hopo'kaki, three of them; pa'wak, seven; pa'wata, once; ho'pita, twice; hopo'-kata, thrice; hopita'si, twice in succession; pa'wasi, once; ho'pisi, twice.

### §106. *Adverbs and Adverbial Postpositions*

The adverbial stems are either simple without suffixes or composite with suffixes. The first type may occupy any position in the sentence but the second group is always placed after nouns and pronouns and sometimes fuses with them to such a considerable extent as almost to be regarded as suffixes. They precede verbs. It is exceedingly likely that some of the nominal suffixes are really recently fused adverbs.

Most of the adverbial stems are unrelated to the noun and verb, but a few, derived from verbs, occur.

#### 1. Unsuffixed stems.

e'nya, very; op', down; o'na, again; u''ku, already; cu''u, back; han, behind; hu, yonder; ke'wi, tomorrow (k-e'o, to dawn); ke'wu, early (k-e'o, to dawn); le'wa, outside; me'na, fast; mo'ka, terribly; pa'i, alone (pa'wa, one); te'iya, slowly (-ya may be a suffix); te'mo, above.

#### 2. Suffixed stems. (Those with hyphen are postpositions.)

-o'npí, under (-pi, down ?); -o'npipi, under: 'o'pwela, under (-we'la, toward); 'opwe'lapi, down under (-we'la, toward; -pi, down ?); u'pe'ka, anywhere (u-, old demonstrative ?; -peka, not clear); -u'wela, under (u-, in; -we'la); -ci'ka, on one side (ci-, ?; -ka, meaning not clear), -cu'wela, below (cu''u, back; -we'la); -hanwe'la, behind (han, behind; -we'la); hanwe'lepi, behind (han; -we'la; -pi); he'l-a, below (he-) [cf. he'o]; -la meaning not clear); -he'l-awela, in front of (he'l-a, first; -we'la); helawe'lapi, in front of (-we'la; -pi); he'o, there (he, this); he't-a, hither (he); he'tati', right here (he); he'te', right here (he); -hi'nawela, other side (hi'na, other; -we'la); -huci'-ka, to one side (hu-, yonder; -ci'-ka; hu- may be identical with u-above); -huwe'lapi, sideways (hu-; -we'la; -pi); met-u-a'lapi, on top (met-, above; -we'le, ?; -pi); mo'kel, quickly (mok-, to go past; -l, continuative); -pe'huma,

under (pe-, foot; -huma); -pele'wa, at bottom (pe-, foot; -le'wa, outside); tsa'o, on top of (tsa, ?; -o, suffix); tsa'ope, on top of (tsa, ?; -o; -pe): tsel, then (tse, that); tse'o, up there (tse); tse't-a, there (tse); tse't-e, right there (tse); tse'wati', over there (tse); tse'ka, then (tse); tse'kapawa, at that time (tse, that; -ka, suffix; -pawa, once); ts-u'pik, ago (tsup<sup>v</sup>-, to elapse; -k, nominalizer); -meta'o, in center (met-, ?; -o, suffix); -la'pi, across (la-, ?; -pa, suffix); -mana'te, across (mana', ?; ti, suffix); -na'kulu, under, ?(na-, ?; -kulu, ?); -pata'o, between (pata-, ?; -o, suffix); -tcotai'ta, around (tcota-, ?; -ta, suffix); -wa'ti, over (wa-, in ?; -ti, suffix); -we'la, toward (we, this); -we'lapi, across (we); -wewe'lapi, across (we); -wewe'la, across (we); -wenwe'la, across (we); -ne'wela, inside (ne-, ?; -we'la); -ye'la, in front of (we-, this; -la, suffix).

### §107. *The Negative*

This is regularly formed by the postposition of la'ki, which is composed of la, not, and a suffix of unknown force which also appears with kaki, cannot. la'ki has the same effect upon the preceding verb-stem as the subordinating suffixes -tsel, -kwen and frequently causes them to lose the vowel of their tense-aspect suffixes. This fact, taken together with other indications, suggests that -ki is the general verbalizer.

la has been secondarily specialized into a suffix or postposition with the meaning of "without." For examples cf. §93.

### §108. *Connectives*

Wappo has a fairly large number of connectives indicating rather fine shades of relationship of the different parts of the sentence to each other. The most important connectives are the demonstrative-possessives -te and me, the equivalents of Latin eius and suus. This same function is expressed in Yuki proper by si and sa.<sup>49</sup>

The most important connectives are the following:

ma''a, and, then (does not begin a sentence); pa't-a, then (with correlative force; begins many sentences); yo, Latin—que; tse, tse'o, tse'ti, tse'ma, tse'ta, tse'ka, tsel, then (these all have different shades of meaning); -wen, subordinating; tu, because.

For full discussion cf. Syntax, §117-118.

<sup>49</sup> This series, 9:369-370.

## §§109-118. SYNTAX

## §109. Introduction

A number of syntactical points have already been discussed in the various sections on morphology. As naturally not all questions can be taken up, we shall confine ourselves to the following subjects:

1. Types of word-units.
2. Position of words in the sentence.
3. Expression of plurality and case in noun and adjective.
4. Position and use of personal pronoun.
5. Use of possessives *te-*, *me-*, *teme-*, *meme-*, personal-possessive *on-*, reflexive-possessive *mai-*.
6. Use of demonstratives as articles and connectives.
7. The verb.
  - a. Absolute forms; forms with purely aspect suffixes; forms with tense suffixes.
  - b. Use of absolute and semi-absolute as imperative, participle, and passive noun.
8. Correlation of sentences.
  - a. General.
  - b. Use of *te-*, *me-*, etc.
  - c. Use of connectives *he*, *yo*, etc.
  - d. Use of conjunctions *pa't-a*, *ma''a*, etc.
9. Subordination.
  - a. General.
  - b. Postpositions *-wen*, *-tsel*, etc., and their influence upon preceding verb form.
  - c. Nominalization and instrumentalization.
  - d. Absolute form.

All the examples that follow are taken from the texts.

## §110. Types of Word-Units

Marked stem-composition of the type so characteristic of Algonkin, Yana, and even Achomawi is quite unknown. In the verb it is practically absent except in the case of such auxiliaries as *-mök*, *-ya*, etc. There exist however two types of stem-composition that have given rise to true word units, the composite nouns illustrated particularly by individual and place names, and the pronominal units.

*Individual and place-names.*—The stems, noun and verb, are either simply strung together without any particular fusion, or a noun-formative is added.

*k'a'namota*, St. Helena mountain (*k'a'na*, knoll; *mö'ta*, hill); *höl-ta'umöta*, name of hill (*höl*, wood; *tau*, ?; *mö'ta*); *huntu'lhuk'tiya*, place name (*han*, sun; *tul*,

valley; hukt'tiya, dizzy); me'wa-ole'le, grapevine-flat-land (me'wa, grapevine; ole'le, flat place); tcu'yamota, house-mountain (tcu'ya, house; mo'ta, hill); holweyo'k'ena, long wood-gathering place (?) (hol, wood; we'yo, gather ?; k'e'na, long); scli'lihoh, place name (su'lil, ?; hol, wood); cate'onoma, place name (cate'o, ?; -no'ma, suffix); lo'knoma, place name (lok, ?; -no'ma); t'e'kenan, Geyser spring (t'e'ke, ?; nan, mouth); me'ka, water-crow (me-, water; ka, crow); Tupiyokema, personal name (Tupi, ?; yo'ke, to sit; -ma, noun-formative); Mutihotse'ma, personal name (mu'ti, north; ho'tse, ?; -ma).

*Pronominal units.*—Personal pronouns enter into union with one another and, at times, with certain conjunctions. When, in addition, case suffixes follow, a fairly firm fusion takes place.

ami'sa, I-you (plural); ami', I-you; temi'ma, he-for you; temi'satu', he-to you (plural); u'a, I (past tense); tse'l'a, then I.

### §111. *Position of Words in Sentence*

The verb is always last except that occasionally nouns in the instrumental case follow it. It seems to vary in position with individuals.

#### Informant A.

pa't-a hu't'asi lelho'tsu mai'opo'nta, then coyote locked himself up in the hole of a rock.

pa't-a hu't'asi k'a'pe ha'ota, then coyote picked up the feathers.

tse'pi k-a'naci po'le ne'eke, he the Indian had a boy.

o'na eole'kuma make'kita me'yu, again he threw the fish-line in the water.

tseka'li me'yu menato'ake, thus he got in the water.

ma''a mewi'eski te'ti, still he held on with the string.

pa't-a me'i tchotse'ta huso''oki, then the water was up to his neck.

#### Informant B.

hu't'asi yo'oki me'e'ceka, coyote is there with his grandson.

o'ni k'e'cu mela'esi, they hunted deer.

ts'ai'hasta ts'i'tsi li'wati, to the bluejay bear came after.

pa't-a o'ni pawe'la k'e'cu pacu'ita, then they threw the deer in one place.

pa't-a memetc'a'mati te'hu pala'tate, then he clubbed his head with his cane.

pa't-a tse'pi'ce ts-e'ti meya'o hu'tsi ota'pita, then the horn with it his younger brother his eye he stabbed.

ts-o'upi mul onhu'tsi we'la mema'kuci', from the ground all over up to their eyes it snowed.

ku'tiya k-a'ni ohi'le tu'tc-a ma-e'tep'e o'mu tse'ka se'ski, the short man a large whole flashing abalone-shell he wore.

### §112. *Case and Plural of Nouns and Adjectives*

Nouns and adjectives always indicate the subjective case (excluding of course the exceptions given in §§96-98) but only nouns indicate plurality. Adjectives are however not infrequently nominalized and

then treated like ordinary nouns. In such cases either *te-*, *the*, *this*, or *ən-*, *they*, *these*, is generally prefixed to the adjective.

*pitsa'li ku'tiyi' ca'iki*, the youngest girl jumped up (*pitsa'la-ku'tiya*).  
*te·atsi'tuke k-a ku'tiyi'*, a little person was given birth to.  
*onpitsai'yate*, these ugly (girls)! (*pitsa'iya*, ugly).  
*kila'kti*, these brave ones (*kila'k*, brave).  
*onsa'wiyate*, the good ones (*sa'wiya*, good).

Sometimes the adjective remains unchanged for the plural.

*onsa'wiyi hewa'usi*, good ones will grow up.  
*ənku'tiyi howa'lala*, small ones are crawling around.

### §113. Personal Pronouns

They practically always appear before the verb, the pronominal subject preceding the object. There are however a number of verbs generally followed by the pronoun and in certain constructions this order seems to be preferred:

*teo'el' a ya'omi*, I'm almost dead.  
*teose''a əc-a*, I'm sick, grandfather.  
*ika'lica*, it hurts me.  
*i'hu te'metsela'li haci''a*, fall on my head, I should say.

As indicated before (§§96-98), the use of the objective forms in subordinate clauses is inconsistent. Informant A used them far oftener than informant B, e.g.:

*imet-a'maktsel*, when I swam back (informant A).  
*iteṭa'etsel*, if I killed him (informant A).  
*ihuci'itsel*, if I am good (informant A).  
*ihinte'mə*, when I am sleeping (informant A).  
*ihintsə'metsel*, when I am dreaming (informant A).  
*ts'a'o 'a yə'əki tsel*, when I was sitting on top (informant B).  
*tu' ihuwo'li'*, that's why I am annoyed (informant B).  
*i me'a'ya t'a'ta huwe'la*, that's where I killed your father (informant B).  
*tu''a mihowai's-a*, that's why I forbade you (informant B).  
*a'ti ime' tsene'wela ola'ta ca''i tse'l'a mi-ə'wue-i*, if I shoot arrow through four times then I'll marry you (informant B).  
*ma''a t'si te'ə'niya*, when we are afraid of him (informant B).

The old personal pronoun of the third person used today mainly as a noun-possessive is regularly employed in the objective case in subordinate clauses:

*me'sa k-a na'ota tu'*, when they saw a man.  
*me'sa opa'otseta*, when they finished eating.  
*me'sa o'ko'liwen*, when they cook.  
*me'sa metə'iyawen*, when they were about to leave.

§114. *Personal-Possessive* (mε-, tε-, temε-, memε-, mai'-)

A fundamental trait of the language is the distinction between mε- (suus) and tε- (eius) and, with transitive verbs, the distinction as to the nature of the object he, his own (memε-) or he, someone else (temε-).

metco'oki pa't-a meyo'k'uma, he came out and then he (suus) flew away.

ole'uta pa'ta mehe'tumakta, he tied it up and then he (suus) pecked it.

tewe'elki pa't-a tekat'ice, he (coyote) ran back and then he (eius) laughed.

(The tε- of tewe'elki means "back").

"male'ula" pa't-a wa'ati te'tu tehe'ske, "go" (she said) and she (eius) gave pinole to him.

temepine'aki, she caught up to him.

pa't-a temε-o't'o'ta, they tied around him.

temetse'lali, they hit him.

temehoi'ta, he (suus) fooled him (eum).

memet'a'pita, he made his (own) hole.

memela'se, he put in his (own).

memet'o'tesi, feel around for him (your own).

memewi'makeki, he grabbed his (own).

memepa"uta, she dropped her (own).

There is little doubt but that we are dealing here with two pronouns, tε, that, he; mε, that, referring to oneself. The latter is, in short, a reflexive related to mai' reflexive and quite distinct from possessive -mε. In the forms temε-, memε-, the second -mε is, of course, the possessive.

Clearly related to the use of mε- is the custom of preposing mai'- reflexive. In all the cases obtained mai'- seems to imply that the action is directed toward a closely related individual, e.g.:

mai'tetco"he tse, let him (my brother) die.

mai'mi t'o'tsi, you had killed me (your son-in-law) you thought.

mai'hantso'ice, she was feeling sorry for him (her relation).

mai'- is also used frequently as simple possessive:

mai'hu'tsi, his eyes; mai'la'ka, his arm; mai't'a'o, on her legs.

§115. *Demonstrative Pronouns*

Practically all the demonstratives (tε-, tse-, he-), have developed into definite articles and tse and he have likewise taken upon themselves the force of conjunctions, the former in connection with subordination, the latter as "and."

tetsu'ti, the bone; tehu'tsi, the eye; tetu'tsi, the large one; teku'tiyi, the small one; onhu'tsi, the eyes; tehu'so, the end; tse huwe'no, the medicine; he ca'owa, the bread; he, hu, the head.



he as connective is illustrated by the following sentences:

ca'owa tule'ulekta hey'e'ke hewa'te, bread I come after and mush and pinole.  
ts'ai'yi he ke'k'asi, blue-jay and fish-crane.

pat-a ye-ki maka'nke he ca'owi, then they brought mush and bread.

### §116. *The Verb*

The verb appears in two absolute forms, the base stem without any suffixes and the stem with the purely aspect suffixes, i.e., those that have no tense implications. The first of these absolute forms can be used either with the participial imperative or with purely nominal force, the second with a participial and a passive significance.

#### 1. Stem (without suffixes).

k'u'we ots-a'e, try running!

ak'u'we ha'kuce, I want to run.

a k-εo opa''ε na'oci, I see the man eating.

a k-ε'o ot'a'iu k-a'ci, I hear the man singing.

a k-ε'o ka'm-i k-a'ci, I hear the man crying.

te'o'ho ha'kuce, he wants to go.

mawe'hi te-uti, tell him to gather (wood).

ke''ete ts-a p-ika'se, it feels like broken.

t'a'na mesika'lmi, drying it they spread it out.

For examples of imperatives cf. §70.

me'tse k-ε'te te-ama'numakta, he took down the broken arrows.

hu'tsi ko'k'ε ts-a te'ewe'lelke, eyes swollen he came home.

#### 2. Stem with aspect suffixes.

ihohetel tse'ka ka't'ice, he laughed about the elk packing him.

o'k-o'mel-i mak'a'ci, it sounded like boiling.

hey'e'ke k'o'te ak-a'ta, I heard mush boiling.

t-o'ukis wi'yuk tehe'tomakta, he took down the bag hanging there.

a' i ka'mak ho-ε'wuce, I don't know whats to do.

maka'ci ot'ai'mele, he heard something singing.

maka'ci k-a'mele, he heard something making a noise.

k-a'lel pacutu'asuk, dragging and packing it.

ot'o'pus maka''ci, he heard it boiling.

tetc-at'a'nel, (then) pulling off.

nu'uki ya'mele, steal going to.

tele'ucele, coming after.

tucu'yole, throwing it towards.

t'api'sele, yelling.

tek-a'neli, packing them.

mahe'isele, bringing them (to house).

§117. *Sentence Correlation*

Sentences are correlated by a series of conjunctions all having rather specific meaning and definite force. The most important are *pa't-a*, *ma''a*, the numerous forms of *tse* (*tse*) originally the demonstrative pronoun (*tse'ta*, *tse'ti*, *tse'u*, *tsel*, *tse'kali*, *tsecu''u*), and *yə*, the latter with the force of the Latin *que*.

1. *pa't-a*. Connects activities taking place in close succession.

*pa't-a maw'e'lleke tcu'ya menat'ə'ake pa't-a tse e'o hok'e'tsita pa't-a mak'ə'ta*, and he went home and cut up the fish and cooked (them).

*pa't-a ts'un ne'wela mayə'komakta pa't-a meŋ' mayə'kaki pa't-a hopa't'iki*, and he flew through the smoke and flew on up and was shouting.

*pa't-a tela'ki wen pa't-a no'ma tenat'ə'aki pa't-a ho'ts-a ne'wela maku'weki pa't-a hel ot'ai'ta*, and he came south and arrived at the place and entered the house and walked around the fire.

2. *ma''a*. Indicates that a new activity has begun or that an old one continues. In the second case it is generally preceded by *pa't-a*, *tsel*, *katama''a*, etc.

*i'ka e't-a yok-ela'kusi ma''a mu'l-i t'si ts-itsa'ci*, I can't stay here so let us all become birds.

*a' ma''a ts-ai'tci, mi'tci ma''a mi'tcicki me'yu ma''a yo'k-o-makta . . . . ma''a tseka'licki ma''a mu'l-i ə'ni tsi'tsicki*, so I will become bluejay and turtle will become turtle so he jumped into the water . . . . and so they became and thus all became birds.

*on mi'ka tseka'li mi''iyo ma''aya tco'se*, they are all in the same condition as you, yet you get sick.

*mi', ə'ca, iho'i kotama''a a'tco'həsi*, you fooled me, grandfather, but I went anyhow.

*ho'pi ts-its-a pa''eski tsel ma'a t'u'pulu . . . .*, he put on two blankets and then (took) beads . . . .

*pat-a he'lepwela hoyo'kula hint-ak-e'na ma'a su'muwa tela'k-i*, and toward west he flew all day and in the evening came down.

*pat-a pa''mi tse eo ecawu, ma'a, mo'kel menats'e'ita*, then they ate the fish and bread, however he ate it quickly.

*"mi'sa ika'lica tse'usa?" "ma'a t'si tsa'usi."* "I am asking you what's the matter?" "Well we are just talking."

*nak-e'uski k-aci'tsi tselma'a ita'wela mo'otcu'lusi*, they hugged the youth and turned him around.

*pa't-a hu't'hasi me'petaka tsa'tsi tc'ama'numakta me'iyu ma'a t'ə'ita*, then coyote took the groin-roots and floated them in the water.

*hi'ni mamu'yelki ma'a ku'tiya omapi'kihuktsel*, the sun went down and then it was getting a little dark.

3. *tsel*. Indicates that the same type of activity is continuing or that an action, temporarily interrupted, has been resumed.

*tsel maka''ce "kutkutkut" həc*, then he heard it (again) sounding "kut-kutkut."

*tsel su'muwa me'teti awə ko'lək he'ima ho'pi tehe'yaki*, then (again) in the evening the women brought two basketfuls of cooked potatoes.

tse! me'ovcatu ona tse'ka mahe'si pai'iyo, and again to his grandfather he gave one and . . . . .

e'a' e'melki tsel i'mi mi'tu, well I was lost and then I came to you.

a' maku'yelki . . . . . tsel ita'a teu'ya ye'ki k'o'meli maka'ce, I went out . . . . and (at) my uncle's house I heard mush boiling.

ku'tiya omama'e'laki tsel ma'a mela'kati me-i la'pkata, a little (more) he approached and then with his arms he slapped the water intermittently.

mi'iyay me'na ha'mi'oka'li tsel o'ma-akacila'ki, don't speak so loudly as I can't hear anything.

ovni meyo'kelki tsel tseke'utei ona teku'yel hi'n-asi, they woke him up and in the morning Moon came in again.

4. tse'ta. Indicates that an activity, fairly closely related to a preceding one follows, but not immediately. tseta may be followed by prepositions (tse'tapi, etc.).

"teu'yi onte'la p-ai' mai'ki, tse'cu'u mipa'ha teu'ya; tse'ta a'ti matco" ", "A long way from them a house stood, after that your aunt's house; and there after a while go!"

tse! tele'pelki tse'tapi otai'umi, then he stopped and from there (again) he sang.

teka'pi pa'wa make'k'ita pa't-a he'luca tse'ta mai'meho'ot'ani, he threw in a bunch and it burnt and then he warmed himself.

tse'tatsa he'koti no'mce, tse'ta he'koti mel le'utasa', there only they lived and there they bear acorns.

mai'mepi'ya'haki tse'tapi pika'ki, he went near the house and from there listened.

5. tse'ti. This corresponds to the German use of "damit" but also means "upon that." It often means simply "with that."

we'yi maki'uki tseti'yo on-oke'tumi, they possessed flints so that they could cut people.

ma'a k'e'wi tse'ti e'u mema'nusi, so that the man might take the fish.

pa't-a tse'pice' tse'ti meya'o hu'tsi ota'p'uta, and then upon that he stabbed his younger brother in the eye with the horn.

6. tse'kali and tse'u. The first conjunction means "in that manner, thus" and continues a preceding activity; the section has the general force of "upon that."

tseka'li teye'la we'nwela matse'ka hok'ovise tse'kali wen, thus before him toward the south then he ran and so on south.

tse'kali omake'uktse! na'tovaki, thus toward daylight he got home.

tse'u ni'hulek tu'pulu picai'umokta, thereupon hawk carried beads in his arms.

tse'ka mu'ti etco'mo tse'u mamuye'lki, upon that he went north and thereupon moved on.

7. tse'ka. This means "now then," "and so," "thereupon," etc.

pa't-a tse'ka ovni ku'tiya opa'ta, and now then they ate a little.

pa't-a ka't'ece tse'ka mai'hope'li, and he laughed so that he rolled around.

oke'ke tse'ka ho'ts'a ho'tseli le'wa teke'k-uke. pata ovni k-ami' tse'ka tewil meko'lsi, they laid him and then threw him out of the window. Then (the people) cried and thereupon washed their body.

8. *cu''u* and *tsecu''u*. These have the meaning of "after that" or "thereupon."

*cu''u* *ku'k'sui* *pa't-a* *tela''ki*, after that Kuksu came.  
*tsecu''u* *o'ni* *ma''a* *ha'weki*, and thereupon they went to sleep.  
*tsecu''u* *o'ni* *no'meki*, and afterwards they slept.

9. *yo*. This has the force of Latin *que*.

*tena'n-ta* *paka'pita* *yo* *mama'ni'*, he tied it up and is taking it.  
*me'tete* *mama'ncele* *tse'koti* *pa''emi* *k-eu'tiyō* *pa''emi*, the women bringing it in, they (the women) ate and the men ate.  
*me'e'epi* *oka'toka* *k-aci'tsi* *yo* *k'e'cu* *ts'u'ti*, both of his daughters-in-law and the youth skinned the deer.  
*mahe'si* *pai''i* *yo* *tse'mul* *hei'ma* *ho'pitsemenats'e'i*, one he gave (to his grandfather) and the remaining two baskets full he ate up.  
*on* *mi'ka* *tse'kali* *mi''iyō*, all are the same as you.

### §118. Subordination

Practically all subordination is expressed by postpositions, by appending nominal case suffixes, employing the absolute form of the verb, using those with no grammatical suffixes at all or suffixes of purely aspect signification, and finally by eliding the vowel of the tense suffix.

The important subordinating postpositions are *tsel* (rarely *tse*) used mainly with the indefinite and future tenses, *wen* or *-kwen* used mainly with the past, and *tseta* and *tu'* used with any tense.

How fundamental is the position of these conjunctions is proved by the fact that when *tsel*, *tu'*, *tseta* precede the verb they never have a subordinating meaning.

1. *tsel*, when, if.

The verb preceding *tsel* is either not affected at all, i.e., it appears with its regular tense suffixes or this tense suffix loses its terminal vowel, or finally, the verb appears in its absolute form either with or without terminal vowel. Under what conditions these three distinct influences of *tsel* upon the verb take place is not clear.

The indefinites in *-i* and the futures never lose their full endings.

a. With no change.

*mi''i* *moma'ni* *tsel* *a'ti* *i'ok'oti*, when you take me then boil me.  
*ye''mi* *tse'l'a* *pa't-a* *ci'-ε* *mai'tcu''mi*, when I set the snares then I set the grass on fire.  
*he'waki* *tsel*, when he grew.  
*a'ti* *mitena'wi* *tsel* *mitem'sis*, if you find her, you can marry her.  
*tse' miteku'yesi* *tsel* *miyo'komokse*, if you put these on, you will be able to fly.  
*mi* *ope'nesi* *mai'hu''u* *tsel* *mai'mina'owula'kusi*, if you put it on your head nobody will be able to see you.

## b. With loss of terminal vowel of tense suffix.

ts'i'ts'a meyo'komak tse'l'a tepa'wa mehe'wi', when the birds fly then I jump at one.

ma''a okelu'ietsel he'ta tetc-o'isi, when (you) get lonesome, (you) should come here.

mə'omu'yalvktseł ts'ai tewe'lełki tcuya, when he disappeared blue-jay came back home.

ma''a omak-e'ustsel mak'u'yelki, when it became dawn he went home.

omak-e'wiktsel te-oke'li mamu'yelki, when it was about daylight, his voice disappeared.

meł' hin tc-awi'aloktsel pa't-a o'ni tule'aki, when the sun was up they came out.

on no'moktse tcu'ya p'e'u tc'ule'aki, where they lived to the foot of it they crawled.

## c. With modified stem vowel.

tc'aka'letsel omimu'li o'ise, when he pulled it out the whole world moved (\*kali).

'e'li te'matsa su'muwa te'mehuki'tsel, dig for him only when he wants it (\*huka-).

i'satu tetc'o'hutsel mi mu'lta tetele'uće, when she comes to us, you always come after her (\*tcoho).

he io'tc'ama-mi'noma i k'e'cu ko'letsel, what I take (rocks) out with when I cook meat (\*koli).

a'ti isa hoyo'k'itsel a'mi oca''tsi, after awhile when we win you'll pay me (\*yok'e).

2. -wen, -kwen. This is a true suffix although probably a recent one. It effects the verb-stem very much in the same way as -tsel.

mep-e'kuwen ca''iki nopa'l-aki, when he rolled them out he jumped up and yelled.

pa't-a mece'cukwen tetse'uteki, and when he got shot, he fell down.

pa't-a o'ni tele'omawen hi'nhasi . . . . . howi'ta, and when they ran, Sun hung on.

hi'nto hopi'hol su'pikwen . . . . ., when the twenty days elapsed . . . . .

pa't-a mesatenato'okukwe'n nata'ya mamai'ita, then when they got there he stuck it in his breast.

tsel metu'tcacukwe'n le'wa matco''ki, when he got large he went out.

pa't-a tetewe'icewen tetsi'tsi te-one'tita, and when he was coming home, bear grabbed him.

pa'oktse'itawen o'ni no'meki, when they had finished eating they slept.

me'temake'keitawen pa't-a hots'ana'ni maku'yelki, when he threw them in then he went out of the door.

teka'liya tena'otaowen mu'l-i . . . . ., when they saw him taking them down, they all (yelled) . . . . .

pa't-a mehato'pokwen le'wa teku'yelki, when it got hot, he went out.

me'tayi mena'otawen huye'kese, when the woman saw him, she was glad.

pat-a me'sa metco'iyawen me'same tcu'ya matcu'ta, when they were about to leave they burnt the house.

## 3. tse'ta, tse'ti, tse'u, where.

tecu'uktseta i'ta meyo'oki, where they threw it there they stayed.

omana'ocla'ki p'i'lmaktse'ti, they couldn't see where it was snowing.

ma'a tse'ta tehe'taki 'u me'tehetaktse'te, where he had carried one he carried another.

memt'si tc-ake'kita tse'u memt'si mak'e'yime, where he had left his wife he went to look.

he ci''e na'kulu tse'ta tseta mats'u'lta, where there was a bunch of grass there he poured it.

me'o'ca mewi'lic tse'ta mule'k'iki, where his grandfather told him he looked.

mena't'o'aki mesano'mayok tse'ta, he arrived where they had slept.

pa't-a hol t'o'tel mukuktse'ta pol maitc-o'pumi, there where there was a dead tree he rolled himself in the dirt.

he'lup hintcawa'lsetse tu'wela mayo'kati, to the east below where the moon comes out, he flew.

## 4. tu', because, on account of, in order to, etc.

na''umi tehe'mokel ono'lustu, they made fun of him because he finished so quickly.

miho'itu ts-a'wasi, he says that in order to fool you.

mi'i hunpiwa'lta tu' ahuye'kuse, because you wake me up I am hungry.

me'sa k-a na'ota tu' tsewo'ti, when (because) they saw a man, they spoke to him.

me'k-a he'lu make'kitatu' yo ma'a otai''umi, because he had thrown a man in the fire he was singing.

mit'o'lok t'si hoko'm-se temu'lta ont'o'hetu, we thought you were killed because he kills them every time.

a'ti 'wen me- pale'watu . . . . ho'lma t'e'imi teyo'komeksi, at the south where the water breaks off . . . . jump over the brush.

ye'kahak-ce tu' t'si mi ke'yi', because we want to get some we are looking for you.

we' tule'keti ek' mi'he hula'cet, come and look, grandson because you thought he was nothing.

## 5. Nominalization (instrumentalized verbs).

As we have seen, the absolute stem or the absolute stem with one of the participial-absolute suffixes (-k, -c, -s, -l) is always subordinate to the verb that follows. In all these cases its use is strictly analogous to that of the English participle. In addition to this spurious type of nominalization a true form also exists consisting of the appending of the nominal suffix -noma and the case suffixes -ma, for, -i, with (only as -nomi) and (rarely) -ka, with. These forms are very extensively used as the following examples will show.

## a. -noma, where, the place of, where with.

pa't-a memet'u'pulu tema'numekta me'mai'otsila'sanoma, then he took down his beads wherewith he decorated himself.

a' maku'yelki ho'ts-a o'nknoma, I went out to the place where they dig.

tse'u teo'cki ola'lekta no'ma, he went to where the dead people live.

pa't-a na'ota k-a teku'isenoma, and he saw where the person had come in.

"map'e'hela, he tete'o'lcelenoma?", "Look, is that with which they kill them?"

"he'ku mai'hotco'halanuma?", "Is this where one walks along?"

"tu'pulu e'yema te'tu'tuknoma, tse i'si mul te'aki'ita", then her beaded belt that she had wrapped around herself, that we took off.

tse'te on t'o'enoma, by means of that he kills people.

pa't-a tse k'e'tci te-ole'oknama te'ak'e'tcitista, and he cut them where they were tied.

b. -no'mi, with, by means of, wherewith.

"i'i' yo'oki tetol'celeno'mi," "Yes there is something with which to kill him."

i mai'a hosa'hanomi ma'a tseka'lica, what I cover myself, is just the same.

c. -ma, in order to, infinitive.

pa't-a te'o'ci te'tumahe'sta te'oke'tcima, then his grandfather gave him something for cutting.

"mapits-ai'ya o'nukma ts-a mihu'uci'iyaki," "you ugly one, you're only good for stealing."

o'ni tepiwa'lei opa'ema, they don't want to wake him up to eat.

"mi'ika la-l'kome tse'a ha'kuce," "I want to die with you."

"ami'sa tele'ulekta mai'ma ci'e meho'mema," "I come after you to get grass for me."

mi mai'mo ho'ts'a me'one'ma amiha'kuce, I want you to dig me a sweat-house.

le'lehol tek'e'te-ema ami'sa to-okai'ista, sweat-house poles you are to cut, I'm to let you know.

pa't-a mem'si te-ake'kita ts-e'u mem'si mak'e'yime, where he had left his wife there he went to look for her.

"a mi tele'ulekta mai'ka ye'ke mak'e'lma," "I've come after you in order to have you eat mush with me."

on te'o'l-ema tse'pi tse'upi onwa'lei, he calls them in order to kill them.

"a hin'o'ota la'ki o'le'a mak'e'lme," "I can't sleep because I want to eat much mush."

pa'ema pa't-a mewi'l-ci, he told (them) to eat.

o'nka tco'me hot'a'ema k'e'cu, he went with them to divide the deer.

d. -ka, with, by (rather rare).

me'tayi pai' ho'cupepi'se me'tapi's-eka, the woman (standing) alone turned her head from side to side in order to yell.

6. Nominalization (relative clauses). Cf. also §93.

All relative clauses are expressed by "nominalizing" the verb subordinated. The suffixes used (-k, -l, -c, -s), having both a verbal-aspect signification and being noun formatives, it must remain an open question whether we are to regard them as the one or the other. They are probably verbal with the possible exception of -k.

a'həl mu'kuk na'oci, I see the stick that is lying.

k-e'o yo'ok' (yo'ok-k) na'oci, I see the man who is sitting.

tse'pi mek-u'wek ha'ta, he said that he had run.

a k-e'u le'puk na'oci, I see the man who was standing.

a k-e'u u'k'ic na'oci, I see the man who was drinking.

## §119. TEXT AND ANALYSIS

Lel has<sup>1</sup>

k'anamo't'a <sup>2</sup> St. Helena mountain	kən <sup>3</sup> it is said	no'mki <sup>4</sup> lived	me'wa-ole'le <sup>5</sup> grapevine-flat-land	
hōti <sup>6</sup> gray squirrel	mepa'paka <sup>7</sup> with his grandmother	wimame'teka. <sup>8</sup> female animal.	pat'a <sup>9</sup> And	hel-a <sup>10</sup> before
le'lhasi tekutiyaktse <sup>11</sup> old Rock	teme'ai'ya <sup>12</sup> when he (boy) was young	his father	t'o'ta <sup>13</sup> killed	pat'a and
t'u'cta took away	metcu'ya (to) his house	mama'n-ta. <sup>15</sup> he brought to.	pat'a And	po'layi <sup>16</sup> the boy
mepa'paka with his grandmother	no'mki. lived.	pat'a And	tse'kali <sup>17</sup> in that way	no'mki. he lived.
tse'ta <sup>18</sup> Then	he'wakitsel, <sup>19</sup> when he grew,	metu'tcacukwe'n, <sup>20</sup> when he became large,	le'wa outside	matco'ki. <sup>21</sup> he went.
ma'a <sup>22</sup> Then	tse'ti <sup>23</sup> upon that	tco'hala. <sup>24</sup> he walked along.	tse'ta And then	le'li <sup>25</sup> with stone
pawa one	ce'ta, <sup>26</sup> he shot,	tets'e'ma <sup>27</sup> his ear	ce'ta. he shot.	tse'upi <sup>28</sup> From there
teku'ita. <sup>30</sup> he ran.	pat'a And	temepa'pi <sup>31</sup> his grandmother	tse'upi from there	mepa'pama <sup>29</sup> for his grandmother
"ikaka <sup>33</sup> "Where I could	he'mima <sup>34</sup> this for you	lea many	t'o', <sup>35</sup> kill,	papa?" grandmother?"
temepa'pi his grandmother	teka <sup>36</sup> with him	ka'moi <sup>37</sup> crying	mai't'a'mi, <sup>38</sup> bruising herself,	pat'a And
mai'na'nu <sup>39</sup> in her mouth	huk'e'hi. <sup>40</sup> showing.	pat'a And	po'layi the boy	mepa'pa; his grandmother;
"ts-amil-a'ki! <sup>42</sup> "don't do that!	ihantso'yaki, <sup>43</sup> Feel sorry for me,	papa; grandmother;	ika'mi'we what are you doing?	mewi'ta, <sup>41</sup> seized,
mai't'a'm-i'! <sup>44a</sup> You're bruising yourself!	ma'a Thus	miwe'a <sup>45</sup> I you	ts-a'usi. <sup>46</sup> just say."	
pat'a And	k'e'cu deer	ts'u'tita <sup>47</sup> she skinned	memet'u'ci, <sup>48</sup> with her finger-nails,	pa't. and
me'e'cema for her grandchild	ts'i'uta. <sup>49</sup> she skinned.	"we'ma <sup>50</sup> "Well	pa'e', <sup>51</sup> eat,"	ha'ci. <sup>52</sup> she said.
pa'ta. they ate.	pa'oktse'ita <sup>53</sup> After eating	pat'a then	oni <sup>54</sup> they	no'meki. <sup>55</sup> slept.
"papa, "Grandmother,	tali <sup>56</sup> anyway	la'kihi <sup>57</sup> is there not	tet'o'lema?" <sup>58</sup> to kill him?"	"i'i' "Yes
tet'o'l-celeno'mi." <sup>60</sup> to kill him with."	pat'a Then	ke'utci <sup>61</sup> in the morning	meyo'kelki <sup>62</sup> she got up	yo'aki <sup>59</sup> there is
pat'a And	t-o'kis bag	me'tpi <sup>64</sup> from top	tcu'ya house	huwe'lapi <sup>65</sup> from there
hoki'lta <sup>67</sup> she untied it	tse'upi <sup>68</sup> from that	k'itsi. the quiver.	ma'a And	hile abalone-shell
huka'ciya pretty	na'oce. <sup>70</sup> it looked.	metse Arrows	mek'u'iki <sup>71</sup> she put in	tsel <sup>72</sup> and then
o'na again	memela'haki <sup>74</sup> she reached	tsel <sup>72</sup> and then	lu'ka bow	te-awe'mekta; she took out;
luka Bow	k'u'li <sup>75</sup> back of	hilki she made stripes	pa't-a and	kac'tsi <sup>76</sup> the youth
				huye'kese. <sup>77</sup> was glad.
				cu'uwela <sup>73</sup> backwards
				huka'ciya pretty
				na'oce. it looked.



"te'la "Far "o, papa," "Good, grandmother,"	tco'la'ki, <sup>78</sup> don't go, ha'ci. he said.	tsa'lahaya, <sup>79</sup> all kinds of things	e'niyi <sup>80</sup> bad	yo'aki." there are."
pat'a And	noma <sup>81</sup> place	hanuwe'la <sup>82</sup> around	ominat'e'nki, <sup>83</sup> where it was flat,	k'e'cu Deer
tse'ta mu'le'aki. <sup>84</sup> there (when) he reached.		huka'ciya Nice	na'oce. it looked.	
ho'lalaki <sup>85</sup> stand around	pa't'a then	tu' there	hai'ice. <sup>86</sup> he shot.	mahai's. Ten
tse'ita. <sup>88</sup> he finished.	pat'a And	ho'patu <sup>89</sup> together	pak'a'li', he dragged,	tse <sup>90</sup> these
mul <sup>92</sup> all	omo't'ta. he piled.	pat'a Then	tcu'ya the house	mak'u'weki he ran to
"ika'lica <sup>94</sup> "What's the matter	we'miya <sup>95</sup> why you	mena fast	hok'u'wala?" <sup>96</sup> are running?"	"ma'a a "Well I
hok'u'wala am running	heha'nu <sup>97</sup> back here	o'manate'noktseta, <sup>98</sup> where the flat place is,	tse'ta there	pawela" <sup>99</sup> in one place
p'aka'lta dragged	k'ecu deer	mahai's ten	at'o'ta." I shot	"o," "all right,"
pat'a And	meme't'a'ka <sup>100</sup> her packing-string	tema'numokta <sup>101</sup> she took along	ts'e'c-ma <sup>102</sup> cord	ta'k'a. packing-string.
pat'a And	tse'ta there	mai'paca'ita. <sup>103</sup> she put it around.	pat'a And	ha'nu back
pat'a And	menat'o'aki, <sup>105</sup> she arrived,	k'ecu deer	mot'u'ktsel. <sup>106</sup> where piled up.	pat'a And
memeta'k'a her bag	ne'wela, <sup>107</sup> inside	mul all	matco'cta <sup>107a</sup> she put	k'e'cu deer
meka't'umekta, <sup>108</sup> she carried,	hel'a down	teka't-uma. <sup>109</sup> she carried.	pat'a And	tc'a'no manzanita
tse there	homehi'u'ta, <sup>111</sup> she shook it,	tsel there	telu'kika <sup>112</sup> with roots	mememu'kuta. <sup>113</sup> she pulled up.
mai'huketsema <sup>114</sup> shoulder	ote'a'tc'ita. <sup>115</sup> she laid it.	tcuyana'nu <sup>116</sup> At door	lel stone	hopi'pati wide
tse'ti with that	tseta <sup>118a</sup> there	oma-ola'tita <sup>119</sup> around she hit	tse'tc'ani <sup>120</sup> that manzanita	mul <sup>121</sup> all
pat'a Then	kaci'tsi the youth	mepa'pa his grandmother	p-iy <sup>123</sup> near	hel oku'tita. fire built.
pat'a Then	me'tayi <sup>124</sup> the woman	wi'mame'tayi, animal female,	memetcu'cti <sup>125</sup> with finger-nails	ma'a again
me't'a'tsi. <sup>126</sup> skinned.	ma'a Then	yenc <sup>127</sup> rabbit	tseka with that	tc'amet'a'teta. skinned.
tehume the fat (one)	pe'ki, <sup>129</sup> she looked for;	tse that	me-e'ce-ma for her grandson	ots'o'kta, she pounded,
k'e'cu deer	o'mu. <sup>130</sup> a whole one.	pat'a Then	tepi'cepi <sup>131</sup> from horn	tc'ohotse'lu'ci, <sup>132</sup> she turned it around,
tc'ohotse'lu'ci <sup>133</sup> turning it around	ka'lila. <sup>134</sup> for a long time.	pat'a Then	ts-i'ts-iki cooked	tsel, when,
"we, mapa'e" <sup>136</sup> "Come, eat,"	ha'ci! she said!	"o," "Good,"	me'e'ce her grandson	husi. <sup>137</sup> said.
pat'a Then	kaci'tsi youth	tcu'ya house	maku'yelki. <sup>138</sup> went in.	tse'upi From there
tepi'taki, <sup>139</sup> he brought,	ta'k'a basket	pawa one	pata and	pa'emi ate
pat'a And	mul whole	k'e'cu deer	pawa, one,	k'e'cu deer
			menatse'i'ta, <sup>140</sup> had finished,	tse'cu'u' <sup>141</sup> afterwards

ma''a	yo'oki	me'tayi	wi'mame'tayi	ma'a	te'tsalahaya <sup>142</sup>
then	she was (there)	woman	animal-female,	still	the things
omapa''emi, <sup>143</sup>	tse'cu'u	ma'a	ha'weki, <sup>144</sup>	tse'kali <sup>144a</sup>	
she ate up;	after that	then	they went to sleep,	long like that	
ma''a	ha'weki.				
still	they slept.				
su'muwa <sup>145</sup>	ona	tehu'me	tse	teka'laki. <sup>146</sup>	pat'a
In the evening	again	a fat one	that	she brought in.	Then
mo'ta	ts'ao	mule'aki	tse'tapi	omape'ki	he'lawela, <sup>147</sup>
hill	on top of	he got there	from there	he looked around	down;
pat'a	hun	tc'u'lesetse <sup>148</sup>	t'ali	maka'ci <sup>149</sup>	ot'ai'mele <sup>150</sup>
then	sun	when it was crawling out	what	he heard	singing
"t'ali	heka'mele <sup>151</sup>	t'ali?'' <sup>151a</sup>	pat'a	p'e'ki	kac'tsi
"what's	doing this way	what?"	Then	looked	the youth
tse'kali <sup>152</sup>	hel'a	lel	holi, <sup>153</sup>	ts'aha <sup>154</sup>	nawe'ya
and there	down	Rock	with trees,	all kinds	things with trees
hi'umi.	tse'ka <sup>155</sup>	tela'haki <sup>156</sup>	te'tu'wela <sup>157</sup>	kac'ts	tu'wela.
shakes.	With that	he came along	towards him	the youth	towards.
pa't'a	p'e'ki	kac'tsi.	"hehe"	ha'ci	he'ka
Then	saw him	the youth.	"Say,"	said (Rock)	here
mai'hotco'halanoma. <sup>159</sup>	we	heta <sup>160</sup>	mai'p'e'hi <sup>161</sup>	hok'i'uta,	
does one walk around?	Say	here	tracks	showed,	
ihuwo'l'i', <sup>162</sup>	lel	huwo'li,	hol	huwo'li!	ime'a'ya <sup>163</sup>
rolling me over,	rocks	rolling,	trees	rolling!	I your father
t'o'ta.	tshuwe'la	ihuwo'li',	lel	huwo'li',	holhuwo'li!"
killed.	On that side	stirring me up,	rock	rolling,	tree rolling!"
tse'ka	te'tu'wela	tela'haki.	leli	hotco' <sup>163a</sup>	
With that	toward him	toward he came.	With rocks	he came	
tewili <sup>164</sup>	tsa'hanawe'ya'-i <sup>165</sup>	mai'yelki, <sup>166</sup>	na'yo,	holhici,	
his body	all kinds of things	stood,	pine-trees,	live oaks,	
unuts'a'wa''i',	tsahanawe''ya	holi. <sup>167</sup>	pat'a	te'tu	
choke-cherry tree,	all kinds of things	trees.	Then	to him	
tela'haki.	kac'tsi	ma'a	yo'oki	tse'tapi	p'e'ki.
he came there.	The youth	still	was sitting	from there	he saw.
pat'a	tep'i'ya	tsel,	"ika'miwe <sup>168</sup>	mai'i <sup>169</sup>	i'i
Then	near him	when,	"Why you	who	me
"tal	tse	mi	le'a	wotokata?" <sup>170</sup>	"o-o
"What	that	you	much	chatter?"	"What
ek!	tse	iot'ai'u <sup>171</sup>	utsemi <sup>172</sup>	ka'ci	ek,
grandson!	That's	my singing	you that	heard	grandson.
ihotco'hel <sup>173</sup>	tsel'	a	ot'ai''ikata." <sup>174</sup>	pat'a	kac'tsi
I go around	when	I	always sing."	And	the boy
tepi'ya	le'puki. <sup>175a</sup>	t'al	e'niyi <sup>176</sup>	le'lhasi,	kac'tsi
near him	stood.	How	ugly	old Rock,	the youth
tep'e'ki. <sup>177</sup>					still
looked down.					
"O'	ek'	k-ewi <sup>178</sup>	isi	mai'e'niyi <sup>179</sup>	
"Say,	grandson,	in the morning	(of) us	who is bravest	
he'ta	he'lel <sup>180</sup>	tseta	isi	hopa'yela <sup>181</sup>	yo'k'usi, <sup>182</sup>
here	first	here	we	one another before	will be;
onmo'ta <sup>183</sup>	himuk <sup>184</sup>	mek'a'ni."	"mih <sup>185</sup>	kaki	iy'e'la
the hills	climbers	expert (ones)."	"You	cannot	before me
yo'kesi. <sup>186</sup>	mape'la <sup>187</sup>	wemi	hotco'hala?	te''iyami	hotco'hala;
be here.	Look	how you	walk?	Slow you	are walking;
hantso'ya	na'uce	mihotco'hali." <sup>188</sup>			
sorry	looking	as you walk."			

## Analysis

1. lel, rock; has, old. In composite place or individual names there is no fusion of stems. A definite order is observed, however.
2. k'ana, meaning not known; mōta, mountain.
3. Quotative from \*ka, to talk; -n probably a petrified suffix.
4. From nōm<sup>v</sup>-, to live. Elision of vowel for singular (?).
5. me'wa, grape-vine; olele, the flat (place); o- (ho-), nominal prefix.
6. From hat; -i, subjective case.
7. From papa, mother's mother; me-, possessive prefix; -ka, comitative.
8. wima, unknown animal; me'e, woman; -ka, comitative.
9. Correlative conjunction, probably from \*pa, old demonstrative, and -ta, demonstrative-adverbial suffix.
10. Literally first, in front.
11. te-, eius; kutiya, small; -k, from -ki adjective verbalizer and past tense suffix with loss of -i in subordinate clause; -tsel subordinating non-past tenses.
12. Literally him-his-father; te-, eius; me-, possessive; stem really aya but -y- often lengthens preceding a to ai.
13. Stem, t'ohē; -ta, past tense.
14. tēmē-, his alienable possession; te-, indicating eius.
15. ma-, along, toward; man· from mani.
16. Irregular subjective from pole.
17. From tse, that; -kali, like, similar.
18. From tse, that and -ta, demonstrative-adverbial suffix. tseta introduces a new thought or action.
19. Stem hewa, to grow; -ki is true past tense. One might have expected -k (without vowel) but exceptions occur.
20. me-, he, suus, because subject of both subordinate and principal clause are the same; tutca, large; -c-, durative; -u-, inorganic vowel; -k for -ki, adjective-verbalizer and past tense; -wen subordinating past tenses.
21. ma-, toward, idiomatic; stem, tcoho-; -ki past tense with many intransitive verbs etc.
22. Conjunction introducing closely related sentences. Generally appears after pat·a.
23. tse, that; -ti, with. tseti implies that the same action is to be continued (matco'ki—tco'halā).
24. Assimilation of -o to -a before -la; -la, continuative with participial force.
25. -i, with. The difference between -i, with, and -ti, with, not clear.
26. Stem ce'; -ta past of most transitive verbs.
27. te-, eius.
28. tse, that; -upi, from. The latter is composed of u-, unknown force and -pi, from.
29. -ma, for.
30. te-, adverbial prefix "along, toward."
31. tēmē- indicates that subject of this and preceding sentence are different.
32. te-, cf. note 30.
33. i, objective personal pronoun first person, subject of verb in subordinate clause; kaka, could.
34. he, this; mi, you; -ma, for. he'mima forms a definite phonetic unit.
35. t'ō' is the absolute form where one might have expected the interrogative suffix -yo (t'ō'yo).
36. -ka, comitative.
37. Stem kam'. -i is the indefinite tense suffix also generalized as present participle.

38. mai', reflexive.
39. mai', reflexive also used as possessive; nan, mouth; -u, in.
40. hu-, idiomatic prefix; \*k'ehi, indefinite and participle.
41. mε-, with hand; stem wi'.
42. Stem ts'am; -i indefinite tense. This is also the absolute form where one might have expected the imperative -ti; laki negative adverb. In all probability the sentence should have been translated "you should not do that." Cf. next note.
43. Literally "I am to be felt sorry for." -i objective form, subject of verb in subordinate clause; stem hantsoya; -ki passive force.
44. ika, what!; mi, you; -we apparently meaningless emphatic suffix; -yo interrogative suffix.
- 44a. mai-, reflexive; t'a, bruise, tear (ts'uti, ts'iu, to skin, are probably related stems); -mi, indefinite tense suffix.
45. mi, you; -we, emphatic particle; -a, I. miwe'a is a firm phonetic unit. Cf. note 34.
46. Stem tsa'; -u, subjunctive force; -si, future tense suffix.
47. Stem ts'uti (\*ts'u) with specific meaning of skinning with finger-nail or thin sharp object. Cf. note 49.
48. memε-, possessive, the first mε- indicating that the subject of this and the preceding sentence are the same, the second mε- being the regular possessive.
49. Stem ts'iu, to skin in general.
50. Exclamatory particle.
51. Absolute imperative stem, pa''emi, indefinite.
52. Stem ha'; -ci, indefinite tense-aspect.
53. Stem pa''ε. -k, verbal nominalizer; -tseita from tsei, to finish and -ta, past tense. Literally "eating-having-finished."
54. From ɔ'ni, human being, to live, rarely used today as such. It is the regular pronoun for third plural with an irregular form ɔn- for the objective case.
55. Stem identical with nɔm-, to live; -ɔ probably plural.
56. Literally "how?, what?"
57. laki negative; -hi interrogative particle.
58. tε-, him; t'ɔl, continuative form (cf. t'ɔ, to kill); -e- not clear but possibly subjunctive in force; -ma, nominal suffix "for" that is frequently used to impart an infinitive or participial force to verbs.
59. Literally yooki means to exist, to lie.
60. tε-, him; t'ɔl, kill; -cele, durative-aspect suffix with absolute and sometimes passive force; -nɔmi from -nɔma, nominalizer and place-name suffix with secondary force of "with" and -i, with. This is a typical "instrumentalized" verb.
61. ke', to dawn; -utci, at, during.
62. me-, adverbial prefix "up, above"; stem yoke- perhaps identical with yoki, to be; -l-, future-past increment.
63. o- frequent prefix of verbs with unknown force.
64. meʔ, above; -pi, from.
65. hu-, there (from he, this); -wela-, toward; -pi, from.
66. tε-, adverbial prefix "down"; stem, het'a; -a- rounded to -u- before -mɔk-; -mɔk-, future-past increment with progressive significance.
67. ho-, indefinite object; stem, kile.
68. Notice construction "from that—the quiver" instead of "from the quiver."
69. tc'a-, adverbial prefix "out"; stem, wε, the -ε- base vowel lengthened to -e- before progressive -mɔk-.
70. Stem, nawε. Loss of -ε and dissimilation of -w to -u in indefinite tense.

71. *me-*, adverbial prefix "in" or idiomatic or possibly variant of *mε-*, "with the hand."
72. Here *tsel* means "that (same action) continued," probably the original meaning of the demonstrative-conjunction.
73. *cu'u*, back, behind. Also used as adverbial prefix *cu-*.
74. Cf. note 48.
75. Means literally "back of the hand."
76. From *k-a* variant of *k-εo*, man, always used in composition and unknown *-citsi*.
77. Stem, *huyeka*. Mutation of *-a-* to *-ε-* in indefinite.
78. Stem, *teho*, *teo'* being the imperative singular absolute.
79. Stem probably *tsalaha* which might possibly be analyzed into *tsa*, that (from *tse* ?); *laha*, many (from *lea* ?); *-ya* possibly plural.
80. Subjective case of *eniya* to agree with irregular subjective *tsalaha'ya*.
81. The absolute form of the verb used as noun, probably due to the influence of place-name suffix *-noma*.
82. Literally "back towards."
83. *omi-*, world (from *oma*, earth, world) appearing with many verbs relating to weather, location, etc.; *-na-*, adverbial prefix "around."
84. *mu-*, idiomatic verb prefix probably contraction of *ma-*, around, and original *o-*, prefix of stem.
85. Stem, *hola*; *-l-*, continuative with plural force here; *-o-*, not clear.
86. To shoot with arrow only.
87. *o-*, indefinite object (?). May be old verb prefix *o-*, meaning not clear.
88. Has lost much of its verbal meaning. *tsel tse'ita* might be translated "and after that."
89. *ho-*, around; *pa-*, together; *-tu*, there.
90. In apposition with object of *pakali*. The *pa-* of *pakali* is verbal prefix "together."
91. *p'a* from *p'awa*, one; *-wela*, towards.
92. From *mu*, whole, entire (*o'mu*) and *-l*, collective plural.
93. *-tu*, toward.
94. Exclamatory conjunction; possibly from verb *ikalica*, it hurts.
95. *we-*, exclamation of surprise; *-mi*, you; *-ya*, interrogative suffix.
96. *ho-*, around; stem *k'uwe* the final *-ε* changing to *-a* before *-la*; *-la*, continuative.
97. *he*, this, here; *hanu*, back, behind, the *-u* being adverbial suffix "in, at."
98. For *omaten* cf. *omiaten* (note 83); *-o-* rounded terminal vowel *-ε-* before *-k*; *-k* from *-ki*, adjective-verbalizer. For disappearance of *-i* cf. note 11; *-tseta*, there, often with the force of where.
99. From *pa* (*pawa*), one; *-wela*, toward. The "suffixation" of *a*, I, to form firm unit (*pawela'a*) is idiomatic.
100. For *mεmε-* cf. note 68.
101. *te-*, adverbial prefix "along," idiomatic; stem, *mani*; for change of *-i-* to *-u-* before *-mεk-* note 66.
102. Stem, *ts'εc*; *-ma*, noun formative.
103. *mai'*, reflexive "herself"; *pa-*, verbal prefix; stem, *cai*.
104. *te-*, down.
105. *mε-*, note; *-na-*, force not clear. Generally appears with this verb; stem, *t'oa*.
106. *mot'u* for *mot'a* with change of *-a* to *-u* before *-k*; *-k-* note 53; *-tsel* in sense of "where" is rare.
107. Probably from an old stem *\*ne-* and *-wela*, toward.
- 107a. *ma-*, down; stem, *teεc* or *\*teo*.

108. *mε-*; cf. note 20; *mek* for *mək*.
109. *tε-*, along; *-ma* variant of *-mə*, progressive suffix used as indefinite of some verbs.
110. Literally "were sticking out."
111. *ho-*, around; *-mε-*, with hand; *hiu'* from *hiwε*. For *-wε* to *-u* cf. note 70.
112. *tε-*, this used in the sense of a definite article; *-ka*, with.
113. For *mεmε-* cf. note 48; stem is *muk'i*, *muku* probably being a mishearing for *muk'u*.
114. *mai'*, reflexive used as possessive; *hukε'tsema*, apparently a descriptive composite noun, *hu-*, head, etc.; *ketse*, not clear and *-ma*, noun-formative.
115. *o-*, indefinite object; *tε-a-*, adverbial prefix "off, out."
116. Composite noun *tcuya*, house; *nan*, mouth; *-u*, adverbial suffix "in, at."
117. Stem, *pipa* ?, *ho-* being noun-adjective formative prefix; *-ti*, idiomatic use of instrumental suffix "with" as an apparent "subjective" case. This is occasionally found with inanimate nouns.
118. *wl*, used only for round object.
- 118a. This and the preceding *tseti* mean literally "with that there-at."
119. *oma-*, around (literally "the earth" etc.). *o-*, verb prefix not clear.
120. *tse* with its original force of demonstrative "that."
121. *-i*, doubtful whether this is the old plural in *-i* or subjective case *-i*. Probably the former.
122. Difficult to analyze but probably from stem *ts'opi*, to break into small pieces, to break round object; *-a-* not clear; why *-i-* should change to *-a-* before *-l* although it regularly does before *-la*. As a rule *-l* alone shortens preceding vowel. How to take *-leki* is not clear. It may be the future-past increment with past tense *-ki* following it, a construction which is rare but which does occur, or it may be *-le-*, continuative; *-ki-*, suffix of vague meaning.
123. Probably to be analyzed into *pi-*, near (an old demonstrative ? in origin, cf. *pa't'a*) and *-ya*, adjective-adverbial suffix.
124. Subjective case of *metε*.
125. *-ti*, with.
126. Probably not future but usitative (*-s-*). For *mε-* cf. note 48.
127. Forms subjective by metathesis (*yenci*).
128. Literally *tse*, then *cu'u*, afterwards.
129. Stem, *pehe*.
130. Contrast with *mu-l*, note 92, the *-l* being plural; *o-*, noun-formative prefix.
131. *tε-*, the; *pice'*, stem; *-pi*, from.
132. *tcə-* (from *tε-u-*), out; *hotseli*, turn around, indefinite tense, the stem being *\*tsel* and *ho-*, adverbial prefix "around".
133. *-u-*, passive vocalization; *-si*, either future or better usitative.
134. From *kali-*, long, and adverbial continuative suffix *-la*.
135. Stem, *\*hele*, to take out objects like meat, etc.
136. *ma-*, adverbial prefix with many imperatives; *pa'ε*, imperative singular.
137. Irregular verb, indefinite *ha'*, past *hu-*, imperative *hai-*.
138. *ma-*, adverbial prefix "in"; stem, *\*ku*; *-ya*, petrified suffix; *-a* shortens to *-ε* before *-l*; *-l-*, continuative.
139. *tε-*, back.
140. *mε-* cf. note 48; *-na-*, with mouth.
141. Cf. note 128.
142. *tε-*, the; *tsalaha'ya*, cf. note 79.
143. *o-*, idiomatic; *ma-*, around.
144. Plural subject, *hunto* singular subject.
- 144a. From *tse*, that, and *kali*, long, etc. It also means "just like that."

145. *sumi*, night, evening; *-i-* rounded to *-u-* before *-wa*; *-wa* "at, in" but only appearing with a few nouns.
146. *tɛ-*, in.
147. *hela*, down, in front; *-wela*, towards.
148. *tc'ule* with consonant ablaut to indicate diminutive, the stem being *tc'o'*, to go; *-lɛ-*, continuative; *-sɛ*, durative tense-aspect; *-tsɛl*, subordinating.
149. *ma-*, indefinite object.
150. *o-* (probably *ho-*), adverbial suffix meaning not clear; *-mele*, continuative-passive aspect suffix with absolute-participial force.
151. *he-*, this; *kam-*, to do; *-mele*, cf. note 150.
- 151a. *-i*, interrogative suffix.
152. Cf. note 144a.
153. *-i*, with.
154. Compare *tsalahaya*, note 79.
155. Cf. note 23.
156. *tɛ-*, "to, toward," idiomatic.
157. *tɛ*, him; *-tu*, there; *-wela*, toward.
158. *hɛ*, here, this; *-ka*, demonstrative suffix.
159. *mai'*, reflexive used idiomatically; *-ho-*, around; *tcoha* (*tcōhō*), stem, to walk; *-la*, continuative; *-noma*, place-name suffix and nominalizer.
160. *he*, this; *-ta*, demonstrative-adverbial suffix. Similarly *tseta*, *weta*.
161. *mai'*, reflexive-possessive used idiomatically.
162. Stem, *wole*; *hu-*, verbal prefix probably meaning "around, etc."
163. Mishearing for *mi'uya*.
- 163a. *ho-*, along; *tc'o*, absolute form of verb. Should perhaps be translated "coming along."
164. *tɛ-*, his inalienable possession.
165. *-i*, old plural.
166. Stem, *mai'i*; *-l-* plural.
167. *-i* (*hōhici*, *unuts'awa''i*, *hōli*), old plural, cf. note 165.
168. *ika*, how, why; *mi*, you; *-we*, exclamation.
169. In apposition with *mi*.
170. From stem *\*wa* (?) or *\*wate* (?). For internal vowel change compare *woto-*, chatter, be garrulous; *wihi-*, discuss; *waite*, deliver speech; *-ka-*, discontinuative repetitive.
171. *-i*, my; *o-*, verb prefix; *t'ai-u* (*t'ai-o*), absolute form of the verb used nominally. Compare *nōma*, place.
172. *u*, proclitic; *tɛ*, that; *-mi*, you. *utsemi* forms firm phonetic unit.
173. *i-*, objective form of I, subject of *hotco'heltsel* in subordinate clause; *tcōhɛ* (stem *tcōhō*), final vowel shortened before continuative *-l*.
174. *-ka-*, discontinuous repetition, cf. note 170.
175. *tɛ-*, to, up to; *tewɛ'lel*, absolute-participial force.
- 175a. *lepu*, with singular subject only.
176. *-i*, subjective case agreeing with *lehasi*.
177. *tɛ-*, down.
178. From *k-ɛo*, to dawn; *k-ɛwi*, adverbial phrase, force of *-i* not clear.
179. *mai'*, who interrogative; *eniya*, adjective-verb indefinite. As a rule *-ki* is adjective-verbalizer.
180. Not quite clear. From *hela*, first, with *-l* continuative (?).
181. *ho-*, adjective-nominal formative; *-pa-*, together (reciprocal); *-yela*, before.
182. From *yōk'ɛ* (*yōkɛ*); *-u-*, subjunctive (?); *-si*, future.
183. *ōn-* used idiomatically as plural definite article. Literally them—hills.

184. Not clear. -k, nominalizer.  
 185. -hi, interrogative.  
 186. -e-, subjunctive (?), cf. note 182.  
 187. ma-, prefix often used with imperative; -la, continuative-imperative suffix.  
 188. -i, subjunctive (?).

### *Free Translation*

#### Old Rock

At k'anamot-a (St. Helena mountain) in the Grapevine-flat-land it is said Gray-Squirrel lived with his grandmother wima (unknown animal). Now (long) before that when (the boy) was still young Old Rock had killed his father and taken away the latter's wife and brought her to his own home. And thus the boy lived alone with his grandmother; thus in that way he lived.

Then when he grew up, when he became large, he went outside and walked along and with a stone he shot a deer, his ear he shot. Then from there he ran back to his grandmother. Then his grandmother (went and) packed the deer home from that place.

"How would I be able to kill many for you, grandmother?" But his grandmother wept with him, bruised herself, and shoved dirt into her mouth. The boy seized hold of his grandmother (saying) "Don't do that! Have compassion upon me grandmōther! What are you doing? You are hurting yourself! That is what I am saying to you!"

Then she skinned the deer with her finger-nails, skinning it for her grandchild. "Well, eat!" she said. Then they ate and after eating they went to sleep.

"Grandmother, is there not some way in which I can kill them (deer)?" "Yes, there is something with which to kill them." So in the morning she got up and ate again. Then she took down her bag (hanging) at the top (ceiling) of the house, untied it, and took out the quiver (?) and abalone-shell (and) they looked beautiful. Arrows she put into the quiver and then reaching backwards again she took out the bow (and) that too looked beautiful. (Then) she made stripes on the back of the bow and the boy was happy.

"Don't go far for all sorts of evil things are around here." "All right, grandmother," said he.

To a country where it was flat all around there he arrived. Beautiful it looked. Deer were standing (all) around. Then there he shot and killed ten and he stopped. Then he dragged them together, these deer, to one place and piled them all up. Then he ran back to his house, to his grandmother. "What's the matter? Why are you running so fast?" "O I am running back from the Flat country (for) there in one place I have dragged together the ten deer that I shot." "All right," said his grandmother. Then she took her packing-string, her cord packing-string, put it around herself and ran back to (where he had come from). Then she arrived where the deer had been piled up. Then she put them inside her bag, all ten of them and she carried them, packing them (home). Then (where some) dried manzanita stood she shook them and pulled up (the bushes) by the roots and put them (across) her shoulder. At the door a wide stone was lying and with that she ground the manzanita (berries ?) and broke them into small pieces. Then the boy built a fire near his grandmother.

Now this woman (his grandmother) again skinned (the deer) with her finger-nails and a rabbit she skinned for him (the boy) too. Then she looked for a fat one (deer), that she pounded, (prepared) a whole deer for her grandson. Then she turned it around by the horn and turned it around again and again for a long



time and when it was cooked she took it out. "Come, eat!" she said. "All right," answered her grandson.

Then the boy went in the house, brought a basket with mush from it, and they ate and ate again.

One whole deer they finished and afterwards the wi'ma woman (his grandmother) continued eating up the various (foods). Then they slept and a long time they slept.

In the evening she brought a fat one (deer) in again . . . . .

Then he got to the top of a hill and from there he looked around below and as the sun was crawling out he heard some singing. "Who is doing this, who?" (it sang). The boy looked and there down below (was) Rock (from whom) all kinds of trees and various objects were suspended. With all this he came along towards the youth.

Then the youth saw him. "Look here," said (Rock), "is this a place for walking around? Tracks are visible all around here (and things) have been rolling over me, rocks, trees rolling over me! (That's why) I killed your father! On that side (he ?) was stirring me up, rolling rocks, rolling trees!"

Upon that he came forward towards the boy. With his rock he came, and on his body stood all sorts of things—pine-trees, live-oaks, choke-cherry trees, all kinds of trees. Then toward the youth he came. The youth remained still, sitting there. When he was near him (Rock said) "Why are you stirring me up?"

. . . . .

"Say, what are you chattering so much for?" "What grandchild, grandchild! Why that's my singing you heard, grandchild. I always sing when I go around." Then, (the Rock) came near to the boy. How fearful the Old Rock looked; and the youth still looked down upon him.

"Now, grandson, that one of us who is the bravest should be here first (tomorrow) morning. We shall (try) to get ahead of each other, we expert hill-climbers." "Why you cannot be here before me! Look how you walk, how slowly you trudge along! I feel sorry for you (when) you walk" . . . . .

## PART II. DICTIONARY

## WAPPO-ENGLISH

The order of sounds is as follows:

a; ε; i; o; u; c; h; k; k'; k'; l; m; n; p; p'; s; t; t'; t'; t'; te; te'; ts; ts'; w; y.

## VERBS

For every Wappo verb I give the indefinite, future, past, imperative, and the probable stem in the order enumerated. A dash indicates that the particular form was not obtained. An asterisk indicates the stem. Where more than one stem is given, the first indicates a secondary formation.

## a

give: a's·a; a's·isi; a's·ta; a's·i; \*a's·i  
leach acorns: a'stek; —; a'stek; —; \*aste, \*as  
leach acorns: at'a'tasa; at'a'tasi; at'a'tatata; —; \*at'a  
be lean: —; —; atso'leki, atso'lecki; —; \*atsole, \*atso (?)

## ε

get deep: ε'laca; ε'laci; ε'lacki; —; \*ela  
dig a hold: ε'lice; ε'ltesi; ε'lteki; —; \*eli  
keep hold of: ε'lusa; ε'lus·i; ε'lta; —; \*elu  
get lost: ε'm·se; —; —; \*eme  
be afraid: ε'name; ene'stesi; ene'steki; ε'neste; \*ena

## i

move: i'umi; i'usi; i'uki; —; \*iu, \*i  
bother: ikapo'tuce; ikapo'telsi; ikapo'telki, ikapo'teta; —; \*ikapotu  
pewk: —; i'k'esi; i'k'eta; i'k'e'; \*ik'e  
bind: i'li; i'lesi; i'lta; —; \*ile  
gorge: i'tse ka'witε; i'tse ka'witelsi; —; —; \*itse kawi  
move: i'wuε; i'utesi; i'uteki; —; \*iu, \*i

## o

move gently: o'-ise; o'iyelsi; o'iyelki; —; \*oiye, \*i (probably o+i+yε)  
be hot: omico'iyaca; omico'iyaci; omico'iyεki; —; \*coiya  
become evening: omiso'mci; omiso'muci; omiso'mike; —; \*somi  
be daylight: —; omihok·e'wsi; omihok·e'wki; —; \*k·eu, \*k·ε  
become daylight: —; omik·e'uci; u'omik·e'wki; —; \*k·eu, \*k·ε  
become evening: omiso'mci; omiso'muci; omiso'mike; —; \*somi

rain: *omima'kei*; *omima'kasi*; *omima'kaki*; *omima'kati'*; \**maka*  
 get dark: *omə-u'teuwa'ca*; *omə-u'teuwa'ci*; *omə-u'teuwa'ske*; —; \**utcu*  
 be human: *o'nucki*; —; *o'nucki*; *o'nuci'*; \**oni*  
 be dead: *ote'wici*; —; *ote'wiki*; —; \**otewi*, \**ote* (possibly \**te*)  
 suck breast: *o't-asa*; *o't-asi*; *o't-usta*; —; \**ot-a*, \**ot* (possibly \**t*)  
 suck: *o't-uci*; *o't-usi*; *o't-uta*; *o't-i'*; \**ot-i*, \**ot* (possibly \**t*)  
 suck out: —; *o't-utesi*; *o't-uteki*; —; \**ot-i*, \**ot* (possibly \**t*)  
 drown (intransitive): *o't-ise*; *o't-asi*; *ot-aki*; —; \**ot-i* (probably *o+\*t-i*)  
 drown (transitive): —; *ot-ia'tesi*; *ot-ia'teki*; —; \**ot-ia*, \**ot-i* (probably *o+\*t-i*)  
 give birth: —; *o'tsutesi*; *o'tsuteki*; *o'tsuti'*; \**otsuti*, \**tsuti*

## O

In practically all the verbs that follow *o* is a prefix.

be hidden: *o-a'omi*; *o-a'oleksi*; —; *o-a'oti'*; \**ao*  
 dig out: *o-e'li*; *o-e'lesi*; *o-e'l-ta*; *o-e'le'*; \**eli*, \**el*  
 place small objects side by side: —; *o-i'lesi*; *o-i'l-ta*; *o-i'le'*; \**ile*  
 move: *o-i'se*; *o'yelsi*; —; *o'ye'*; \**oye* (probably *o+\*i+ye*)  
 dig for water: *o-i'semi*; *o-i'sesi*; *o-i'seta*; *o-i'se*; \**ise*  
 pay: *oca''ime*; *oca''esi*; *oca''ita*; —; \**ca'i*  
 guess: *oce'hasa*; *oce'hasi*; *oce''ta*; —; \**ceha*  
 be stingy: *oci'kalik*; *oci'lice*; *oci'kalik*; —; \**ckali*  
 sew: *oci'pi*; *oci'pesi*; *oci'pta*; *oci'pe*; \**cipe*  
 extinguish (fire): *ocu'tumi*; *ocu'tusi*; —; *ocu'tuti'*; \**cutu*  
 steam, fan: *oha'mi*; *oha'hesi*; —; *oha'ti'*; \**hahe* (reduplicated from \**ha*)  
 bet: *oha'wese*; *oha'wasi*; *oha'waki*; —; \**hawe*  
 sharpen: *ohe'i*; *ohe'yesi*; *ohe'ita*; *ohe'ye'*; \**heye*, \**he*  
 bury: *ohi'mi*; *ohi'husi*; *ohi'ta*; *ohi'ti'*; \**hihi* (reduplicated from \**hi*)  
 build: *ohi'li*; *ohi'lesi*; *ohi'lta*; *ohi'le'*; \**hile*  
 build a house: *ohi'lmi*; *ohi'lesi*; *ohi'lta*; —; \**hile*  
 save for someone: *ohi'pumi*; *ohi'pisi*; *ohi'pita*; \**hipi*  
 pound acorn: *ohi'tsumi*; *ohi'tsesi*; *ohi'tsuta*; *ohi'tsuti'*; \**hitse*  
 begin: *ohoi'tesa*; *ohoi'tesi*; *ohoi'tesusta*; *ohoi'tesi'*; \**hoite*, \**hoi* (?)  
 dive in water: *ohu'pici*; *ohu'pisi*; *ohu'pika*; —; \**hupi*, \**hup*  
 answer: *oka'ce*; *oka'si*; *oka'ki*; —; \**ka*  
 inform: *ok-a'ma*; *ok-a'husi*; *ok-a'husta*; —; \**k-ahu*, \**k-a*  
 crawl: *okalai'yele*; *okale'ksi*, *o'kalde'ksi*; *oka'lke*; —; \**kale*, \**ka*  
 talk: *oka'li*; *oka'ltesi*; *oka'lteki*; —; \**kal*, \**ka*  
 hang: *oka'lemi*; *oka'lisi*; *oka'lta*; *oka'lta'*; \**kale* (probably *ka*)  
 put around neck: *oka'somi*; *oka'sumeksi*; —; —; \**kasə* (probably *ka*)  
 wear beads around neck: —; *oka'stesi*; *oka'steki*; *oka'sti*; \**kas* (probably *ka*)  
 hitch up: *oka'tumi*; *oka'tusi*; *oka'tuta*; *oka'tuti*; \**katt* (probably *ka*)  
 have something around shoulders: *oka'tumi*; *oka'tusi*; *oka'tuta*; *oka'tuti*; \**katu*  
 (probably *ka*)  
 be lonesome: —; *okela'ci*; *okelu'ski*; —; \**kelu*, \**kel*  
 be dumb: *okel-a'ca*; *okel-a'ci*; *okela-cki*; —; \**kela*  
 get lonesome: *okel'u'waca*; *okel'u'waci*; —; —; \**kelu*, \**kel*  
 lay down: *oke'mi*; *oke'husi*; *oke'ta*; —; \**kehu*, \**ke*  
 feather arrow, arrange baby in basket: *ok-e'u*; —; —; —; \**keu*, \**ke*  
 feather arrow: *oke'mi*; *oke'tusi*; *oke'tusi*; *oke'ta*; *oke'ti*; \**ke'*  
 fasten: *oko'mi*; *oko'hesi*, *oko'hetesi*; *oko'ta*; *oko'ti*; \**kohe*  
 be constipated: —; *oko'heleksi*; *oko'helekta*; —; \**kohe*  
 be constipated: —; *oko'tesi*; *oko'ki*; —; \**kohe*

boil: ok'a'me; ok'a'ci; —; ok'a'ti'; \*k'a'  
 hit: ola'tomi; ola'tesi; ola'tuta; ola'titi'; \*lati  
 tie up: ole'umi; ole'wusi; ole'uta; ole'uti'; \*leu, \*le  
 place: ole'pumi; ole'pasi; ole'pata; —; \*lep  
 wind up: ole'ti; ole'tesi; —; ole'te'; \*lete (probably \*le)  
 make notch: ole'tei; ole'teisi; ole'teuta; ole'tee'; \*lete  
 cut around: ole'tei; ole'teisi; ole'teuta; ole'tee'; \*lete  
 be full: oli'teaki; oli'teasi; oli'teaki; —; \*litea, \*litc  
 fill up: oli'tsmi; oli'tsatasi; oli'tsatusta; oli'tse'; \*litse, \*lits  
 dance: ola'lmi; ola'lesi; ola'lta; ola'liti'; \*lol  
 sprinkle: oma-oc'komi; oma-oc'kisi; oma-oc'kta; —; \*ociki, \*ciki  
 be afraid: o'manots'e'wiya, o'manots'e'wuice; o'manots'e'wasi; o'manots'e'uta; —;  
     \*nots'eu, \*nots'e  
 cut through brush: o'mapiwa'tasi; o'mapiwata'esi; o'mapiwata'ita; —; \*wata-i  
 miss: —; —; oma'sta; —; \*mas  
 feed: ome'esa; ome'osi; ome'esta; —; \*mes  
 collect debts: —; —; —; omeha'ye; \*haye (probably \*ha+ye)  
 touch: ometo'tusi; o'metote'si; —; ometo'te; \*tote (reduplicated from \*to)  
 make: ome'si; ome'susi; ome'sta; ome'sti'; \*mes  
 preach, deliver speech: omewai'iye; omewai'itesi; omewai'iteki; omewai'ite;  
     \*wai'i  
 tell a tale: —; omewi'lesi; omewi'lta; omewi'le; \*wile  
 be wet: ome'isa; —; ome'iki; —; \*me-i  
 make light: o'mohut-ai'mi; o'mohut-ai'esi; o'mohut-ai'ta; o'mohut-ai'ti'; \*hut-ai  
 fix hair: oma'tomi; oma'tusi; oma'tuta; oma'titi'; \*moti  
 make hole: omoci'li; omoci'lesi; —; omoci'le': \*cile  
 make hole: omocu'tumi; omocu'tusi; —; omocu'titi'; \*cuti  
 overflow: omoti'se; omoti'ase; omoti'ake; —; \*tia, \*ti  
 lie: omu'kise; omu'kasi; omu'kaki; —; \*muka, \*muk  
 sew: ona'mi; ona'hesi; ona'ta; ona'ti'; \*nahe  
 graze: ona'napise; ona'napesi; ona'napita; ona'napiyel; \*piye, \*pi  
 turn in water: onu'cumi; onu'cesi; onu'eta; onu'eti'; \*nuc  
 shout: opa't'e; opa't'esi; opa't'ki; opa't'iti'; \*pat'e  
 be shining: ope'tsami; ope'tsuloksi; ope'tsetseki; —; \*petse  
 fill: opu'lmi; opu'lesi; opu'lta; opu'liti'; \*pul  
 break: opu'teisi; —; opu'teiki; opu'teiti'; \*pote  
 wrap body: opo'kelsa; opo'kelsi; opo'kelta; opo'kel; \*pokel (probably \*po+k+l)  
 close: opo'nmi; opo'nesi; opo'nta; opo'nti'; \*pon  
 tie: opo'tcomi; opo'teisi; opo'teuta; opo'teiti'; \*pote (possibly \*po+te)  
 drink water with mouth: —; oputa'ese; oputa'ki; —; \*puta (from \*pu and \*ta)  
 be heavy: —; ota'eyaci; ota'eyaki; —; \*ta'eya  
 sing: otai'mi; otai'yasi; otai'ta; —; \*tai'i  
 hit round object: ota'k'umi; ota'k'isi; ota'k'uta; ota'k'iti'; \*taku  
 hold on coal: ota'n'umi; ota'n'esi; ota'n'ta; —; \*tanu  
 stab: ot-a'pmi; ot-a'pesi; —; ot-a'pte'; \*t-ap  
 slap: —; ota'tsilekya'omi; ota'tsuke; —; \*tats ?  
 spread out blanket: ote'mi; ote'tusi; ote'ta; ote'ti'; \*te  
 spread: ote'mo; ote'tusi; ote'ta; ote'ti'; \*te'  
 make flat: ote'lmi; otele'si; —; otelti'; \*tel  
 grind with rock: otu'mi; otu'si; otu'ta; otu'ti'; \*tu'  
 shoot: ot'o'he; ot'o'hosi; ot'o'hota'; ot'o''; \*tohe, \*to  
 paint: ot'o'tami; ot'o'tusi; —; ot'o'titi'; \*toti (reduplicated from \*to)  
 go around: ot'ai'yi; ot'ai'yasi; ot'ai'ta; —; \*t'aiye, \*t'ai

be dark: —; *otci'tcasi*; *otci'tcaki*; —; \**tcitca* (reduplicated from \**tei*)  
 make warm: *otco'pomi*; *otco'pasi*; —; —; \**tcəpe*  
 fall down: *otco'me*; *otco'hasi*; *otco'haki*; —; \**teoha*  
 lie on one side: *otc-u'l-ce*; *otc-u'leksi*; *otc-u'l-ki*; *otc-u'l-a'*; \**teula*, \**teul*  
 tip over: *otsai'ce*; *otsai'asi*; *otsai'ta*; *otsai'ti'*; \**tsai*  
 paint red: *otsu'paci*; *otsu'pya'omi*; *otsu'pita*; *otsu'pti'*; \**tsu*  
 squeak: *otsu'tumi*; *otsu'tusi*; *otsu'tita*; —; \**tsuti*  
 shove with elbow: *otsə'kmi*; *otsə'kesi*; *otsə'kuta*; —; \**tsoku*  
 try: *ots'a'emi*; *ots'a'esi*; *ots'a'eta*; *ots'a'é*; \**ts'ae'*  
 quarrel: *owai''yi*; *owai''tesi*; *owai''teki*; *owai''ti'*; \**wai'*  
 put acorns etc. in receptacle: *ow'i'cmi*; *ow'i'asi*; *ow'i'ta*; —; \**wic*  
 tie up with rope: *ow'i'mi*; *ow'i'si*; —; *ow'i'ti'*; \**wi*  
 rub: *owə'esi*; *owə'yesi*; —; *owə'ye'*; \**wəye*, \**wə*  
 break in two: *owə'ei*; *owə'esi*; —; *owə'ce'*; \**wəce*  
 name: *oya'omi*; *oya'esi*; —; *oya'oti'*; \**yao*  
 move up and down: *oyala'sa*; *oyala'si*; —; —; \**yale*, \**ya*  
 set trap: *oye'mi*; *oye'hesi*; *oye'ta*; *oye'ti'*; \**yehe*, \**ye*  
 plant, sow: *oyo'kumi*; *oyo'kesi*; *oyo'kuta*; *oyo'kti'*; \**yoku*

## u

be badly off: *ue'yək*; —; *ue'yək*; —; \**ue'yo*  
 be taken out: —; *u'itesi*; *u'iteki*; —; \**uite*, \**ui*  
 make loud noise: *uhopa'tki*; *uhopa'tsi*; *uhopa'tki*; *uhopa'tti'*; \**pati*  
 be pretty: *uka'ciyaki*; *uka'ciyaci*; *ukaciyaski*; —; \**kaciya*, \**kaci*  
 be drunk: *u''kutsi*; *u''kutsi*; *u''kutake*; —; \**u'ki*  
 drink: *u'kce*; *u'kusi*; *ukta*; *uki'*; \**uki*  
 be deaf: *u'tuca*; *u'toci*; *u'tteki*; —; \**uto*  
 get dark: *utsi'tcise*; *utsi'tcasi*; *utsi'tcak*; —; \**tsitca*, \**tsi*  
 carry flat objects: —; *uya'tcasi*; *uya'tcaski*; —; \**yatei*  
 dip out: *u'yi*; *u'yəsi*; *u'ita*; —; \**uye*

## c

jump out: *ca''ise*; *ca''esi*; *ca''iki*; —; \**ca'i*  
 sit down: *ca'siki*; *casihe'leksi*; *ca'siki*, *ca'sita*; —; \**casi* (possibly \**si*)  
 be bitter: *ca'tki*; *catya'omi*; *ca'taki*; —; \**catu*  
 be rough: *ca'telki*; *ca'telsi*; *ca'telki*; —; \**cate*  
 (wind) blows: *ce''ce*; *ce'ya'omi*; *ce''tki*; —; \**ce'i*  
 hit with arrow: *ce''hasa*; *ce''hasi*; *ce''ta*; —; \**ceha*, \**ce*  
 be hit: —; *ce'cusi*; *ce'cuki*; —; \**cecu* (probably reduplicated from \**ce*)  
 limp along hurt: *ce'p'uma*; —; *ce'p'umokta*; —; \**cep'u*, \**cep'*  
 clear nose: *ci'cmi*; *ci'cusi*; *cieta*; —; \**cic* (either reduplicated from \**ci* or \**ci+c*)  
 pass out of sight: —; *ci'l-eksi*; —; *cila'*; \**cila*  
 be wet: *ci'tsce*; *ci'tselci*; *ci'tselki*; —; \**ci'tse* (cf. *omaci'komi*)  
 whistle: *ci'umi*, *ci'we*; *ci'wasi*; *ci'uta*; *ci'u'*; \**ciu*, \**ci*  
 leak: —; *cə'hsi*; *cə'hki*; —; \**cəhu*  
 be burnt: *cə'ice*; *cə-iyə'ome*; *cə'ike*; —; \**cə-i*  
 scorch: *cə'itasa*; *cə'itasi*; *cə'itsta*; —; \**cə-i*  
 cut with flint: *cə'lmi*; *cə'l'si*; *cəl-ta*; *cəl-ti'*; \**coli*  
 twitch: *cə'tele*; —; —; —; \**cote*  
 throw: *cū'imi*; *cū'isi*; *cū'ita*; *cū'iti'*; \**cui*  
 follow: —; —; —; *cū'i'*; \**cui*

drag: cuka'łsi; cukale'si; cuka'łta, cuka'łki; cuka'le'; \*cukale, \*kale  
 tumble off, turn somersault: —; cuku'psisi; cuku'pta, cuku'płki; cuku'pti'; \*cukupe,  
 \*kupe  
 drop (transitive): cu'łtasa; cu'łtesi; cu'łteki; —; \*cul  
 hang on: cu't-ui; cut-uleksi; cut-uki; —; \*cutu, \*tu  
 stoop: cuti'n-ki; cuti'ne'leksi; cuti'ne'lekta; \*cutn, \*tun

## h

be hungry: ha'kuce; ha'kuleksi; ha'kulekta; —; \*haku, \*hak  
 feel sorry: hants'o'yace; hants'o'yasi; —; —; \*han, \*tsoya, \*tso  
 know: ha'ta, ha'tski; ha'telsi; ha'telki; ha'tel; \*hate, \*hat  
 be discovered: ha'tuke; —; ha'tuke; —; \*hatu, \*hat  
 say: ha'e, ha'ci; ha'yasi; ha'ta; hai'yi'; \*hai, \*ha  
 shoot arrow: hai'ce; hai'yasi; hai'ta; —; \*haiye, \*hai  
 be glad: hai'yaka: —; hai'yaka; —; \*haiya  
 groan: ha'nce; ha'nelsi; —; —; \*han  
 take rest (plural): ha'weki; ha'wesi; ha'weki; hawe'lumi; \*hawe  
 pick up: ha'wi; ha'wesi; ha'ota; ha'we'; \*hawe  
 flat object lies: he'ki; —; he'ki; —; \*he'  
 steam: he'l'eca; he'l'ecya'omi; he'l'ucki; —; \*hel  
 shave: he'k'i; he'k'esi; —; hek'e'; \*hek'e  
 grow: he'wuse; he'wasi; he'wake; —; \*hew  
 carry on back: —; he'tesi; he'tski; —; \*hei  
 carry on back: —; he'yuleksi; he'yumokta; he'yumo'; \*heyu, \*hei  
 snore: hunko'tece; hunko'telsi; hunko'telki; hunko'te; \*hun, \*ko  
 be sleepy: humpika'li; humpika'lestesi; humpika'lesteki; humpika'lest'e'; hun, \*kale  
 dream: hunteco'me; hunteco'helsi; hunteco'helki, hunteco'ta; hunteco'hel; \*hun, \*tcohe,  
 \*tco  
 shake from side to side: hi'umi; hi'wesi; hi'uta; —; \*hiu, \*hi  
 rock: hi'uce; hi'utesi; hi'uteki; hi'uti'; \*hiu, \*hi  
 get there: hi'nasa; hi'nasi; hi'nusta; —; \*hina  
 bark: ho'e; ho'esi; ho'ta; ho'ti'; \*ho'e  
 turn from side to side: hocu'pewise; hocu'pewisi; —; hocu'pewel; \*cupepel (redupli-  
 cated from \*cupel, \*pel)  
 stand: ho'l-ki; ho'l-eksi; ho'l-ki; ho'l-a'; \*hol  
 hunt: hole'wi; hole'wasi; hole'uta; hole''; \*hole  
 drive animals: holi'mi; holi'esi; holi'ta; holi'e'; \*holi, \*li  
 drive animals out of brush: hololi'mi; —; —; \*hololi (reduplicated from \*holi)  
 travel: honome'se, honoma'la; honome'łsi; —; honome'l; \*honome, \*nome  
 pull: ho'mi; ho'mesi; ho'mesta; ho'me; \*home  
 ride horseback: —; hotco'łsi; hotco'łke; —; \*hotcoł, \*tcoł  
 take all: hoyu'emi; hoyu'esi; hoyu'ita; —; \*hoyue, \*yue  
 be ignorant of: ho-e'wuice; ho-e'wustesi; ho-e'wusteki; —; \*ho-e'wis, \*ew  
 be ignorant of: ho-e'wiya; ho-e'wusi; ho-e'wuki; —; \*ho-ewi, \*ew  
 fool, cheat: hoi'yi; hoi'yasi; hoi'ta; hoi'ye'; \*hoiye  
 rest: —; —; —; hoci'a; \*cu'a  
 saw off: hohe'yi; hohe'yasi; —; —; \*heye  
 crawl: hokakai'ya; hoka'kesi; hoka'keta; —; \*kaka (reduplicated from \*ka)  
 keep: hoka'lela; hoka'lelsi; hoka'lelta; hoka'lel; \*kalel, \*kale  
 run on four legs: hoka'nice; hoka'n-teski; hoka'n-teki; —; \*hokani (\*ka+n)  
 carry round objects: hoka'tala; hoka'telsi; —; —; \*katel, \*kate  
 give war-cry: hoke'mi; hoke'łsi; hoke'ta; hoke'ti'; \*hoke', \*ke'

turn around: hoki'tumi; hoki'tesi, hoki'telsi; hoki'tiki; —; \*kitu, \*kit (possibly \*ki)

think: hoko'mse; hoko'masi; hoko'maki; —; \*hokəm, \*kəm

dive around: hoku'yuma; —; hoku'yuməkta; hoku'ye; \*kuye, \*ku

stretch: hok'a'le; hok'a'lesi; hok'a'lta; —; \*k'al

cut: hok'e'tse; hok'e'tsesi; hok'e'tseta; hok'e'tseti'; \*hok'etse, \*k'etse

open, crack open: hola''eki; hola''esi; hola''eki; —; \*hola''e, \*la'e

run: hole'iya; hole'oməksi; hole'oməkta; hole'umə; \*holeu, \*le

possess: homa'nala; homa'nelsi; homa'nəlki; —; \*homana, \*mane

miss: homa's-asa; homa's-asi; homa's-ta; homa'sasi'; \*homasa, \*masa

pretend: homata'wəsi; homata'wəsi; homata'uta'; homata'wəsi'; \*homataw (possibly from ma+\*taw)

swing (intransitive): homele'usi; homele'wesi; homele'uta; —; \*mele'u, \*leu

stir up: homepu'təsi; ho'mepute'si; homepu'tuta; homepu'te'; \*mepute, \*pute

flatten: homete'lsi; ho'metele'si; homete'lta; homete'le'; \*tel

knock: homete'olsi; ho'mete'ole'si; homete'olta; homete'ole'; \*te'ole, \*te'ə

wring clothes: hometsi'mi; hometsi'esi; hometsi'ta; hometsi'e'; \*tsi-e

think: homu'ice; homu'yelsi; —; homu'yel; \*homuye, \*mu+ye

open: hona'nvk; hona'nvktesi; hona'nvk; —; \*nanu (reduplicated from \*na)

yawn: honats'a'se; honats'a'esi; —; honats'a'el; \*nats'a, na+\*ts'a

ride in boat: honi'se; honi'elsi; —; honi'el; \*niel, \*ni

fight to kill: hopat'o'he; hopat'o'si; hopat'o'ta; hopat'o'he'; \*t'əhe, \*tə+he

cut open: hopa't'i; hopa't'elsi; —; hopat'e'; \*pat'e, \*t'e ?

look around: hope'se; hope'heleksi; hope'hok; hope'hela'; \*pehel, \*pe+he+l

herd, watch over: hope'se; hope'helsi; hope'heleksi; hope'ki; —; \*pe

be reflected in glass: hope'hiyaki; —; hope'hiyaki; —; \*pehiya, \*pe+hi+ya

shake (transitive): hopi'his; hopi'hi-esi; hopi'hita; \*pihi

squeak: hopi'hiwesi; hopi'hiusi; hopi'hi-uta; hopi'hiwe; \*pihiwe, \*pihi

shake (intransitive): hopi'hilike; hopi'hleksi; hopi'hilike; —; \*pihi

be full: hopi'la; hopi'las; —; —; \*pila, \*pil

roll up: —; hopi'lesi; hopi'lileksi; hopi'leta, hopi'lake; —; \*pil

run away: hosi'wese; hosi'welsi; hosi'welki; hosi'wel; \*siwe

be tired: hosə'se; hosə'asi; hosə'aki; —; \*hosəa, \*soa

melt: hote'oe; hote'husi; hote'huki; —; \*tehe, \*te+he

lie across: hote'peki; —; hote'peki; —; \*tepe

hover: hote'ice; hote'yelsi; hote'yelki; —; \*teye, \*te+ye

tighten: hoti'emi; hoti'cusi; hoti'ctesi; —; hoti'cti'; \*tic

splash in water: hott'kmi; hott'kesi; hott'ktasa; —; hott'kti'; \*tik, \*tt+k

float on top of water: hoto'kse, hoto'kala; hoto'kelsi; —; hoto'kel; \*tokel, \*tə+kə+l

wade in water: hoto'yala; hoto'yelya'omi; hoto'yelki; hoto'yati'; \*toya, \*to

divide: hot'a'mi; hot'a'esi; hot'a'eta; hot'a'ti'; \*t'ae

straighten: hot'i'mi; hot'i'esi; —; hot'i'eti'; \*t'i

split: hotca'mi; hotca'esi; —; hotca'tti'; \*tea-e

crack: hotca'pumi; hotca'pəsi; hotca'pta; hotca'pti'; \*teap

sing together: hotce'ti; —; —; \*tceti

walk: hotco'hala; hotco'lsi; hotco'lki; —; \*tcohal, \*tco

warm up: —; hotco'puleksi; hotco'paki; —; \*tcoapa

split: hotc'a'pumi; —; —; \*tc'ap

break round object: hots'a'pumi; hots'a'pəsi; hots'a'pki; hots'a'pitasta; —; \*ts-ap

measure: hots'a'mi; hots'a'esi; —; hots'a'e; \*ts'ae

kill: hots'a'emi; hots'a'esi; hots'a'eki; —; \*ts'ae

divide, go halves: howa'emi; —; howa'ta; howa''e; \*howa-e

forbid: howai's-a; howai'yesi; howai'sta; howai'ye; \*howaiye, \*waiye

break by force: howa'ci; howa'cesi; howa'cta; howa'ce; \*howace, \*wace  
 wish for: howa'lce; howa'lesi; howa'lta; —; \*wal  
 crawl: howa'lala; howa'lelya'omi; howa'laki; howa'lel; \*wale  
 iron: howl't'i; howl't'esi; howl't'eta; howl't'e'; \*wit'e (possibly wi+\*te)  
 shoot through: —; howl'tsusi; howl'tski; —; \*witsi (possibly wi+\*tsu)  
 scatter seed: hoyu'li; hoyu'lesi; hoyu'leta; hoyu'le; \*yule, \*yu  
 teach: hu'ese; hu'elsi; hu'elki; hu'e'; \*hu-e  
 go (defective): —; —; —; hu'ma'  
 like: huci'se; huci'ase; huci'aki; huci'ati'; \*hucia, \*cia  
 be alive: —; huci'ci; huci'ki; —; \*huci'  
 get well: huci'iake; huci'iaci; huci'iyeteki; —; \*huci-i, \*ci-i  
 steam: hucu'haiya; hucu'heyaomi; —; hucu'he'; \*hucuhe, \*cu  
 guess: huka'ya; —; —; —; \*hukaya (probably \*ka)  
 think: huka'lice; huka'lelsi; huka'litesi; —; huka'le, hukalitasi; \*kal, \*ka  
 remember: huka'l-ce; huka'lelsi; huka'leta; —; \*kale, \*ka  
 shove: huke'hi; huke'hesi; huke'ta; huke'hel; \*kehe  
 be dizzy: huku'tise; huku'tasi; huku'tak; huku'tati'; \*hu, \*kta  
 bump head: huku'ice; huku'ikteti; huku'iktak; —; \*hu, \*kui  
 stick out: hule'eki; hule'ekiya'omi; hule'eki; —; \*hule (possibly \*hu)  
 twinkle: humu'tsoce; —; —; —; \*tso  
 carry on shoulder: —; huna'si; huna'ski; —; \*hunas, \*na  
 carry on shoulder: huna'se; huna'hasi; huna'haki; huna'hati'; \*naha, \*na  
 yawn: hunatsa'se; hunatsa'tesi; hunatsa'aki; hunatsa'tasi; \*tsa  
 carry on head: —; hupe'nasi; hupe'nski; —; \*hu, \*pen  
 lie on back: husi'le; husi'huleksi; husi'hiki; husi'hula; \*husiht, \*si  
 be ended: huso'hok; huso'holeksi; huso'hok; huso'hotasi; \*husoho, \*soho  
 be tired: —; huso'asi; huso'ake; —; \*husoa, \*soa  
 be crazy, be foolish: hu'tica; hu'tici; hu'tiski; hu'tici'; \*hut  
 be glad: hutce'uk; hutce'uleksi; hutce'uk; —; \*hutce, \*tce  
 get well: hutsa'tise; hutsa'tasi; hutsa'take; —; \*hutsati, \*tsa  
 be blind: hutsila'ca; hutsila'ci; hutsila'ki; hutsila'ci'; \*hutsi, \*la  
 smile: hutsi'wice; hutsi'wileksi; —; hutsi'ula'; \*hutsi  
 stick out: huwa'omi; huwa'leksi; huwa'ota; —; \*huwao, \*wao  
 hold fingers crossed: huwa'tsumi; huwa'tsiya'omi; huwa'tsita; huwatsiti'; \*huwats,  
 \*wats  
 be glad: huye'kese; huyekasi; huyekake; huye'kati'; \*huyek, \*yek

## k

hear: ka'ci; ka'si; ka'ta; —; \*ka'  
 hail: kakima'ke; kakima'kasi; kakima'ke; —; \*kaki (from \*ka), \*maka  
 ache: ka'l-ica; ka'l-ici; ka'l-icki; —; \*kal-i  
 cry: ka'm'i; ka'm'tsi; ka'm'ta; ka'm'e; \*kam'e  
 take one after another: ka'n-omi; ka'n-osi; kan-ta; —; \*kan  
 tie: ka'pumi; ka'pusi; ka'pita; ka'piti'; \*kapu  
 twist: ka'tsi; ka'tasi; —; —; \*katu  
 be mouldy: ka'ta; ka'taci; ka'taki, ka'ticki; —; \*kat'a  
 break: —; ke'esi; ke'etesi; ke'eta, ke'eteki; —; \*ke'e  
 be ashamed: ke'l-eci; ke'l-esi; ke'l-eki; —; \*kel-e  
 push to one side: keya'tasa; keya'tasi; —; —; \*keya, \*ke  
 look: ke'yi; ke'yusi; ke'ita; —; \*kei  
 put beads on: ko'mi; ko'tsi; ko'ta; —; \*ko  
 boil: ko'ci; ko'ya'omi; ko'ki; —; \*ko'  
 get hurt: ko'ce; ko'tesi; ko'teki; —; \*ko



be lame: kə'həca; hə'hici; kə'ki; —; (probably Spanish cojo)  
 shove: kə'c:ki; kəc:é'si; kə'c:ta; kə'c:é'; \*kəce  
 flow down: kə'l:ci; kə'l:si; kə'l:tki; —; \*kəli  
 it is said: kən; —; —; \*kə  
 snore: kə'teε; kə'telsi; kə'telki; —; \*kəte, \*kə  
 tickle: kə'təsi; kə'te'si; kə'te:ta; kə'te:se'; \*kətei (possibly \*kə)  
 tickle: —; kəteiya'ci; kəteiya'ki; —; \*kətei  
 creep: kə'tsəsa; —; —; \*kətsə, \*ka or \*kə  
 round object stands: —; kə'leksi; kə'ki; —; \*kə  
 stink: ku''ca; ku''ci; ku''ta; —; \*ku'  
 stoop: ku''ki; —; ku''ki; ku'helki; ku'hel; \*kuhe, \*ku  
 inform: —; —; ku'ita; —; \*kui  
 smell: ku'laca; ku'laci; ku'laki; —; \*kula, \*ku  
 soak: ku'pmi; ku'pasi; ku'ptesi; ku'pta; ku'pti'; \*kup  
 be decayed: —; ku'pase, ku'patasi; ku'pake; —; \*kupa  
 build fire: ku'ti; ku'tesi; kut-a; ku'te; \*kute

## k.

pull: k·ali; k·a'lesi, k·a'ltesi; ka'lta; k·a'le'; \*k·ale  
 do: k·a'mi; k·a'məsi; k·a'm:ta; —; \*k·am  
 laugh: k·a't'ace; k·a't'ise; k·a't'ake; \*kat't  
 hate: k·e'kce; k·e'kasi; k·e'kaki; —; \*k·eka  
 eat mush: k·e'li; k·e'lesi, k·e'leksi; —; —; \*k·ele, \*k·e  
 stand: k·u'ki; k·u'helsi, k·u'heleksi; k·u'ki, k·u'heleka; —; \*kuhe  
 run: k·u'ise; k·u'esi; k·u'eke; —; \*k·ui  
 be rotten: k·u'pise; —; k·u'pake; —; \*k·up  
 put on: k·u'yi; k·u'yəsi; k·u'ita; k·u'ye'; \*k·uye

## k'

knock off: k'a'timi; k'a'tisi, k'a'tesi; k'a'tita; k'a'ti'; \*k'a'ti'  
 curse: k'e'yuci; k'e'yusi; k'e'ita; —; \*k'eye, \*k'e  
 open: k'l'ni; k'l'ntesi; k'l'nesi; k'l'nteki; k'l'nesi'; \*k'ne  
 stumble, fall down: k'o'm:ci; k'o'məsi; k'o'mki; —; \*k'om  
 thaw: k'o'pice; k'o'pasi; —; k'o'patasi'; \*k'opa  
 mash: k'o'tsese; k'o'tse'si; k'o'tseta; k'o'tse'; \*k'o'tse, \*k'o  
 knead: k'o'yi; k'o'yəsi, k'o'yetsi; k'o'ita; k'o'ye'; \*k'oye, \*k'o

## l

turn leaves of book: la''mi; la''esi; —; la''e; \*la'e  
 die: la'lakme; la'lakse; la'lakta; la'la'; \*lala (reduplicated from \*la)  
 fish with hook: le'k'eme; —; —; \*lek'e  
 stand: le'puki; le'puleksi; le'pelki, le'puki; le'puma'; \*lepu  
 kill many: li'pele; li'pukusi; li'puke; li'pu'; \*lipu  
 pluck off large feathers: lu'hi'; lu'həsi; lu''ta; lu'he'; \*luhe, \*lu

## m

carry up: ma-a'pəse; ma-a'pasi; ma-a'piki; —; \*apo  
 burn low, smoulder: ma''se; ma''tasi, ma'hasi; ma'haki; —; \*maha, \*ma  
 be lean: mai'oke't-a; mai'oke'tusi; mai'oke'tu (?); —; \*oket-a

put clothes on: ma'ok-u'yi; mai'ok-u'yesi; mai'ok-u'ita; mai'ok-u'ye'; \*ok-uye,  
\*ok-u

squirm: mai'omeko'tsi; mai'omeko'telsi; mai'omeko'telki; \*kote, \*ko

lay oneself across: —; —; mai'ot'e'pita; —; \*ot'epi, \*t'e

curl up, lie coiled up: mai'otc-ai'yi; mai'otc-ai'yusi; mai'otc-ai'ta; mai'otc-ai'ti;  
\*tcai

dress up: mai'ots'i'lasa; mai'ots'i'lasi; mai'ots'i'lusta; —; \*ts'ila, \*ts'i

stretch out: mai'hotsu'tsi; mai'hotsu'tsesi; mai'hotsu'tsita; mai'hotsu'tse'; \*tsutse

warm oneself: mai'hot-a'numi; mai'hot-a'nusi; mai'hot-a'n-ta; mai'hot-a'ne';  
\*t-ane

warm oneself: mai'hotco'pomi; mai'hotco'pasi; mai'hotco'paki; —; \*tco

look out: mai'hutsa'tumi; mai'hutsa'tusi; mai'hutsa'tta; mai'hutsa'tti'; \*hutsa,  
\*tsati

wink: mai'hutsitsi'umi; mai'hutsitsi'wusi; mai'hutsitsi'uta; mai'hutsitsi'uti';  
\*hutsitsi (reduplicated from \*hutsi)

flop in water: mai'la'pumi; mai'la'pusi; mai'la'pita; —, \*lap

go past: mai'mepiya'se, mai'mepiya'hasi, mai'mepiya'hatesi, mai'mepiya'haki,  
\*piyaha, \*yaha, \*ya

hold fingers entwined: —; —; mai'mepapo'tceta; —; \*potci

stick up: mai'mi; mai'tsi; mai'ki; mai'ti'; \*mai

slide on belly: mai't'a'mi; mai't'a'hesi; mai't'a'ta; mai't'a'ti'; \*t'a'

take off clothes: mai'tca'welasa; mai'tca'welesi; mai'tcawe'l-ta; —; \*tcawela,  
\*tcawe

flap (in dirt): mai'tco'pumi; —; —; \*tco

smudge: mai'ts'o'mi; mai'ts'o'wesi; —; mai'ts'o'wi'; —; \*ts'owe, \*ts'o

dig: ma'o'ni; ma'o'nesi, ma'o'ntesi; ma'o'n-ta; ma'o'ne'; \*ma'one, \*'one

penetrate, make hole: maci'li'; maci'lesi; maci'l-ta; maci'le'; \*cile

make hot: maco'iyasa; maco'iyaci; maco'iyasta; \*coiya, \*coi

be lonesome: mahantso'yice; mahantso'yasi; mahantso'yaki; —; \*han, \*tsoya

start hunting: mahawai'yasa; mahawai'yese; mahawai'yeki; —; \*hawaiye, \*hawai  
(?)

jump: mahe'oci; mahe'wusi; mahe'weke; mahe'oti'; \*heo

give, hand: mahe's-i; mahe's-esi; mahe's-ta; mahe'se'; \*hes

carry: mahe'tase; mahe'tasi; mahe'taki; meha'ti (?); \*heta

pick up and carry: mahe'tiya; mahe'titasi; —; —; \*heti

go across: mah'nasa; mah'nasi; mah'nasta; mah'nasi; \*hna

get up: mahi'n-ce; mahi'n-tes-i; mahi'n-teki; —; \*hin

move: mahi'wi; mahi'wusi; mahi'wita; —; \*hiw

go in: mahu'ce; —; mahu'teki; —; \*hu

bet: mahu'mi; mahu'tsi; mahut-a; —; \*hu

go outdoors: mahu'ece; mahu'etesi; mahu'eteki; mahu'ete'; \*hue

lie down: —; mahu'loksi; mahu'ki; mahu'la'; \*hula

take in: maka'lse; maka'lasi; maka'laki; maka'lati'; \*kal

carry: maka'tami; maka'tusi; maka'tata; —; \*kato

stretch: maki'umi, maki'wumi; maki'wusi, maki'wetesi; maki'uta, maki'wita; —;  
\*kiu

roast in oven: mako'li; mako'lesi, mako'ltesi; mako'lta; —; \*kol

put through hole: maku'imi; maku'tsi; maku'ita; —; \*ku'i

throw: mak-e'kemi; mak-e'ktesi, mak-e'kesi; mak-e'keta; —; \*k-ekε, \*ke

place in cradle: mak'i'ike; —; mak'i'ike; —; \*k'i-i

get close: mak'o'ise; —; mak'o'ilekta; mak'o'ila, \*k'o-i

get: male'uci; male'uleksi; male'ulekta; male'ula'; \*le-u, \*le

swallow: male'koce; male'kesi; male'kta; male'ke'; \*leke

come and help: mali'usi; mali'wase; mali'waki; mali'use'; \*li-u  
 poke: mali'hi; —; mali'ta; mali'he'; \*lihe  
 pile up: mali'pumi; mali'pesi; mali'pita; mali'pe'; \*lipe  
 put object in sack: malo'm-mi; malo'm-isi; malo'm-ta; malo'm-ti'; \*lom  
 carry in hand: —; malo'm-tesi, malo'm-asi; malo'meski, malo'maki; —; loma  
 gamble: ma'me; ma'mtesi; ma'mteki; ma'm-te; \*mame (reduplicated from \*ma)  
 take home: mame'ce, mame'sa; mame'asi; mame'aki; mame'ti'; \*me-a  
 tremble: mamu'pmi; mamu'psi; mamu'pita; —; \*muv  
 carry flat object: ma'nsi, ma'nala; ma'nasi, ma'nelsi; ma'niski, ma'n-ta; ma'ni';  
 \*mani  
 hold flat object: —; ma'ntesi; ma'nuski; ma'nte'; \*manu  
 bring: ma'nce; ma'nasi; ma'nta; ma'ni'; \*mani  
 cross water: ma'natci; ma'natsi; ma'natki; ma'nati'; \*nati, na+\*ti  
 go by boat: mani'se; mani'asi; mani'aki; mani'ati'; \*ni'a  
 shoot through: mapa'ki; mapa'ktasi; mapa'ktasta; mapa'keti; \*pake  
 penetrate: mapa'kumi; mapa'kesi; mapa'k-ta; mapa'k-ti'; \*pake  
 sink, disappear: mamu'ise; mamu'yelsi; mamu'yelki; mamu'yel; \*muye, \*mu  
 nail: mapa'pume; mapa'psi; mapa'pita; mapa'pti'; \*papi, \*pa  
 track: mape'kse; mape'kasi; mape'kaki; mape'kati'; \*peka, \*pe  
 roll: mape'li; mape'lesi; mape'leta; mape'le; \*pel  
 be reflected in water: mape'hiyaki; mape'hiyaci; mape'hiyaki; —; \*pehiya, \*pehi,  
 \*pe  
 creak: mapi'ka'ce, mapika'hasa; mapika'hesi; mapika'helekt; —; \*pikahē, \*ka  
 fill: mapi'lmi; —; —; \*pil  
 kick: map-o'imi; map-o'isi; map-o'ita; —; \*p-oi, \*po  
 lock up: mapo'nki; mapo'nleksi; mapo'nki; —; \*pon  
 get away: mapu'yi; mapu'yasi; mapu'ita; mapu'ye'; \*puye, \*pu  
 blow: mapu'latasa; mapu'latasi; mapu'lake; —; \*pula  
 cover: masa'mi; masa'husi; masa'ta; masa'ti'; \*sah, \*sa  
 throw in fire: masa'tumi; masa'tusi; masa'tita; masa'titi'; \*sati, \*sa  
 burn (intransitive): —; ma'ta'si; ma'ta'ki; —; \*ma'ta, \*ma  
 sprinkle: mata'li; mata'lesi; —; mata'le'; \*tale, \*ta  
 hand: —; —; mate'n̄ta; —; \*ten  
 wade: mato'yala, mato'yese; mato'yasi; —; mato'yati'; \*toya, \*to  
 penetrate: matu'lmi; matu'lesi; —; matu'lti'; \*tul  
 slide off: —; —; matets'a'ki; —; \*ts'a  
 go in water: mat-o'ise; mat-o'yasi; mat-o'yaki; —; \*t-oya, \*t-o  
 put boat in water: mat-o'yumi; mat-o'yusi; mat-o'yuta; mat-o'yuti'; \*t-oyt, \*t-o+ye  
 step: mata'se; mata'elsi; —; mata'el; \*ta  
 knock: mat'o'umi; mat'o'wesi; mat'o'uta; —; \*t'owe, \*t'o  
 have in hand: mat'u'yuse; mat'u'yasi; mat'u'yuta; mat'u'yomō'; \*t'uyo, \*t'u  
 put in pocket: matco'emi; matco'cisi; —; matco'citi; \*tco  
 put meat etc. in receptacle: matco'yumi; matco'yusi; matco'yuta; —; \*tco  
 put down: matco'humi; matco'husi; matco'huta; —; \*tco  
 burn: mate-u'mi; mate-u'si; mate-u'ke; mate-u'ti'; \*te-u  
 pour in: matsai'mi; matsai'husi; matsai'ta; matsai'ti'; \*tsaihi, \*tsai  
 squirt water: matsi'kmi; matsi'kesi; matsi'kuta; —; \*tsik, \*tsi  
 roast on coals: matsi'umi; matsi'wasi; matsi'uta; —; \*tsi-u  
 stick: matsō'tomi; matsō'tusi; —; matsō'titi'; \*tsoti  
 pour water in: matsu'li; matsu'lesi; —; matsu'le'; \*tsule, \*tsu  
 take bucket of water home: ma'ts'i; ma'ts'yusi; ma'ts'ta; —; \*mats'i, \*ts'i  
 climb, crawl: mawa'lae; mawa'las; —; mawa'lti', mawa'le'; \*wale  
 carry long object: mawe'ce; mawe'hesi; mawe'ta; mawe'he'; \*wehe, \*we  
 pick up long object: mawe'miya; mawe'meksi; —; mawe'm-a'; \*wema

hang up: mawi''mi; mawi''tsi; mawi''ski, mawi''ta; mawi''ti'; \*wi'  
 put inside: mawi'lmi; mawi'lsi; mawi'l'ta; —; \*wil  
 send: —; mawiti'tesi; mawiti'ta; mawiti'ti'; \*witi  
 ride horse: maya'elke; —; maya'elke; —; \*yael, \*ya  
 pour out of plate: mayu'li; mayu'lesi; mayu'l'ta; —; \*yule, \*yu (?)  
 scold: me'e'nmi; me'e'nusi; me'e'n'ta; me'e'ni'; \*me'e'ni, \*'eni (?)  
 shake hands: me-ohi'lmi; me-ohi'lesi; me-ohi'l'ta; —; \*ohil  
 put on top of one another: me'u'ti; me'u'tesi; me'u'teta; me'u'te'; \*ute, \*u  
 bring home: me'ce; me'casi; me'caki; me'cati'; \*meca  
 breathe: mecu'k'ee; mecu'k'elsi; mecu'k'eta; —; \*cuk'e  
 grab: meci'tese; mecu'tesi, mecu'telsi; mecu'teki, mecu'telki; \*cute  
 pick up: meha'owe; meha'owesi; meha'oweta; meha'owi'; \*haowi, \*hao  
 gather nuts: meha'wi; meha'wesi; meha'weta; meha'we'; \*hawe  
 count: meha'yi; meha'yese; meha'yaita; meha'ye'; \*haye  
 shake: mehi'usi; mehi'wesi; mehi'uta; mehi'we'; \*hiwe  
 pull up: meho'm-i; meho'm-esi; meho'm'ta; meho'm-e; \*home  
 touch, feel: me'kesi; me'ksi; me'kta; meka'; \*meka, \*me  
 string beans etc.: meko'mi; meko'esi; meko'ta; meko''e; \*ko'e  
 have hand in pockets: —; meku'yelksi; meku'yeksi; meku'yula'; \*kuye, \*ku  
 hunt: mela'ci; mela'esi; mela'ta; mela'e'; \*la-e  
 peep out: —; —; mele'k-eta; mele'kel; \*lekel, \*lek  
 be exhausted: mele'pise; mele'pasi; mele'paki; mele'pati'; \*lepa  
 get up: mele'piya; mele'pumaksi; mele'pumakta; —; \*lepu  
 be limber: melo'k'eye; melo'k'elsi; —; melo'k'el; \*lok'el, \*lok'e  
 pick up: mema'niya; —; mema'nmakta; mema'n-ma; \*man  
 put in: memela'se; memela'hasi; memela'haki; memela'hati'; \*laha  
 be leaning: memets'ai'mi; memets'a'esi; memets'a'uta; —; \*ts'a-e  
 come up: mena'la; menale'ksi; mena'ke; —; \*na  
 eat up: menats'e'yi; menats'e'yese; —; menats'e'ye; \*ts'eye, \*ts'e  
 take food out of ground: mene'he; mene'hesi; mene'ta; mene'hi'; \*nehi, \*ne  
 drop: mepa'usi; mepa'wesi; mepa'uta; —; \*pa-u  
 make a step: mepet'a'se; mepet'a'elsi; mepet'a'elki; mepet'a'el; \*pe, \*t'a  
 go step by step: mepet'a'omasi; mepet'a'omasi; —; mepet'a'omati'; \*pe, \*t'ao  
 carry in arm: mepica'ise; mepica'yasi; mepica'yaki; —; \*caya, \*ca  
 mash: —; —; mepita'tata; —; \*tata (reduplicated from \*ta)  
 fold arms: —; mepi'telksi; mepi'teeski; mepi'teela'; \*tee  
 bubble: mepu'lsi, mepu'laiya; mepu'leksi; —; mepu'le'; \*pule, \*pu  
 be full: mepu'laiya, mepu'lmi, mepu'lsi; mepu'leksi; —; mepu'le'; \*pule  
 bring food: me'saki; —; me'saki; me'sati'; \*mesa  
 arrange: mesa'o-tsi; mesa'o-esi; mesa'ota; mesa'owe'; \*saowe, \*sao (?)  
 hold tight: —; meti'ctesi; meti'cucke; meti'cti'; \*tuc  
 ring: meti'lse; meti'lese; meti'l'ta; meti'le'; \*tile  
 feel: meto'tusi; metote'si; —; meto'te'; \*tote (reduplicated from \*to)  
 roll: metcai'mi; metcai'usi; —; metcai'ti'; \*tcai  
 catch with hooked stick: metee'n-mi; metee'n-esi; metee'n-ta; —; \*tcene, \*tce (?)  
 put: metco'emi; metco'cusi; metco'e-ta; metco'cti'; \*tcoc  
 be unwilling: metco'te'se; metco'te'asi; metco'te'aki; —; \*tcote'a  
 take off: metcu'lmi; metcu'lsi; metcu'l'ta; —; \*tcul, \*tcu  
 eat mush: —; —; metcu'tita; —; \*tcuti, \*tcu  
 rattle: metc'o'lsi; metc'o'lesi; metc'o'l'ta; metc'o'le'; \*tc'ole  
 lean: —; mets-a'leksi; mets-a'ke; —; \*ts-a  
 lean: mets-a'ce; mets-a'esi; mets-a'ta; —; \*ts-a  
 dislike: metsa'pce; metsa'pasi; metsa'pata; metsa'pati'; \*tsapa, \*tsa (?)  
 grab: metsa'pume; metsa'pusi; metsa'pta; metsa'pki; metsa'pel; \*tsape, \*tsa (?)

- stay with: mets'e'lki; —; mets'e'lki; —; \*ts'el  
 dislike: mets'a'p'uce; mets'a'p'asi; mets'a'p'aki; —; \*ts'ap'a, \*ts'a (?)  
 get up from bed: metc'u'ise; metc'u'yelsi; —; —; \*tc'uye, \*tc'u  
 trade: mewa'taise; mewa'tselsi; —; mewa'tsel; \*watsi  
 hold: —; mewi'tesi; mewi'eski; mewi'te'; \*wite, \*wi  
 catch: mewi''i; mewi''esi; mewi''ta; —; \*wi'e  
 tell: mewi'lce; mewile'si; mewi'lta; mewi'le'; \*wile  
 go along?: mewi'ma; mewi'yasi; mewi'ski; mewi'te'; \*wi  
 hold object suspended: mewi'miya; mewi'miksi; —; —; \*wimi, \*wi  
 muss up: mewo'ya; mewo'yese; —; —; \*woye, \*wo  
 stir: mewo'li; mewo'lesi; —; mewo'le'; \*wole, \*wo  
 get up: —; meyo'kalasi; —; meyo'kal; \*yokal, \*yoka  
 (water) flows: me-ite'eci; —; me-ite'eke; —; \*me-i, \*te (?)  
 sweat: me-ya'ya; me-ye'si; me-ye'ki; me-ye''; \*me-i, \*ye  
 hold fingers together: meca't'uki; meca't'leks; meca't'uki; —; \*cat't  
 do quickly: mehe'lsi; mehe'lesi; mehe'lta; mehe'le'; \*hele  
 grind between objects: mehe'i; mehe'yese; mehe'ta; mehe'ye'; \*heye, \*he+ye  
 pick up: meka'liya; meka'lmoksi; —; meka'lumö'; \*kal  
 pick up: meka't'iya; meka'tumoksi; meka'tumökta; meka'tumö'; \*kati  
 wash: mek'o'li; mek'o'lesi; mek'o'lta; mek'o'le'; \*k'ole  
 shove: mele'tsi; mele'ye'si; mele'ta; —; \*lei  
 tan skin: melo'k-si; melo'k-esi; melo'k-ta; melo'k-e'; \*lak-e  
 recede: memaco'hi  
 hold head up: menats-a'kese; menats-a'kelsi; menats-a'keta; menats-a'kel; \*ts-akel,  
     \*ts-ake  
 smooth: mesa'wisi; mesawe'si; mesa'uta; mesa'we'; \*sawe  
 pick up: metsö'tiyak; —; metsö'tiyak; —; \*tsoti, \*tsö (?)  
 get up: meyo'kese; meyo'kelsi; meyo'kelki; —; \*yöke  
 cook: —; —; —; meyo'k-oti'; \*yoko  
 bump: mewelaiya; mewellesi; meweleki; mewele'; \*wele  
 marry: —; msine'kesi; —, —, \*msi, \*neke  
 sprout: mitcu'kalsi; mi'tcukale'si; mitcu'kalta; —; \*mitcuke, \*tcu (?)  
 divide: möhot'a''mi; möhot'a'esi; möhot'a''ta; möhot'a''ti'; \*t'a'  
 sweat: mölce; möltesi; mölteki; mölte'; \*möl  
 hide: mönce, mönami; mönasi, mönusi; mönaki; —; \*möna  
 pile up: mö'temi; mö'tesi; mö'teke; mö'teti'; \*möte  
 draw legs up: mötsi''i; —; mötsi''ta; mötsi''e; \*mötsi'e, \*tsi'e  
 go out of sight: —; —; möiya'luk; —; \*möiya, \*iya  
 peep: möhu'lekse; möhule'kusi; möhu'lekta; möhu'lekel; \*hulek, \*hul  
 pass by: mömö'kse; mömö'kelsi; —; mömö'kel; \*mök  
 pare off: mönaco'tumi; mönaco'tesi, mönaco'telsi; mönaco'telki, mönaco't-ta;  
     \*naco'te, \*cote  
 be blown up (as bubbles from water): —; möpula'tasi; —; —; \*pul  
 fill with air: —; möpu'letasi; möpu'letasta; —; \*pul  
 puff up: mötaka'se; mötaka'si; mötaka'ki; mötaka'ti'; \*taka  
 dress up: möte''mi; möte''tesi; —; —; \*te'  
 sink to bottom: mötca'se; mötca'asi; mötca'ki; —; \*mötca, \*ötca (?)  
 get stuck: mü'ce; mü'tesi; —; —; \*mu'  
 lie: mü'kuki; mü'kasi; mü'kuki; —; \*muk  
 fall in: mük'e'i; —; —; mük'e'ukti'; \*mük'e, \*ük'e (?)  
 pluck out: mük'i'; mük'e'si; —; mük'e''; \*mük'e, \*ük'e (?)  
 be at the end: müsö'mi; müsö'hesi; müsö'ta, müsö'ki; —; \*müsöhe, \*söhe  
 smoulder: mut-e'se; mut-e'asi; mut-e'aki; —; \*mut-ea  
 light: mü'i'mi; mü'i-e'si; mü'i'ta; mü'i'e'; \*mü'ie

## n

- see: na'oci, na'wisi; na'ota; na'owi'; \*nao  
 show: na'oasa; na'oasi; na'oasta; na'oasi'; \*nao-a, \*nao  
 bother, make fun of: na'umi; na-u'esi; na-u'ta; na-u'ti'; \*na'u, \*u (?)  
 waste: na'u'mi; —; na'u'ita; —; \*na'u', \*u (?)  
 dance up and down: naha'pise; naha'pitesi; —; naha'pi'e; \*hap  
 kneel: nahe'tsice; nahe'tsileksi; nahe'tsi-uki; nahe'tsila'; \*hetsi  
 jump around: —; —; nahe'wikata; —; \*hewi  
 swing: nahi'lise; nahi'ltesi; —; nahi'lte; \*hil, \*hi  
 teach: nahu'mi; nahu'esi; —; nahu'el; \*hu  
 strike with mouth: naka'ce; naka'tesi; —; naka'te; \*ka  
 taste: naka'si; naka-e'si; —; —; \*ka  
 bite meat of: nake'lsi; nakele'si; nake'lta; nake'le'; \*kele, \*ke  
 bloom: —; nako'teleksi; nako'telki; —;  
 bite: nak'a'ci; nak'a'si; nak'a'ta; nak'a'e; \*k'a  
 be angry: nale''eca; nale''eci; nale''eki; —; \*nale'e, \*le'e  
 get angry: nale''eca; nale''eci; nale''ecki; nale''eci'; \*nale'e, \*le'e  
 itch: namo'ise; namo'iyelsi; namo'iyelki; —; \*moiye, \*iye  
 sharpen: namu'tsusi; namutse'si; namu'tsita; namu'tse'; \*mutse, \*utse (?)  
 suck candy: namu't'si; namut'e'si; namut'e'ta; namu't'e'; \*mut'e  
 scream: napa'lse; napa'lasi; napa'laki; napa'lati'; \*pal  
 whisper: napico'liya; napico'limoksi; napico'limakta; napico'lama; \*picola, \*col, \*co  
 rub sticks: napicu'mi; —; napicu'teki; napicu'te; \*picu', \*cu  
 drizzle: napit'u'husi; napit'u'husi; napit'u'ta; —; \*pit'uhe, \*pit'u  
 shout: napa'lse; napa'lasi; —; napa'late'; \*pola, \*pcl  
 play ball: napa'lise; napa'litesi; napa'liteki; napa'lite'; \*poli  
 bow: nasu'tice; nasu'tleksi; —; nasu'tila; \*suti  
 lie prone: —; —; nata'mki; nata'mula'; \*tam  
 fall on stomach: nata'mekme; nata'mektesi; nata'mekteki; \*tam  
 get old: natce'wela; natce'welsi; natce'welki; —; \*natcewe, \*tcewe  
 hop: natse'pice; natse'ptesi; natse'pteki; —; \*tsep  
 chew: nats'o'lse; nats'o'lesi; nats'o'lta; nats'o'le'; \*ts'ole, \*ts'o  
 come around: na'we'yasa; na'we'yusi; na'we'yusta; —; \*weya  
 halloo: nawo'lsi; nawo'lesi; nawo'lta; nawo'le'; \*wol  
 play: naye'mese; naye'metesi; naye'meteki; naye'mete'; \*yeme  
 lie: ne'mi; ne'si; ne'ta; —; \*ne'  
 lie: ne'ce; ne'heleksi; ne'helekti; —; \*nehe  
 have: ne'kuce; ne'kesi; —; —; \*neke  
 bleed: ne'pca; ne'pcai; ne'peki; —; \*nep  
 be full of blood: neputs-a'ca; —; neputs-a'ki; —; \*nep, \*ts-a  
 hire: nu'mci; nu'mesi; nu'mta; nu'me'; \*num  
 be satiated: —; no'lesi; no'lta; —; \*nol  
 rest: —; —; no'melki; no'me'; \*nome  
 live: —; no'moleksi; no'mki; no'mi'; \*nomi  
 go to bed: no'maiya; no'mesi; no'meki; no'me'; \*nome  
 fill up: no-ot'o'omi; no-ot'o'elsi; no-ot'o'ucki; no-ot'o'el; \*no-ot'o, \*ot'o  
 have pleasant taste: no'otc-ai'ice, no'otc-ai'iyai; —; no'otc-ai'iyucki; —; \*no'otc-ai,  
 'otc-ai  
 be jealous: nu'he; nu'tesi; —; —; \*nuhe  
 rob: nu'he; nu'si; nu'ta; nu'he'; \*nuhe

## p

wear: —; pa'tesi (?); pa'eski; pa'el; \*pa  
 eat: pa'mi; pa'esi; pa'ta; pa'e; \*pa'  
 shell acorns: pai'mi; pai'isi; pai'ta; pai'ti'; \*pai'  
 jerk off: pai'emi; pai'esi; —; pai'ye'; \*paiye, \*pai  
 cave in: pai'uce; pai'utesi; pai'uteki; \*pai'u, \*pai'  
 take care of: paha'omi; paha'wisi; paha'uta; —; \*paha'u, \*ha (?)  
 make deer-drive: pa'lumi; pa'lesi; pa'lta; pa'le'; \*pale  
 mash up: pamatsa'psi; pa'matsape'si; —; pamatsa'pe; \*tsape  
 double up: pameko'tsesi; pa'mekotse'si; pameko'tsta; pameko'tse'; \*kotse  
 roll up: pamepi'lsi; pa'mepile'si; pamepi'lta; pamepi'le'; \*pil  
 roll up: pamepo'lsi; pa'mepole'si; pamepo'lta; pamepo'le'; \*pol  
 pinch: pametsi'psi; pametsi'pci; pametsi'pita; pametsi'pe'; \*tsipe  
 squeeze: pamesu'tsi; pa'mesute'si; —; pamesu'te'; \*sute  
 tie: pamek'vusi; pamek'vsesi; pamek'vsta; —; \*kvs, \*ku  
 be frozen: —; p-a'nusi; p-a'n-ki; p-a'n-i; \*pani  
 bite: panak'a'e; panak'a'esi, panak'a'tesi; panak'a'ta; panak'a'el; \*k'a  
 tie together: papo'tcomi; papo'tcesi; —; papo'tcuti; \*potcu, \*po (?)  
 resemble: —; pasa'kelsi; pasa'keski; —; \*sake  
 be soaked: —; pasa'tasi; pasa'taki; —; \*pasata (possibly \*ta)  
 be damp: —; pata'tasi; pata'taki; —; \*patata (reduplicated from \*pata), \*ta (?)  
 cut open for drying: pa't'i'; pa't'esi; pa't'ita; pa't'e'; \*t'e  
 wrinkle clothes: patco'tusi; patcote'si; patco't-ta; —; \*tcoti  
 be frightened: patco'ti; patco'tusi; patco't-ta; patco'te'; \*tcote  
 frighten: patco'tasa; patco'tasi; patco'tusta; patco'tusti'; \*tcoti  
 wrinkle: patco't'omi; patco'tesi; —; —; \*tcote  
 wash: patso'mi; patso'esi; —; patso'ti'; \*tso  
 stampede: payu'yise; payu'yelsi; payu'yelki; —; \*yuye (reduplicated from \*yu)  
 look: pe''ce; pe'heleksi; pe'heki; pe'hela'; \*pehe, \*pe  
 step over log: peha'mse; peha'melsi; —; peha'mel; \*pe, \*ham  
 slip: pek-a'ohe; pe'k-a'ohe'si; pek-a'o'wki; —; \*pe, \*k-ao+he  
 be slippery: —; —; pek-a'ohiya'ki; —; \*pe, \*k-ao+hi+ya  
 twirl: —; —; pe'leki; —; \*pel-e  
 be full blown: —; —; pe'leki; —; \*pele  
 put: pe'n-mi; pe'n-esi; pe'n-ta; pe'n-ti'; \*pen  
 pluck feathers: pe'tumi; pe'tusi; —; pe'tuti'; \*petu  
 drop down together: petale'komi; —; —; \*talek, \*tale  
 pull: pe'tcumi; pe'tcesi; —; pe'tcuti'; \*petei  
 be shining: pe'tsetsesi; pe'tsuleksi; —; pe'tsula'; \*petsu  
 chop: pe'mi; pe'isi; —; pe'ti'; \*pe'  
 cough: pe'k'e; pe'k'usi; pe'k'ta; pe'k'ti'; \*pk'e, \*tk'e (?)  
 have diarrhoea: pe'tica; pe'tcei; pe'tceki; —; \*pti  
 take: pe'tase; pe'tise; pe'taki; pe'tati'; \*pta  
 peck: pi'mi; pi'isi; pi'ta; pi'ti'; \*pi'  
 skin: pi'umi; pi'uleksi; pi'ulekta; pi'u'; \*pi-u  
 be fat: pi'iki; —; pi'iki; —; \*pi'  
 wait for: pi'ki; pi'hleksi; pi'hiki; pi'hula'; \*pihi, \*pi  
 be cool, be breezy: picu'uki; picu'uleksi; picu'uki, picu'ula'; \*picui, \*ciu  
 be cool: —; —; picu'wiyake; —; \*ci+wi+ya  
 carry short brush etc.: picu'se; picu'hasi, picu'tesi; picu'heski; —; \*picu  
 blaze up: pi'mimiya; pi'mimisi; —; —; \*pmimi (reduplicated from \*pumi)

slide along: p'i'umi; p'i'uwesi; p'i'uleksi; p'i'ulekta; —; \*p'i-u  
 squeak: pika'hasa; pika'heleksi; —; pika'hasi; \*kaha, \*ka  
 listen: pika'ce; pika'leksi; pika'ki; pika'la'; \*ka  
 hurt: pika'lica; pika'lici; —; pika'li'; \*kal  
 have a cold: pik'e'ca; pik'e'ci; —; —; \*k'e  
 crush, trample: pik'oi'yusi; pi'k'oiye'si; pik'oi'yeta; pik'oi'ye'; \*k'oi+ye  
 catch up: pine''se; pine''asi; pine''aki; pine''ati'; \*ne'a  
 keep: pi'ne'ce; pi'ne'si; pi'ne'ki; pi'ne''; \*pi'ne  
 shell corn: pi'pi; pi'pesi; pi'peta; pi'pe'; \*pipe (reduplicated from \*pi)  
 be cool (of water): pita'kiyake; —; pita'kiyake; \*pitakiya, \*pita (possibly from  
 \*ta)  
 trip: pite'kise; pite'kelsi; pite'kuta; pite'ke'; \*pitek, \*pi+tek (?)  
 take out of water: pi'tiyo; pi'timoksi; pi'timokta; —; \*piti, \*ti (?)  
 bump: pi'tomi; pi'tosi; pi'tota; pi'toti'; \*pito, \*to  
 touch: pito'esi; pito'elsi; —; —; \*pito, \*to  
 mash: pitsa'pise; pitsa'pumoksi; pitsa'pumokta; —; \*tsapi  
 be stained: pitso'wesa; pitso'weyesi; pitso'weke, pitso'waista: —; \*pitsowe, \*pitso  
 wake up (transitive): piwa'lci; piwa'lesi; piwa'lta; piwa'le'; \*wale  
 thump: piyai'yusi; piyai'yese; piyai'ta; piyai'ye'; \*yaiye, \*yai  
 carry in hand: piye'tece; piye'tesi; piye'teski; piyetete'; \*yete (possibly \*ye)  
 come out: p-o'kei; p-o'kesi; p-o'k-i; —; \*p-oke  
 be ripe: —; p-o'tci; p-o'teki; —; \*pote  
 put in: p-o'te'umi; p-o'te'esi; p-o'te'ta; —; \*pote'e  
 wrap up: powe'lmi; powe'lsi; powe'l-ta; powe'l-ti'; \*powel, \*wel (?)  
 kiss: pu'tsomi; pu'tsusi; pu'tsuta; pu'tsuti'; \*pu'tsu, \*pu  
 run away: pu'liya; pu'lsi; pu'luki; pu'luma'; \*puli  
 halloo: pupuhai'yi; pupuhai'yese; pupuhai'ta; —; \*pupu (reduplicated from \*pu  
 and \*ha (to speak))

## p'

crackle: p'ai'mi; p'ai'usi; p'ai'ta; —; \*p'ai  
 snow: p'i'li; —; —; \*p'il  
 smoke: p'o'mi, p'o'hesi; p'o'ta; p'o'ti'; \*p'o'

## s

cover: sa'tomi; sa'toh'leksi; —; sa'toti'; \*sa'to, \*sa'  
 spend: so'mitasa; so'mitasi; so'mitasta; —; \*somi  
 peel off, dent: s'li; s'lsi; s'luki; s'le'; \*sule  
 wear around neck: seski; —; —; \*ses  
 cover: so'tomi; —; —; \*so'to, \*so'  
 cover: so't'umi; so't'u-e'si; so't'u'uta; —; \*so't'u, \*so  
 rain lightly: s'titisi; —; —; \*stiti (reduplicated from \*sti)  
 make: so'yumi; so'yusi; —; —; \*soyl, \*so  
 pass: su'pki; su'psi; su'pki; —; \*sup  
 stoop: su'tuki; su'tleksi; su'tuki; —; \*sutu  
 stoop: —; su'tlsi; su'tlki; —; \*suti

## t

lick: ta'mi; ta'usi; —; ta'ti'; \*ta'  
 tell untruth: ta'osa; ta'osi; ta'osta; ta'osi; \*ta'o  
 itch: —; taka'usi; ta'keki, taka'ista; —; \*take  
 inform: taoya'omi; taoya'osi; taoya'ota; —; \*taoyao



crush (like thunder): ta'kakakaha'ci; —; —; \*taka, \*ha  
 hit with hand: ta'tsami; ta'tsusi; ta'tsuta; —; \*tats, \*ta  
 marry: te'e'usa; te'e'usi; —; —; \*eu  
 cheat: tehoi'i; tehoi'yesi; tehoi'ta; tehoi'e'; \*hoi-e  
 bark: —; —; teho'ka'ki; —; \*hoka  
 bunch up: tehutcu'yumi; tehutcu'yisi; tehutcu'ita; tehutcu'ye'; \*hutcuye, \*hutcu  
 bring in hand: tek-a'lse; tek-a'las; tek-a'lta; tek-a'le'; \*k-ale  
 make fun of: tek-a'tice; tek-a'tatasi; tek-a'tataki; tek-a'tati'; \*k-ata  
 come in: teku'yusi; teku'yelsi; teku'yelki; teku'ye'; \*kuye, \*ku  
 (fish) run: telo'se; tela'si; tela'ki; —; \*la  
 come: —; tela'aleksi; tela'alekta; —; \*la'a  
 stop running (?): tele'palasi; —; tele'pelki, tele'pel; \*lepel, \*lepe  
 push: teli'mi, teli'hesi; teli'ta; —; \*lihe, \*li  
 pursue: teli'use; teli'wase; teli'waki; teli'wati'; \*liwa, \*li (?)  
 grab: temecu'tise; temecu'tileisi; temecu'tuta, temecu'titelki; temecu'te', \*cute  
 arrive: tena'v'se; tena'v'asi; tena'v'aki; —; \*na'va, \*v'o  
 drop from hand: tepa'omi; tepa'osi; tepa'ota; tepa'oti'; \*pao  
 swim: teta'mse; teta'masi; teta'maki; teta'mati'; \*tam, \*ta  
 hand over: tetemate'nmi; tetemate'nise; tetemate'n-ta; tetemate'n-ti'; \*ten  
 come back: tew'e'lece; tew'e'lesi; tew'e'elki; —; \*wele, \*wel  
 build, put on rafters: tew'lumi; tew'lesi; tew'lta, —, \*wil  
 brush hair: teco'temi; teco'tesi, teco'teta, teco'te', \*cote  
 break wind: tice; ticesi; ti'cta; ti'cti'; \*tice  
 jump in water: ti'pce; ti'pelsi; —; —; \*tip, \*ti  
 shake: ti'titisi; ttiumo'ksi; tti-u'mokta; —; \*tti (reduplicated from \*ti)  
 be thirsty: ti'yaca; ti'yaci; ti'yucki; —; \*tiya, \*ti  
 shine (sun): —; to'casi; to'cuki; —; \*toci  
 lie rotting: —; to't'elsi; to't'elki, to't'eki; —; \*to't'e (reduplication of \*t'e ?)  
 strike: to'mi; to'wesi; —; —; \*to'  
 hang down: to-uw'i'hiki; to-uw'i'hileksi; to-uw'i'haki; —; \*to-uwih, \*to-u-wi-hu  
 fall: —; toteo'hosi; toteo'hoki; —; \*teoho  
 take away: tu'ci; tu'cesi; tu'cta; —; \*tuce  
 hit with knuckles, elbow, etc.: tu'm-mi, tu'm-esi; tu'm-ta; tu'm-ti'; \*tum  
 pick up: tu'mi; tu'isi; tu'ita; —; \*tu't  
 go off by accident: —; tu'ihasi; tu'ihaki; —; \*tuhi, \*tu-i  
 rake: tuke'hi; tuke'hisi; tuke'ta; tuke'he'; \*tuke-he, \*tuke-  
 rub: tu'li; tu'l-ese; tu'l-ta; —; \*tul  
 come and look: tule'keme; tule'kesi; —; tule'keti'; \*leke  
 be large: tu'tsaci; tu'tsaki, tu'tsaki; —; —; \*tutsa

†

fondle: ta'mi; ta'tesi —; ta'ti'; \*ta  
 hit: ta''omi; —; —; —; \*ta'a'o  
 yell: —; ta'pasi; ta'paki; —; \*tapa  
 lie on top (of water): to'uki; to'uleksi; to'uki; —; \*to  
 (sunbeams) shine through: —; tu'lisi; tu'luki; —; \*tul  
 get sore: tu'mse; tu'melsi; tu'melki; —; \*tum

t'

bounce: t'a''esi; t'a''isi; t'a''ita; —; \*t'a't  
 sell: —; t'ai'yasi; t'ai'yasi; t'ai'yake; t'ai'yati'; \*t'aiya, \*t'ai  
 braid, link: t'a'ki; t'a'kesi; t'a'koki; t'a'ke'; \*t'ake

shout: t'a'pise; —; t'a'paki; —; \*t'apa  
 spear fish: t'a'pemi; t'a'pesi; t'a'peta; t'a'peti'; \*t'ape  
 bring: —; —; t'a'yake; —; \*t'aya  
 hold in hand: t'i'miya; t'i'tesi; t'i'ksi; t'i'ukta, t'i'uski; t'i'te'; \*t'i  
 hit with arrow: —; —; t'o'kolekta; —; \*t'ok  
 hang: —; t'o'helsi; t'o'helki; —; \*t'o'hel, \*t'o  
 kill: t'o'he; t'o'si; t'o'ta; —; \*t'o'he, \*t'o  
 catch in net: t'o'ltasa; —; t'o'lteki, t'o'ltusta; —; \*t'ol  
 leak: t'u'ci; t'u'hasi; t'u'haki; —; \*t'uhi, \*t'u  
 sit on high object: —; t'u'ileksi; t'u'iki; —; \*t'ui  
 trot: t'u'lmi; t'u'lusi; t'u'lta; —; \*t'u'l  
 fondle: t'u'li; t'u'lesi; t'u'lta; —; \*t'ul  
 buy: t'u'mi; t'u'mesi; t'u'mta; t'u'me'; \*t'ume  
 skin: tu'ise; tu'esi; tu'eta; tu'ti'; tu

## t'

lick: t'a'omi; t'a'usi; t'a'uta; t'a'tti'; \*t'a-t  
 dry fish: t'a'oname'si; —; —; \*t'aona  
 spear salmon: t'o'he; t'o'hesi; t'o'ta; —; \*t'ohe, \*t'o  
 arrive: t'o'tki; t'o'leksi; t'o'tki; —; \*t'ot

## tc

bend: tcai'yi; tcai'yesi; tcai'ta; —; \*tcai  
 be washed away: —; tca-i'utesi; tca-i'uteki; —; \*i-u, \*i  
 take out: —; —; tcahe'lta; —; \*hel  
 move: tcahi'lumi; tcahi'wesi; tcahi'uta; —; \*hi-u, \*hi  
 peel skin: tcake'nmi, tcake'ni; tcake'nusi, tcake'ntesi; tcake'nta; tcake'ne'; \*kene  
 be easy: —; tc-ak-e'tesi; tc-ak-e'tteki; —; \*k-e  
 slip off: tc-ak-e'hasi; tc-ak-e'hatasi; tc-ak-e'ta; \*k-eha, \*k-e  
 come out: tcaku'yase; tcaku'yelsi; tcaku'yelki; tcaku'ye'; \*kuye  
 uncover: tc-ala'mi; tc-ala'esi; tc-ala'eki; tc-ala'e; \*lae  
 catch fish: tc-ale'k'i; tc-ale'k'esi; tc-ale'k'uta; tc-ale'ke'; \*leke  
 break by twisting: tc-ale'i; tc-ale'yesi; tc-ale'usta; tc-ale'ye; \*leye, \*le  
 slide (transitive): tc-ali'hi; tc-ali'hesi; tc-ali'ta; tc-ali'he; \*lihe, \*li  
 pick acorns off tree: tcalu'ki; tcalu'kesi; —; tcalu'ke; \*lu  
 twist: tcamaka'tusi; tca'makate'si; tcamaka'teta; tcamaka'te'; \*kate  
 wash dishes: tc-amako'li; tc-amako'lusi; tc-amako'lta; tc-amako'le'; \*kole, \*ko  
 unravel: tc-ameki'tesi; tc-ameki'tsi; tc-ameki'ta; tc-ameki'te'; \*kite  
 twist: tc-amele'i; tc-amele'esi; —; —; \*le'e  
 clean: tc-ameta'k'esi; tc-a'metak'e'si; —; —; \*tak'e  
 stop: tc-amete'se; tc-amete'helsi; tc-amete'ta; tc-amete'hel; \*tehe, \*te  
 loosen: tc-amete'se; tc-amete'helsi, tc-amete'si; tc-amete'ta: tc-amete'hel; \*tehe  
 \*te  
 wind up watch: tc-ametci'ti; tc-ametci'tesi; tc-ametci'tuta; tc-ametci'te'; \*tcite  
 ravel: tc-amekit; tc-a'mekit'si; tc-ameki'ta; tc-ameki'te'; \*kite  
 pull out: tc-amu'k'i; tc-amu'k'esi; tc-amu'k'eta; tc-amu'k'e'; \*muk'e  
 turn belly up: tc-amusi'se; tc-amusi'helsi; —; tc-amusi'hel; \*sihe, \*si  
 bite off: tc-anak'e'tese; tca'nak'e'telsi; —; tc-anak'e'tel; \*k'ete, \*k'e  
 strain: tc-amets'i'mi; tcamets'i'esi; tcamets'i'ta; —; \*ts'i  
 burst: tc-a'pici; tc-a'pisi; tc-a'piki; —; \*tc-api, \*pi  
 pull out with stick: tc-apl'kiya; tc-apl'kiksi; —; tc-apl'komo; \*piko

take out: tc·api''imi, tc·api''ici; tc·api''isi; —; —; \*pi'i  
 scoop water with hand: tc·api'tsi'; tc·api'tsesi; —; tc·api'tse'; \*pitse  
 suck: tc·apo'mi; tc·apo'usi; —; tc·apo'tti'; \*po, \*po  
 take out: tc·apu'ci; tc·apu'cesi; tc·apu'eta; tc·apu'ce'; \*puce  
 pick off, cut off: tc·apu'ti; tc·apu'tesi; tc·apu'tita; tc·apu'te'; \*pute  
 take clothes off: tc·a'ts·umi; tc·a'ts'esi; tc·a'ts·ta; —; \*ts·e  
 sit down: tc·asi'hiki; tc·asi'hileksi; tc·asi'hiki; —; \*sihi, \*si  
 be worn out: tc·aso'me; tc·aso'mesi; tc·aso'meki; —; \*some  
 scrape: tca'ti; tca'tesi; —; tca'te'; \*tate  
 open: tc·atce'li; tc·atce'lesi; tc·atce'lta; tc·atce'le'; \*tele  
 outdistance: tc·atse'we; tc·atse'wesi; tc·atse'uta; tc·atse'uti'; \*tse-u  
 peck: tc·atso'mi; tc·atso'esi; —; —; \*tso  
 flay: tc·ats'u'mi; tc·ats'u'si; —; tc·ats'u'te'; \*ts'u  
 flay: tc·a't'a'tuki; —; tc·a't'a'tuki; —; \*t'at, \*t'a  
 dodge: tc·awai'mi; tc·awai'si; —; tc·awai'ti'; \*wa-i, \*wa  
 dodge: tc·awa'liya; tc·awa'lumoksi; tc·awa'lumokta; tc·awa'luma'; \*walu, \*wa  
 take off: tc·awe'lasa; tc·awe'lasa; tc·awe'lesta; —; \*wele  
 brush: —; —; tc·awi'tcita; tc·awi'tciti'; \*witci  
 twist, curl: tce'tesi, tce'tomi; tce'talasi; —; —; \*tceta  
 defecate: tce'ye; tce'usi; tce'ta; tce'ti'; \*tce  
 be dead: tco'elki; tco'elsi; tco'elki; —; \*tcoel  
 move: tco'kse; tco'kasi; tco'kta; —; \*tcoek  
 be sick: tco'se; tco'olsi; tco'olki; —; \*tco  
 be in front: tcoi'mi; tcoi'si; tcoi'tke; —; \*tcoi  
 go: tco'he  
 pull apart: tc·ohopu'ti; tc·ohopu'tesi; tc·ohopu't-eta; tc·ohopu't-e'; \*pute  
 turn over: tc·oho'tseli, tc·oho'tsesi; —; tc·oho'tseta; —, \*hotse, \*tse  
 let loose: tc·omate'helse; tc·omate'helsi; —; tc·omate'hel; \*tehe  
 loosen: tc·ose'mi; tc·ose'hesi; tc·ose'heta; tc·ose'he'; \*sehe, \*se  
 braid basket: —; tc·o'tcesi; tc·o'tceta; tc·o'tce'; \*tcotce  
 fall: tc·otco'me; tc·otco'hesi; tc·otco'heki; —; \*tcohe, \*tco  
 screw: tc·otci'ti; tc·otci'tesi; tc·otci'teta; tc·otci'te'; \*tcite  
 separate: tc·owa'mi; tc·owa'usi; —; tc·owa'e'; \*howae, \*wa-e  
 live: —; tc·u'ileksi; tc·u'tki; —; \*tc-u-i  
 scrape: tc·uco'ti; tc·uco'tesi; tc·uco'tita; —; \*uco'ti, \*co'ti  
 blow away: —; —; tc·u'hiki, tc·u'hitsta; —; \*tc-uhi, \*uhi  
 sharpen: —; tcunute'l'nhesi; tcunute'l'nta; —; \*nute'm, \*ute'm  
 push away: —; tc·u'khesi; tc·u'k'ta; tc·u'k'e'; \*uk'e  
 close eyes in fright: tc·u'puce; tc·u'puce; —; tc·u'pu; \*tc-upu, \*upu (?)  
 take off: tc·us'u'pi; tc·us'u'psi; tc·us'u'pta; —; \*us'upi  
 forget: tc·ute'se; tc·ute'helsi; tc·ute'helki, tc·ute'ta; —; \*tc-utehe, \*tc-ute

## tc'

bend: tc'ai'yime; tc'ai'yusi; tc'ai'yita; tc'ai'ye'; \*tc'aiye, \*tc'ai  
 hit: tc'a'pumi; —; —; —; \*tc'apu, \*tc'a (?)  
 take off: tc'o'tc'mi; tc'o'tc'usi; tc'o'tc'ta; tc'o'tc'ti; \*otc't  
 eat corn: tc'o'mi; tc'o'hesi; —; —; \*tc'ohe, \*tc'o  
 cut hair: tc'o'pi; tc'o'psi; tc'o'pta; tc'o'pe'; \*tc'o'pe, \*'ope  
 be lazy: tc'o'yeci; —; tc'o'yeki; —; \*tc'o'ye, \*tc'o

## ts

say: tsa'wusi, tsa'ce; tsa'yesi; tsa''ta; tsai'yi'; \*tsa  
 spill: tsai''asa; tsai''tsi; tsai''teki; —; \*tsai'a  
 disappear: —; ts-a-ε'melsi; ts-a-ε'melke; —; \*eme  
 whittle: ts-aco'ti; ts-aco'tusi; —; ts-aco'te'; \*cote  
 pull out drawer: ts-aka'le; —; —; \*kale, \*ka  
 be damp: —; —; tsahe'ki; —; \*tsahe  
 untie: ts-aki'li; tsaki'lesi, tsaki'ltesi; ts-aki'lta; ts'aki'le'; \*kile, \*ki  
 spit: ts-alu'tci; ts-alu'tcesi; ts-alu'tceta; ts-alu'tce'; \*lutce, \*lu (?)  
 turn around: —; —; ts-amets'i'tita; —; \*ts'iti  
 do: tsa'm-mi; tsa'msi; tsa'm-ta; tsa'm-ti'; \*tsam-  
 turn wrongside out: ts-amep'i'nesi; ts-amep'i'nsi; ts-amep'i'nta; ts-amep'i'ne';  
 \*p'ine  
 stretch food (like gum): ts-anapu'tsisi; ts-anapu'tselisi; —; ts-anapu'tsel; \*ptse  
 eat chunks etc.: ts-anawa'tse; tsanawa'telsi; ts-anawa'tuta; ts-anawa'tel; \*wate  
 bite off meat: ts-anawi'kosi; ts-anawi'kelsi; —; ts-anawi'kel; \*wike  
 scratch (?): ts-a'pesi; ts-a'puse; ts-a'pta; —; \*ts-ape  
 pull out of water: ts-apu'ce; ts-apu'esi; ts-apu'eta; —; \*pu  
 get well: —; tsata'si; tsata'ki; —; \*tsata  
 crackle: tsatata'si; —; —; \*tsatata (reduplicated from \*tsata)  
 be cold: tsa'tse; tsa'tsasi; —; —; \*tsatsa (reduplicated from \*tsa)  
 uncover: ts-atsa'mi; ts-atsa'husi; —; ts-atsa''te; \*tsahu, \*tsa  
 get cold: tsatsa'ya; —; —; \*tsa  
 get cool: —; tsats'e'si; tsats'e'ki; —; \*tsatse, \*tsa  
 freeze: tsatsitco'se; —; —; \*tsa, \*tco  
 cut off: ts-atsi'pumi; ts-atsi'psi, ts-atsi'pita; —; \*tsipu  
 take out of snare: —; tsats'u'psi; ts-ats'u'pita; ts-ats'u'pe'; \*ts'upe  
 be: —; tse'tseka'lice; tse'tseka'like; —; \*tse, \*kali  
 turn over: tse'li; tse'lesi; tse'lta; tse'le'; \*tsele  
 stay behind: —; tse'leksi; tse'lekta, tse'lke; —; \*tsele  
 drop: tse'uce; —; tse'uteki; tse'ute; \*tse-u, \*tse  
 ask: tse'usa; tse'wisi; tse'wiki, tse'usta; tse'we'; \*tsewe  
 turn into: —; —; tseka'luski; —; \*tsekali  
 wrap up: tsepaso'tumi; tsepaso'tesi; —; tsepaso'tti'; \*sote  
 be strong: —; —; tsatika'liki; —; \*tsiti, \*kali  
 cook: tsu'tsi; tsatsya'omi; tsu'tsiki; tsutsi'uti'; \*tsi (reduplicated from \*tsi)  
 wink: ts-i''umi; ts-i''wusi; ts-i''uta; —; \*tsi'u, \*ts-i  
 (sparks) fly: tsi'se; tsi'asi; —; —; \*tsi  
 squirt: ts-i'kikisi; ts-ikile'ksi; ts-i'kita; —; \*ts-iki  
 be born: —; tsi'tsi; tsi'tuki; —; \*tsiti  
 be hot: —; —; tsi'tselki; —; \*tsitse (reduplicated from \*tsi)  
 lie: tso'ce; tso'leksi; tso'lki; —; \*tso  
 mash: tso'umi; tso't-esi; —; tso'ti'; \*tso, \*tso  
 perch: —; —; ts-o'mki; —; \*ts-om  
 tip over, turn over: ts-otse'lse; ts-otse'lelsi, ts-otse'lelki; ts-otse'lta; ts-otse'le';  
 \*tsele  
 turn black: tso'weca; tso'weci; —; —; \*tsowe  
 sharpen: —; —; —; tsuvuc'tita; —; \*nvcti, \*cti  
 roast in ashes: tsu''umi; tsu''v-tsi, tsu''wuci; tsu''uta; —; \*tsu'u, \*tsu'  
 be sour: —; tsume'ci; tsume'ki; —; \*tsume  
 urinate: tsu'pe; —; tsu'psi; —; tsu'pe; \*tsupe  
 be wrinkled: —; —; tsu'pelki; tsu'pel; \*tsupe

peel skin: tsu't-i; tsu't-esi; tsu't-ta; tsu't-e; \*tsute  
 command: —; tsu't-isi; —; —; \*tsutu  
 sneeze: —; tsu'tsisi; tsu'tsita; tsu'tse'; \*tsutse (reduplicated from \*tsu)  
 skim: ts-uṭ'i'wi; ts-uṭ'i'wesi; —; ts-uṭ'i'we'; \*uṭ'iwe, \*uṭ'i (?)

## ts'

step: —; ts'a'elsi; ts'a'elki; —; \*ts'a  
 fix hair: —; ts'a'wesi; ts'a'uta; ts'a'wul; \*ts'awe  
 bathe, swim: ts'e'se, ts'e'sasa; —; ts'e'sta; —; \*ts'esa  
 pile up: —; ts'e'uleks; ts'e'uki; —; \*ts'e-u  
 finish: ts'e'tayi; ts'e'tayesi; ts'e'tayeke; ts'e'taye'; \*ts'eta  
 stop: ts'e'yi; ts'e'yese; —; ts'e'ye'; \*ts'eye, \*ts'e  
 be unwilling: ts'i'luce; ts'i'lasi; ts'i'luki; —; \*ts'il  
 carry bucket of water: ts'i'miyo; ts'i'mikya'omi; ts'i'makta; ts'i'mo'; \*ts'imo  
 hit with elbow: ts'o'kome; ts'o'kusi; ts'o'kota; —; \*ts'oko  
 wilt, dry up: ts'o'lelse; ts'o'lelsi; ts'o'lelki; —; \*ts'olel, \*ts'ole  
 stick: ts'o'm-mi; ts'o'm-isi; ts'o'muta; —; \*ts'om  
 break into small pieces: ts'o'pi; ts'o'pesi; ts'o'pta; ts'o'pe'; \*ts'ope  
 scrape pan: ts'u'ti; ts'u'tesi; —; ts'u'te'; \*ts'ute  
 be paralyzed: —; —; ts'u'yelki; —; \*ts'uye

## w

call: wa'lci; wa'lsi; wa'lta; wa'le'; \*wale  
 hit with force: wa'tumi; wa'tusi; wa'tuta; wa'ttiti'; \*wati  
 repay: watsi'mesi; watsi'misi; watsi'mesta; —; \*watsi  
 be worth: wats'i'; —; —; —; \*wats'i  
 eat clover: wa'ts'ce; wa'ts'ci; wa'ts'ta; wa'ts'e'; \*wats'e  
 pull off: we'elasa; we'elasi; we'elsta; —; \*we-el  
 go after wood: wehi'me; wehi'si; wehi'ta; —; \*wehi  
 bring back: we'l-ase; we'l-asi; —; —; \*we-l-a  
 lift up; wewe'miya; wewe'moksi; wewe'm-okta; —; \*wewe (reduplicated from \*we)  
 die: —; we'yasi; we'yaki; —; \*weya  
 object lies extended: —; wi'llesi, wile'ksi; wi'lki, wi'lelki; —; \*wil  
 be entangled: —; —; wi'teki; —; \*wi'te  
 grab a person: —; —; wi'kteki; —; \*wi  
 fight: wi'eci; wi'esi; wi'eta; wi'ye'; \*wiye  
 be dry: —; wi'cisi; wi'cike; wi'citi'; \*wici  
 discuss: wi'hise; wi'hitesi; —; —; \*wihi  
 sweep: wi'tumi; wi'tusi; wi'tuta; wi'tuti'; \*witei  
 love: witco'se; witco'elsi; —; —; \*witco  
 be garrulous: wo'ti; wo'tesi; —; —;  
 pump: wo'komi; wo'kesi; —; wo'koti;  
 by dry: wu'ci; —; —; wu'cuki; —; \*wu-ci

## y

climb: ya'else; yaele'se; ya'elke; ya'el; \*yael, \*ya  
 go after: ye'koe; ye'kasi; ye'kak; ye'kati'; \*yeka, \*ye  
 lie in heap: yi'tumi; yi'tusi; yi'tita; —; \*yiti  
 sit there: yo'oki; yo'okesi; yo'oka'ki; —; \*yo'oke  
 yell: yo'mi; —; —; —; \*yo'

cut meat into stripes: yo'okuce; yo'okisi; yo'oki; —; \*yo-oki  
 lie: yo'kece; yo'kesi; —; —; \*yoke  
 fly: yo'kse; —; yo'k-ta; yo'k-omə'; \*yok-o  
 jerk: yo'teomi; yotco'isi; yotco'tta; —; \*yotco  
 lose: —; yo'kuksi; yo'kuki; —; \*yoku, \*yok  
 win: yo'ke; yo'kesi; yo'keta; yo'koti'; \*yoke  
 run a race: yu'wuse; yuwu'e'lsi; yuwu/elki; —; \*yuwu, \*yu

## NOUNS

## a

a'pis, dove  
 ats'o'l-a, pestle  
 a'ya, father

## e

e'ka, son  
 e'ke, male grandchild  
 e'm-li, father-in-law  
 e'o, husband  
 eole'kema, fish-hook (e'o, fish; \*leke-ma, hook)  
 e'owe', fish-spear (e'o, fish; we', spear)  
 e'pa, brother  
 e'puwis, brother-in-law (male speaking)  
 e'tsa, younger sister  
 e'tse, spider  
 e'tsemeta'n-a, spider (e'tse, spider; \*meta'n-a, ?)  
 e'tse otco'tci, spider-web (e'tse; tco'tce, to weave)  
 e'tsus, nephew  
 e'tsusi, niece  
 e'tcu, creek

## e

e'ce, son's son  
 e'cepi, daughter-in-law  
 e'ke, daughter's son  
 e'yema, belt

## i

i'k'u, puke  
 i'yape, sister

## o

olowi'ka, snake  
 o'ma, earth  
 omə, world  
 omimu'li, world (omi; muli, all)  
 onatce'usi', old people (o+natceu+si; \*tceu)  
 ontcale'pise, preacher (on+\*tcalepi+se)  
 onu'ci', Indians, aborigines (\*oni+ci)  
 onu'tse, child (\*nutse, ?)  
 o'pel, pigeon (\*pel, ?)  
 o'p-i, bottom (\*op)  
 otsə'l-a, rock (\*tsə'l-a, ?)

## O

o'ca, father's father  
 ohe'u, pet (\*he-u, ?)  
 ohi'l-ε, abalone-shell (\*hil-ε, ?)  
 o'kal-i, soap-root (\*kal-i, ?)  
 oho'la, basket (\*ho'la, ?)  
 ok-a'na, load (\*k-an, to take)  
 oka'ne, relation (\*ka'ne, ?)  
 oka'tis, crutch of stick  
 oke'l, word (\*kal, to talk)  
 oki'we, long sinews (\*kiwe, ?)  
 o'koli, language (\*kal, to talk)  
 oko'to, children (\*koto, ?)  
 ok'o'e, basket (\*k'o'e, ?)  
 o'lo', step-father  
 omaha'nanuk, open place (\*oma+ha+\*nan, break open)  
 oma'wən, year (\*oma+wən)  
 omewi'lic, priest (o+mε+\*wil+c; \*wil, to tell story)  
 ome'm', tripe (\*mem', ?)  
 o'mənat-u'lvk, hole (\*t-ul)  
 omapi'hiwuk, earthquake (oma+pi+\*hiu; \*hiu, to move)  
 o''mu, a whole one  
 o'na, worm  
 opa''ək, food (\*pa'ε, to eat)  
 o'pito, fir (\*pito, ?)  
 otsa'we, flower (\*tsawε, ?)  
 o'tse, meat of femur  
 otco'tcita, spider-web (\*tcotce, to weave)  
 owa'εcyao, noon; time from morning till noon (\*waεc)

## U

unhantso'ye, orphan (un+\*han+\*tsoye)  
 unuts'a'wa'i, choke-cherry tree (\*nuts'awa', ?)  
 un-utcu''ku, bird of unknown species (\*n-utcu''ku, ?)  
 utv'kulu, species of owl (\*tv'kulu, ?)  
 utso'pıs, flint (\*tsopıs, ?)  
 'utcik'ε'na, all night (\*'utci, \*k'ena)  
 'u'tcuwa, night (\*'utci)  
 'u'tcuhowa'ε', middle of the night (\*'utci, \*howa'ε)  
 'u'tcuwamehi'n, moon (\*'utci, \*hın)

## C

ca, tooth  
 can, navel  
 ca'ts-ma, comb  
 ca'wa, bread  
 ca'wawci, dried bread (\*cawa, \*wci)  
 ce'i, wind  
 ca'we'lek, jaw  
 cek'te'l, species of bird  
 ci''ε, grass (\*ci'a)

ci'emul, straw (\*ci'a, \*mul, ?)  
 ci'manapi, species of bird (\*cima, \*napi)  
 ci'mohoc'lo, mountain lizard (\*cimo, \*hocolo)  
 cimu'i, species of bird  
 cuntceye'mete, wild woman (\*cuntceye, \*meta)  
 cunla'kuma, rainbow (\*cun, \*la'ku+ma)  
 cunts-i'tsa, bear-skin blanket (\*cun, \*ts-itsa)  
 cu't'e, nasal secretion  
 cu'ts-a, prunes  
 ciwa'liye, cultivated oats (\*ci, \*waliye)  
 co'mo', food; buckeye  
 co'ne, tule  
 cot', eel  
 coco'lowiki, snake (\*colowi)  
 cukol'o', bottom of basket  
 cumo'to, buckeye (\*cumo)  
 cul'pima, pelvis (\*cu, \*lupi+ma)  
 cut-a'yo, shade (\*cu, \*tayo)

## h

hai'yu, dog  
 ha'la', centre-pole  
 ha'l-anaku'lu'u, fork of centre-pole of sweat-house  
 halaowe'tus, old woman  
 ha'lkak', core  
 ha'me, intestine  
 hanako'ta, garter-snake (\*hana, ?; \*kota)  
 ha'n-ce, groan  
 hantco'tic, nape (\*han, \*tcotic)  
 hel, fire  
 hel', anus  
 hel-e, steam (\*hel)  
 he'lep, west  
 helpo'l, ashes (\*hel; \*po, ?)  
 he'lka tsi'pic, butt (\*hel', \*tsipic)  
 he'lowin, summer (\*hel)  
 he-oke'tcemo, waist  
 hets'i'u, species of small fish  
 he'tsupni'hulek, species of chicken-hawk  
 he'ma, packing-basket  
 he'seal, grinding stone for beads (\*hese, \*lel)  
 hetca'watasi, teal ducks  
 hu'kmete, female cannibal (\*huk, \*meta)  
 hunow'lit-ai'ma, song for causing sleep (\*hun, \*wil, \*t-ai)  
 hu'ntila'we, wild potato  
 hu'ntilk-o'la, wild grapes  
 hu'ntumehun, sun (\*hun, \*mehun)  
 hunsawe'ma, sleeping potion (\*hun, \*tsa, \*wema)  
 hi, louse  
 hi'lep'e, abalone shell (\*hile, \*p'e, ?)  
 hi'm-i, dry limb on tree  
 hin, sun  
 hi'nhasi, old man sun



hinhopo'ka, months (\*hin, \*hopoka)  
 hitse'', gum  
 hits'ele'wi, species of fish (\*hits'el, \*ewi)  
 hi'tsi, pitch  
 høl, tree  
 høl'a, pole (\*høl)  
 høl'laka, limb of tree (høl)  
 høl'layi, stalk (\*høl)  
 hølhi'ci, live oak (\*høl, \*hici)  
 hølkiye'me, bridge (\*høl, \*kiye'me)  
 høl'lma, woods (\*høl)  
 hølma'ci', forest (\*høl)  
 hølma'ka, bush-crow (\*høl)  
 hølpu'te, basket (\*høla, \*pute)  
 høl-ot'ε'o, ant  
 høl-ot'ε'otsi'pe, ant  
 hølwe'yok, dried-up spring (\*hel, \*weyok)  
 hølwt'ci, pike (\*høl, \*wtci)  
 høl'ts-a, sweat-house  
 høl'sp'u'i, duck (\*høts, \*p'ui)  
 høl'na, earth-worm  
 høl-ε'ne, food (\*hø+\*p-ε'ne)  
 høl't, tree squirrel  
 høl'tca, cotton-tail rabbit  
 høl'tcasi, cotton-tail rabbit (\*høtca, \*hasi)  
 høl'tcøwe, spear with flint point (\*høtco, \*we)  
 høl's'ø'la, tree-hollow  
 hu, head, face  
 hu'i', nipples  
 hucu'høya, snort of horses (\*cuho)  
 huha'høk, throat (\*hu, \*hahøk)  
 huha'løk', neck (\*hu, \*hø'løk)  
 huke'tsema, shoulders (\*hu, \*ketse)  
 hume'i, tear (\*hu, \*me-i)  
 humø'lo, bush (\*humø)  
 humø'ta, cheek (\*hu, \*møta)  
 hu'n-ma, whip-snake (\*hun)  
 hup-at'a'', cheek-bone (\*hu, \*pat'a')  
 hupet'a'ø, crown of head (\*hu, \*pet'aø)  
 hut-a'ka, skeleton (\*hu, \*t-aka)  
 hutv'nvk, small hill (\*hu, \*tvuv)  
 hutø'nøkma, hat (\*hu, \*tønøk)  
 hut'ai'k'i, light  
 hut'ø'ne, fore-head (\*hu, \*t'øne)  
 huť; coyote  
 hu'ťasi, coyote (\*huť, \*hasi)  
 hu'ts'ili, window (\*huts'i)  
 huwai'ts, neck (\*hu, \*wait's)

k, k-

k-a', crow  
 ka''ε, roof  
 k-ahi'na, stranger

k-aho-e'wila, stranger  
 k-a'cite, youth  
 k-a'ni', human being  
 k-anitu'tuma, chief (\*k-ani, \*tutci)  
 k-a'pi, bundle  
 ka't'e, elder-wood  
 kat-eme'o, elderberry (\*kat-e, \*meo)  
 ka'tek, little frog  
 ka'ta, vagina  
 ka'ti'tc, shoulder-blade  
 k-e'o, man  
 ke'wi, day; day-time  
 k-e'ye, cradle  
 k-e'ye, boat  
 ki'laki, brave man  
 kok', liver  
 kok-éle'wi, sucker  
 k-omhe'hi, big basket  
 ko'sayi, bones used in grass game  
 k'si, grass-game  
 k-o'te, blanket  
 ko'tco, black-oak  
 ko'tsawa'yi', negro  
 kuv-hu'lut-aka, basket (\*kuv-hu\*lu, \*t-aka)  
 ku'mts, sling  
 ku't'i', rib

## k'

k'a, dead person; figure  
 k'aku'tiya, infant (\*k'a, \*kuti)  
 k'a'pe, feather  
 k'a'tama, panther  
 k'a'nuci, aboriginal  
 k'a'ya, duck  
 k'e'cu, deer; meat  
 k'ek', fish-crane

## l

lai', white-man  
 lai'me'le, relations-by-marriage  
 lai'me'i, ocean  
 lai'ya'k, thunder-bird  
 la'ka, arm  
 la'kamot, upper-arm  
 lakapu's, muscle  
 le'kis-ma, throat  
 lel, rock  
 le'lehol, poles (\*le, \*hol)  
 leleko'pa, frog  
 le'lhas, species of bird (\*lel, \*has)  
 le'lpuc, owl (\*lel, \*puc)  
 letu'n, short pestle  
 le'oma, rope  
 letsi'pe, magnesite beads (\*lel, \*tsipe)

lök', goose  
 lolopa't-ε, common eagle  
 lu'ki, root  
 luka'', bow  
 lu'lu, shin-bone; lower leg  
 lu''tca, fox  
 lu'tcele'l, tobacco-pipe (\*lutce, \*lel)  
 lu'tci, tobacco

## m

mai'p'e'hi, tracks (mai'+\*p'e+hi)  
 mai'yata, buzzard  
 mai''hupe'hemo, mirror (mai'+hu+\*pe'he+mə)  
 mas-, hind  
 mats'ai'ya, corner (ma+\*ts'aiya)  
 me, hand  
 meho'le, finger (\*me, \*hole)  
 mehu'wel-a, palm of hand (\*me, \*huwela)  
 mek-u'li, back of hand (\*me, \*k-uli)  
 mel, acorn  
 mele'le, pond (\*me-, \*lele)  
 melka'wi, salmon  
 melu'k'u, wrist (\*me, \*luk'u)  
 mep-i't-akatsa-tse, "groin-root"  
 me't-ε, woman (\*meta)  
 met'ili, whirl-wind  
 me't'a'o', centre (\*t'ao)  
 me-tse', scales of fish  
 metse'lma, snake  
 me'tsi', arrow  
 me''wa, grape-vines  
 me'woi, giant  
 meca'ta, whiskey (\*me, \*cata)  
 me-i-os-i'no', fresh spring (\*me-i, \*sino)  
 me-itε'nike, species of seal (\*me-i, \*te'nike)  
 me'ka, black duck  
 meke'cu, sea-gull (\*me, \*kecu)  
 mena'a'we, beaver (\*me, \*na'awe, ?)  
 menaku'tis, diver-duck (\*me, \*nakutis)  
 menale'ok, feather-headdress (\*me, \*nale'ok)  
 mena'mol-a, water animal (\*me, \*namola)  
 menatca'mata, crab (\*me, \*natcamata)  
 mepel, sea-weed  
 me'tci, fire-maker  
 me'ts-i'tsa, mud-hen  
 m'tsi, wife  
 mi'tc, hazel-nuts; chestnut  
 mits-, road  
 mi'tci, turtle  
 mō'ta, hill  
 mō'talel, heart (\*mōta, \*lel)  
 mōtasol-ko, mountain rat (\*mōta, \*solko)  
 mō'tohol, thigh (\*mōto, ?; \*hol)  
 mu't-i, north

## n

na''a, mother  
 na'atse, tongue (\*na, \*atse)  
 na-e'tek, chin (\*na, \*etek)  
 nahe'le, vapor from mouth (\*na, \*hele)  
 nahi'li'i, swing (na+hili'i)  
 nai'tc-alai''i, nut-cluster (\*nai', \*tc-alai'i)  
 naka'pe, feather (na+\*kape)  
 name·i, saliva (\*na, \*me·i)  
 nan, mouth  
 nan·le'we, bridle  
 na'pic, ashes (na+\*pi, ?)  
 napo'k-onapo'lok, ball made of ash-wood (\*poko, \*polo)  
 napi'pa, lip (\*na, \*pipa)  
 napo'li, ball (\*poli)  
 napu'tse, beak of bird (\*na, \*putse)  
 na'tuma, wading-place (na+\*tu)  
 na'tc'enaha'n-ci, bird with crooked bill (\*nate'ena, \*han-ci)  
 nats'ai'yeye, corner of a mouth (\*ts'aiye)  
 na''utu', beard (\*na, \*utu)  
 na'wts, skirt  
 na'yo', digger-pine  
 nai'yu, digger-pine  
 nai', pine-nuts  
 ne'o, nest  
 ne'onan, next; entrance to next (\*neo, \*nan)  
 net·, wild grass  
 nete', gopher  
 ne'up'ui, yellow-jacket  
 ne'wa, mother's brother  
 ne'wela, tripe  
 ne'e, relations  
 ni'wel, drum  
 nok·, friend  
 no'k'o, arm-pit  
 no'm-a, place, home  
 nu'i', sand  
 nu''ca, hook-bill salmon  
 nuwe'la, palate

## p

pa''ama, soap-root, grass (\*pa'a)  
 p-ai'ya, hide, breech-clout  
 pale'wa, end fin; tail of fish  
 pa'l-te'i, wood-chuck (\*pal, ?)  
 pa'pa', father's mother  
 papa'tis, twin (\*patis)  
 pa'tiya, wood-pecker (\*pati)  
 pe', foot  
 pezi'tis, brain (\*pezi, ?)  
 pe'u', penis  
 pe'kui, sandal (\*pe, \*ku)

pe'luku, ankle (arm-foot)  
 pe't-i, hole for cooking  
 pi', meat, slush  
 pi''e, fat  
 pice', antler  
 pici'wuk', breeze (\*piciw)  
 pil-, snow  
 pi''ma, basket  
 pi'me-i, juice  
 pi'pi, quail  
 pi'p'o, white oak  
 pi'tsa, mother's father  
 pitsa'la, girl (\*tsal)  
 pitsa'us, girl (\*tsal)  
 po'hi, smoke  
 p-ol, dust  
 po'le, boy  
 pot', sweet clover  
 po't-i, down-feathers  
 po'a, father's sister  
 pu'i', fish-net  
 pu'kel-, dance-hall (\*puke, ?)  
 pu'tse, fire-stirring stick  
 putsela'ka, fire-stirring stick (\*putse, \*la'ka)  
 putca'ya, abundant hair (\*pute)  
 pu'tcic, hair on body (\*pute)

## p'

p'a'la, human twins  
 p'et'a'i, egg  
 p'i'ce (cf. pice)  
 p'un, greens

## s

si'nusna'tsel, small eagle (\*suis, ?; natsel, ?)  
 so'ke, star (\*soka)  
 soko'lo, anus  
 so't-okop-a'ya, elk-skin (\*so't-oko, \*p-aya)  
 sum, evening  
 su'mu, evening (\*sum)  
 su'mulu, every evening  
 su'muwa, sunset, at sunset

## t

ta''a, father's brother  
 t-a'k-anateta'k-a, basket of wood-chuck fathers (\*t-aka, \*nate)  
 tehe'u', little coyote (probably he'u')  
 te'ktek', hawk  
 t'e''imic, large piece (\*t'e''imic)  
 tel, nest  
 ti'ka, raccoon  
 t-i'ya', grandmother

t·o'ci, sunshine  
 t·om', fawn  
 tō'nok', lizard  
 to'ntci, cat (\*tōn)  
 t·o'tca, tripe  
 t·u'i, truth  
 tu'i', chest  
 tu'ihuwe'la', sky  
 tu'k·u, sack  
 t·ul, plantation  
 tu''pi', rabbit-skin robe  
 tu'pulu', shell-beads  
 tu'tsi, oldest

t'

t'a'ci, knee (\*t'ai)  
 t'a'pi, skin-rolled-up  
 t'et-ho'lmace, brier-bush (\*t'et·, \*hol, \*mace)  
 t'ol, hair on head  
 t'ō'nok', tail  
 t'ō't'a', tripe  
 t'o'ma, poison  
 t'o'ukts, bag (\*t'o-ukts)  
 t'ul', valley

t

tē'ti, string  
 t̄a (t'a), leg

t'

t'a o'tce, calves of the leg  
 t'a'wati, species of duck  
 t'ō'ō, relations of son-in-law

tc

tc-al-ai''i, cluster  
 tca'ls, little girl (\*tcal)  
 tca'n·o, manzanita-berry  
 tce'u', faeces  
 tci''ki', group  
 tci'teu, fir  
 tco'ce, lump  
 tco'l·a, long pestle  
 tco'ma, basket  
 tco'pa, lungs, pancreas  
 teu'c·o, pepper-wood  
 teul, knoll  
 tc-u'he, dew  
 teu'me, salt  
 teu'itsu, dog  
 teu'ya, house  
 teu'yanan, door

## tc'

tc'an, wild seeds  
 tc'a'ma, cane  
 tc'ak, black-bird  
 tc'é'c-ma, bed  
 tc'o'te', flea

## ts

tša'hanawe'ya'i, all kinds of things  
 ts-a'o, end  
 tsä'küc, leather  
 ts-alaha'ya', things  
 tsé'laka'pe, butterfly  
 tsä'le, pebbles  
 tsä'tsa, mountain-quail  
 tsä'wena, winter (tsä, ?)  
 ts-a'wo', white willow  
 ts-a'wo, top (ts'ao)  
 tsé'p'c, rattle-snake ?  
 tsé'p'c met-'a'oneke, spider (she-digs-with-palm)  
 tsé's-am (tce'cma), vein  
 tsé-u'tsi, middle of the night  
 tsi', grasshopper  
 tsipila'ya, swamp  
 tsi''cek', weeds  
 tsi'imaho'tsa, squirrel-holes  
 tsi''ma, squirrel  
 tsi'mitu, humming-bird  
 tsi'miya, wild oats (si'miya, perhaps Spanish semilla)  
 tsin, smoke  
 tsi'pe, wild onion  
 tsipito'ktök, robin  
 tsi'sehol, bead-drill  
 tsi't-i, bone  
 ts-i'ts-a, bear  
 ts-i'tsa, rabbit  
 ts-i'tsa, blanket  
 tsi'tcelki, a live coal (\*tcel)  
 ts'el, unburnt coal (cf. \*tcel)  
 tsi'tsi-a'l, pine-sugar (\*tsitöi, \*a'l)  
 tsi'u, fly  
 tsi'wa, brother-in-law  
 tsi'wapi, sister-in-law  
 tsö't-mi, tattoo, pencil-marks  
 tsö'l-ε, slimy saliva  
 tsö'toko, elk  
 tsö'k'c, elk  
 tsöts, foam  
 tsö'ya (tcöya), rat  
 tso-, world  
 tso'höl, red-wood  
 tsu'ku (ts'uku), sack  
 tsu'l-am, swift-current-river (\*tsul)  
 ts-'um-, cloud  
 tsu'p'c, urine

## ts'

ts'ai, blue-jay  
 ts'ai'ma, elbow  
 ts'a'k'a ts'e'c-ma, packing-string-cord  
 ts'a'ni, ice, frost  
 ts'a'o, point  
 ts'a'ots'itu, bone-cane (\*ts'ao, \*ts'itu)  
 ts'a'owo, a light  
 ts'e'c-ma, sinew (\*ts'ec-)  
 ts'ematu'l-tu, water-dog  
 ts'e'ma, ear  
 ts'i'ma, ground-squirrel (ts-ima)  
 ts'i'na, son-in-law  
 ts-i'on'ol, species of bird ?, bumble-bee ?  
 ts'i'pils, mink-skin  
 ts'i'ti, bone  
 ts'iti natu'kuste, knee-bone (knee-cap)  
 ts'i'ts'a, bird  
 ts'o, ground  
 ts'u'l-mo, steam (\*ts'ul)  
 ts'u'i', yellow-hammer  
 ts-uts, headdress of blue-jay feathers; mountain bird

## w

wa'li, war-party ?  
 wa'lolo, beads  
 wa'lma, mud (wal)  
 wa''ote, pinole  
 wa'riga, sheep (loan-word)  
 we'le, drift-wood  
 'wen, month  
 we'no, medicine  
 we'i, flint  
 we'hasi, species of animals  
 we'tsila, lark  
 wic, tick  
 wi'ci, dry limb of tree  
 wikeho'lwici, species of tree  
 wil, body  
 wi'le, ear-ring  
 wil'seho'li, willow-stick  
 wi'ma, species of animal  
 wi't'a, east  
 wo'lc, paddle  
 wo'lc-o, mush-stirrer  
 wo't'i', species of owl  
 wo't', species of owl

## y

ya''asehol, stick for stepping (\*ya''ase, \*hol)  
 ya'o, younger brother  
 ye'ke', mush  
 ye'nc, ye'nci, rabbit  
 yo'kema, chair (\*yo'ke)  
 yo'm-to', doctor (\*yo'm-)



OTHER PARTS OF SPEECH: ADJECTIVES, ADVERBS, PRONOUNS,  
CONJUNCTIONS, NUMERALS, ETC.

	a
a, I	a'ti, soon
ahé'o-ɔp, down-under	ati''iha, by and by
	e
e'nya, very	
	i
i, me	ika'mema'yo', what for?
i'u'ku, somewhere	i'ta, where
i'hayu', when?	itai'ya, where
ika', what, how	i'si, isa, we, us
	ɔ
ɔ, alright	ɔp', down
ɔn, they	'ɔ'pwela, under
ɔ'na, again	'ɔ'pwelapi, down under
ɔ'npi, under	ɔ''osta', alright
ɔ'npipi, under	ɔmapat'a'o, right in centre
	o
oka.'ti, branching	omiya'o, awful
o'la, four	omamu'lye, all over
o'mi', well!	omamu'li, all over
	u
uka'ci, pretty	u'wa', bad
u''ku, already	u'wela, under
upe'k'a, anywhere	
	e
ci'ka, on one side	cuwe'la, below
ci''kasi, often	cika'ts, blue
cu''u, back	
	h
hai'shəl, one hundred	hel-awe'la, in front
han, behind	he'lawela'pi, in front of
hanue'l-a, behind	he'o, below
hanue'lep-i', behind	he'o, there
has, old	he'pi, this
he, this	he't-a, hither
he'iyó', now	he'tati', right here
ha''a', so	he'te', right here
hel-a, down, below	he'tci, through
he''l-a, first	he'i, what

hi'na, other, another  
 hinawe'la, the other side  
 hino'oma, another place  
 hitcoka'l-ε', quick  
 hok-ε't-a, flat  
 ho'pa', each other  
 ho'pi, two  
 hopi'hol, twenty  
 hopi'han, eight  
 hopitena'ok, seven  
 hopo'ka, three  
 hopo'k-aki', three of them  
 hopo'kata', three times

howa''ε, half  
 howa''ε, in the middle of  
 hu, yonder  
 huci'i, good  
 huci'iya, alright  
 hu'eika, to one side; alongside  
 humo'yus, fine  
 (tse) hu'wela, more  
 huwe'lapi, sideways  
 hupa'wa, smooth  
 hupa'hes, wide  
 hu't'εε, crazy

## k, k·, k'

k-a, human  
 ka'ki, cannot  
 ka'li, naked  
 k-a'lila-', after all  
 kana'ε'niya, brave  
 ka'ta, five  
 ke'owa, next day  
 ke''utci, in the morning

ke'wi, tomorrow  
 ke'wu, early  
 ko'tama, anyhow  
 ko'to, they (dual)  
 kotomi'li, big  
 ko'tomela'ti, big, biggest  
 ku'tiya, small  
 k'aye'l-, white

## l

la, not  
 la'ke, nothing  
 laku''u, a while ago  
 la'pi, across

le'a, many  
 le'awel-a, everywhere  
 le'wa, outside

## m

ma''a, hortatory particle; still, yet  
 maha'lus, ten; mahai's, ten  
 maha'we, maha'owi, a long time  
 mai', who  
 mai''ta, somebody  
 mai-i'tame, some place  
 mai'yi', nobody  
 mai'yi, who?  
 mana'nu', outside of  
 mana'te, across  
 mat-, a long time ago  
 matse'', alone, only  
 ma.''tsahi'yo, but anyhow  
 matci'tus, around, encircling  
 melo'k'eye, limber

me'na, fast  
 met', up  
 me'tu-ala'pi, on top of  
 met'a'o, in the center  
 mi, you  
 mi'si, misa, you  
 mi't-ε, short  
 mo''ε, without  
 mo'ka', terribly  
 mo'kel, quickly  
 mot-i'ha', ago  
 motu'pake, stiff  
 mots-i't'ake, dark  
 mul-, many  
 mu'l-ta, all the time

## n

na'kulu, under  
 natce'wis, old  
 natci'tus-ki, ring-shaped  
 nate'o'pus, deep cavity

ni't'a', larger  
 ni't-a, further down  
 no''eme, quiet

p-ai, alone  
 pa't-a, then  
 pa'tena'ok, six  
 pat'a'o, between  
 pa'wa, one  
 pa'wak, nine, pa'walak, nine  
 pe'huma, under

sa'wiya, good

t'a'ka, soft  
 tal, what  
 ta'lyo', what  
 ta'maiya, why  
 ta'maya, why?  
 te''iya, slow  
 te'mo, above  
 te''l-a', a long ways

tca''ic, crooked (dj'a''ic)  
 tc'et'el, curly

tsa, like  
 tsa'pus, thin  
 tsa'o, on top of  
 tsa'ope, on top of  
 tsats, cold  
 tse, that  
 tsel, then  
 tseka'l-i', like  
 tsel-, then  
 tse'koto, those  
 tse'o, up there  
 tse'pi, that  
 tse'ta, there

wa'ti', over  
 we, all ?  
 we, now  
 we, that  
 we't-a, over there yonder

ya, well

## P

pe''u, near, at the bottom of  
 pele'wa, at bottom  
 pi''e, fat  
 pine''e, pretty close  
 po'te, brown, gray  
 pime'i, juicy

## S

## t, t'

te'lamayo'ka, a long ways  
 tt'c-gi', tight  
 ti'l-e', at noon  
 tu'p-i', from there  
 t'e'yel, soft  
 t'o'e, hard  
 t'o'nok, behind

## tc, tc'

tc'o'ye, lazy

## ts

tse'te', right there  
 tse''wati', over there  
 tse'hil, loose  
 tse'ka', then  
 tse'kapawa, at that time  
 tso'tel, sticky  
 tso'we, black  
 tsul-ahai''i', everything  
 tsu'me', sour  
 ts-u'muwa, in the evening  
 ts-u'pk, ago  
 ts'aci'wa, quiet

## W

we'pi, that  
 we'lilk, over  
 wo'ta, over there  
 wo't'a, another place

## Y

*Transmitted, February 25, 1929.*

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