

# YUMA

A. M. HALPERN

## INTRODUCTION

YUMA is now spoken by approximately 750 members of the Yuma tribe, living on the Fort Yuma Indian Reservation in California. The reservation was established in 1859, but some of the Indians continued to live off the reservation at the town of Algodones, in Mexico, until 1912. The name Yuma is supposedly of Spanish origin. The Yuma call themselves  $k^wacá'n$ , or  $?axám k^wacá'n$ , which is translatable as "Those who descended by way of the river." The reference is to the migration down the Colorado river from  $?aví k^wamé$ , where the original creation took place.

In former times the tribe consisted of three local divisions, an eastern, a northern, and a southern. Each division is said to have spoken a slightly different dialect. At present Yuma is a single language without dialectic differentiation, except that certain features are said to be characteristic of the southern (Algodones) dialect.

## PHONOLOGY

### §1. General remarks.

The word may be monosyllabic:  $mó$  "well, now,"  $té-k$  "he brings it closer"; or it may have as many as eight syllables:  $al^nvi-n^va-x^wíl^vətəxal^va$  "I would associate with you." The word, even when monosyllabic, always has an accented syllable:  $xú:l^v$  "cholla cactus"; and may have two accented syllables:  $?awíyú$  "let me do it."

### §2. System of consonants.

Table I represents the consonantal phonemes of Yuma and indicates their phonetic characteristics.

For purposes of discussion it is convenient to divide the consonants into the four following groups: a) stops, spirants, and affricate, b) liquids, c) palatalized liquids, and d) semivowels.

a) The stops, spirants, and affricate, as a class, show no systematic positional variations. A few individual phonemes, however, undergo changes in some phonetic contexts.

$k^w$  is delabialized before the vowel  $u$ :  $k^wu-cécən^v$  "the leader,"  $k^wu-xamí$  "the procreator." In this context  $k^w$  is phonetically undistinguishable from  $k$  in the same context. The orthography  $k^w$  will be retained, however, because a labialized pronunciation of  $k^w$  is accepted as over-careful.  $k^wa$  ( $k^w$  + vowel  $a$ ) is pro-

TABLE I. CONSONANT PHONEMES

	Unaspirated Voiceless Stops	Voiced Fricatives	Voiceless Fricatives	Voiceless Affricate	Voiced Nasals	Voiced Laterals	Voiceless Laterals	Semivowels	Tip-trill
Bilabial	p	v			m			w	
Interdental		ð							
Dental	t		s	c	n	l	ɬ		
Palatalized dental	tʲ				nʲ	lʲ	ɬʲ		
Cacuminal	t̚		ʃ		ŋ				
Prepalatal	kʲ							y	r
Palatal	k		x						
Labialized palatal	kʷ		xʷ						
Velar	q								
Labialized velar	qʷ								
Glottal	ʔ								

nounced as ku when followed by a bilabial consonant or by kʲ, k, or kʷ: kʷapáy "the carrier," kʷakxó "woodpecker." Again the orthography kʷ is retained because an overcareful pronunciation is acceptable.

xʷ is similarly delabialized before the vowel: u xʷu:nʲó:vəŋʲ "his dodging," xʷu:ʔá:vəŋʲ "her jealousy."

The affricate c varies in pronunciation from a dental to an alveolar affricate. When followed by t in rapid speech, c is pronounced as s: aʔictaʔa "so they said."

b) The phonemes m, n, ŋ, l, ɬ, and r constitute the class of liquids. Of these, m, n, l, and r share a certain kind of positional variation, while ŋ and ɬ are of such rare occurrence that little can be said about them.

The phonemes m, n, l, and r occur in long form 1) when preceded by an accented short vowel: naqámək "he touches," acénək "he descends," salasál "porous," tamaʔórək "it is full"; 2) when following a short vowel and preceding an accented vowel: namák "he leaves," anák "he sits," alú:k "he smears," arúvək "it is dry"; and 3) when following a short vowel and preceding another consonant: kamló "flirtatious woman," ʔankʲí "grass sp.," xatalwé "coyote," ʔarkúyk "he conceals," with the exception that m or n followed by a homorganic stop is not so geminated: a:ʔámpək "he bends over," ʔantamá:k "we leave." In all other contexts m, n, l, and r occur as short consonants.

The phoneme r usually occurs as a tip trill similar to the Spanish r, but when preceded by ʃ and an unaccented short vowel it has a retroflex pronunciation: ʃaréq "he grasps," mašaráyk "he is angry."

c) The palatalized liquids are nʲ, lʲ, and ɬʲ. When two palatalized liquids

come in contact with each other, the first loses its palatalization but is articulated at a point slightly higher than that of the corresponding unpalatalized liquid: nu·mínʸnʸa "their passing by," alʸnʸi·dú·ck "he thinks," kʷatxasiʸnʸa "that corrugated one." A palatalized liquid may also (but not uniformly) lose its palatalization when followed by c: u·dúcənʸc "his actions," xa·lʸca·dú·m "Halchidhoma."

d) The semivowels, w and y, occur in consonantal form when in the initial position in the word, when intervocalic, and as final members of consonant clusters: wa·rávək "he forbids," awí·m "he does," a·cwísk "he sneezes," ya·lák "goose," ayú·k "he sees." They occur in vocalic form when in the final position in the word and as initial members of consonant clusters: ʔaʔáw "fire," a·dáwk "he takes," vatáy "big," kamé·yk "he brings for him." Vocalic w and y are never treated as vowels: they are never accented and are treated as consonants for purposes of syllabification.

### §3. Positions of consonants.

Consonants may occur in six positions in the word: 1) initially, 2) finally, 3) intervocalically preceding an unaccented vowel, 4) intervocalically preceding an accented vowel, 5) as first member of a consonant cluster, and 6) as final member of a medial consonant cluster. Most consonants occur in all six positions. Some, however, are defective in that there are some positions in which they do not occur.

There are two classes of defective consonantal phonemes. Class I includes the phonemes  $\delta$ ,  $k^y$ ,  $k^w$ ,  $x^w$ ,  $q^w$ , and  $ʔ$ . These do not occur in the final position, and with the exception of  $k^w$  they do not occur as initial members of consonant clusters. Class II includes the phonemes  $l$ ,  $l^y$ , and  $t^y$ . These do not occur in the initial position, intervocalically preceding an accented vowel, or as final members of medial consonant clusters.

The distribution of the phoneme  $\zeta$  is similar to that of defective phonemes of class II. Like them, it occurs in the final position, intervocalically preceding an unaccented vowel, and as initial member of a consonant cluster. It occurs in the initial position only once ( $\zeta$ áw  $\zeta$ áw "bird sp.") and intervocalically preceding an accented vowel only once (u· $\zeta$ áw "to defeat"), and does not occur as the final member of a medial consonant cluster.

### §4. Consonant clusters.

Consonant clusters may occur medially or finally in the word but never initially. Medial clusters may be biconsonantal or triconsonantal. Final clusters are never of more than two consonants.

Altogether 242 medial biconsonantal clusters are actually found.

The absences are accounted for by the following considerations:  $\delta$ ,  $k^y$ ,  $x^w$ ,  $q^w$ , and  $ʔ$  do not occur as initial members of consonant clusters;  $t^y$ ,  $t$ ,  $l$ , and  $l^y$  do not occur as final members;  $\eta$ , a very rare phoneme, does not occur as initial or final member;  $v$  is absorbed by a following m, v, or p; p is absorbed by following p. All other absences must be regarded as fortuitous.

Medial triconsonantal clusters of two types are found: 1) with  $ʔ$  as final

member, e.g. ađictʔaš "it has gone to seed," ʔawétkʔaš "therefore I did it"; and 2) containing (usually as medial member) kʷ, nʷ, or lʷ, e.g. ʔanʷkʷcu-mpáp "we four," ʔašlʷmák "my back," ʔanʷcxá:t "my horses." Both types are of rare occurrence.

The following final consonantal clusters are found:

tp, mp, np;  
 ct, št, xt, nt;  
 pk, tk, tʷk, ʧk, ck, sk, šk, xk, nʷk, lʷk, wk, yk;<sup>1</sup>  
 sq, šq, nʷq, lʷq;  
 tc, ʧc, nʷc, lʷc, wc, yc;  
 wš.

### §5. Vowels: general remarks.

Vowel phonemes occur in two quantities, short and long. The distinctiveness of length as a phonemic feature of the vowel is shown by such contrasts as ʔa·vé "snake" and ʔa·vé· "mouse," i·đó "eye" and i·đó· "tooth." Initial vowels are pronounced with an aspirated attack: i·má:t "body," avá·k "he arrives." Final accented short vowels are released with a sharp, clearly audible aspiration: ʔamó "mountain sheep," ʔakʷé "cloud."

The vowel may occur in three positions in the word: accented, preaccentual, and postaccentual.<sup>2</sup> The positional variants of a given vowel phoneme may depend on its position in the word. Some vowels are limited in respect to the positions in which they may occur.

### §6. Accented vowels.

Ten vowel phonemes, five long and five short, occur in the accented position:

á (as *a* of German *Mann*): ʔamát "land," atápk "he throws"  
 é (as *e* of English *pet*): namé "wildcat," axʷélʷk "he digs"  
 í (as *i* of English *pit*): awík "he helps," ʔapílʷ "hot"  
 ó (as *o* of German *Gott*): ʔampót "dust," ađóxa "he will do"  
 ú (as *u* of English *put*): ašúc "younger brother," amúlʷ "name"  
 á· (as *a* of English *father*): ayá·k "he goes," ʔaxʷá· "cottonwood"  
 é· (same quality as *é*): ʔamé· "high," té·k "he brings closer"  
 í· (as *ea* of English *bead*): ʔací· "fish," maní·š "scorpion"  
 ó· (same quality as *ó*): ató·k "he is sated," xó·r "gravel"  
 ú· (as *oo* of English *food*): aštú·m "he gathers," ayú·k "he sees"

### §7. Preaccentual vowels.

The vowels a·, i·, u·, o·, a, e, i, o, and u are found in the preaccentual position.

<sup>1</sup> q and k preceded by a vowel absorb a following final k: ʔanóq <\*ʔanóqk "it is small," anák <\*anák "he sits."

<sup>2</sup> That is, in relation to the primary accent of the word. In words containing two accents, the first accent is primary. The vowel bearing the primary accent is in the accented position. All vowels in the preaccentual position are unaccented. Vowels in the postaccentual position may be unaccented or may bear a secondary accent.

a· has the quality of accented á· and is found preceding all accented vowels: a·dáp̄k "he splits it," a·mél̄ək "he wears it as a belt," a·n'ór̄ək "he writes," ta·p̄í̄t "blanket."

When preceding an accented á, á·, í, í·, ú, or ú·, i· has the quality of accented í·: ?aci·mák "he dances," i·xú· "nose," mi·sí·l̄v "thigh." When preceding an accented é, é·, ó, or ó·, i· has the quality of accented é·: vi·yém̄ək "he goes away," i·dó "eye." If, however, an unaccented a· intervenes between i· and an accented é, é·, ó, or ó·, or if i· is followed immediately by another unaccented vowel, i· has the quality of accented i· regardless of the quality of the accented vowel: n̄i·ka·taq̄wér̄ək "follow him," wi·u·vsó·ȳk "he curses him."

When preceding accented á, á·, í, í·, ú, or ú·, u· has the quality of accented ú·: u·śák "he stings him," u·l̄v̄k "he crushes it," u·tú·rv̄ək "he plays shinny." When preceding accented é, é·, ó, or ó·, u· has the quality of accented ó·: u·k'ép̄śək "he stretches it," u·cu·yó·ȳk "he shows." If an unaccented a· intervenes between u· and the accented vowel, u· has the quality of accented ú· regardless of the quality of the accented vowel: u·pa·xk̄'é·k "he arranges them by sevens."

Unaccented o·, with the quality of accented ó·, is found in the preaccentual position in a very few words. In all cases it can be shown to be derived from o + a: d̄o·tár̄ək (<\*d̄oatárk) "he is blind," d̄o·láv̄k (<\*d̄oaláv̄k) "he turns his head."

Unaccented a usually has the quality of accented á, but when preceded or followed by a dental, cacuminal or prepalatal consonant it ranges in pronunciation towards the quality of accented é and í. This variation in quality is optional, and a pronunciation with the quality of á is always acceptable.

Unaccented e, i, o, and u have the qualities of the corresponding accented vowels. They occur most frequently in themes formed by reduplication.

#### §8. Postaccentual vowels.

The vowels a, e, i, u, a·, i·, and u· are found in the postaccentual position. All have the qualities of the corresponding accented vowels regardless of phonetic context.

#### §9. Inorganic ə.

A semiwhispered vowel of variable quality (ə) occurs in the postaccentual position in certain specific contexts. It occurs most frequently with the phonetic character of a murmur or shwa, but after bilabial consonants it may have an u tinge and after dental and cacuminal consonants it may have an e tinge. The vowel ə in all its occurrences is inorganic, i.e. morphologically unnecessary. It never occurs in the final position and never bears an accent.

The vowel ə occurs in the following types of context: a) preceding a final consonant and preceded by a consonant which cannot combine with the final consonant to form a final consonant cluster: a·?áv̄ək (<\*a·?áv̄k) "he hears," cá·m̄əlv̄ (<\*cá·m̄lv̄) "all of them"; b) following a medial consonant cluster and followed by a single consonant: a·?ámp̄ək (<\*a·?ámp̄k) "he bends over," maš̄éct̄əxa (<\*maš̄éct̄əxa) "they will call you"; c) following a single consonant and followed

by a consonant cluster  $n^{\text{c}}$ ,  $nt$ ,  $nk$ , or  $ct$ :  $u\cdot\delta\acute{u}c\grave{a}n^{\text{c}}$  ( $< *u\cdot\delta\acute{u}cn^{\text{c}}$ ) "his actions,"  $aw\acute{e}t\grave{a}ntik$  ( $< *aw\acute{e}tntik$ ) "he did it again,"  $a\text{'}\acute{e}t\grave{a}nka$  ( $< *a\text{'}\acute{e}tnka$ ) "did he say so?";  $al^{\text{v}}n^{\text{v}}\acute{a}\cdot p\grave{c}ta\text{'}a$  ( $< *al^{\text{v}}n^{\text{v}}\acute{a}\cdot p\grave{c}ta\text{'}a$ ) "they threw me in"; d) following a single consonant preceded by  $\acute{a}$  and followed by a single consonant:  $cax\acute{i}rm\grave{c}axa$  ( $< *cax\acute{i}rm\grave{c}xa$ ) "they will burrow through,"  $x^{\text{w}}a\cdot\delta\acute{u}\cdot cv\grave{a}c$  ( $< *x^{\text{w}}a\cdot\delta\acute{u}\cdot cv\grave{c}$ ) "they dodge"; e) following a consonant cluster and followed by a consonant cluster  $n^{\text{c}}$ ,  $nt$ , or a consonant cluster ending in  $\text{'}:$   $u\cdot t\acute{a}q\grave{s}an^{\text{c}}$  ( $< *u\cdot t\acute{a}q\grave{s}n^{\text{c}}$ ) "his jumping,"  $as\acute{o}\cdot ct\grave{a}ntik$  ( $< *as\acute{o}\cdot ctntik$ ) "they ate again,"  $a\delta\acute{u}ct\grave{a}k\text{'}a\acute{s}$  ( $< *a\delta\acute{u}ctk\text{'}a\acute{s}$ ) "they did so"; and f) between two single consonants which may combine to form a medial or final consonant cluster:  $u\cdot t\acute{a}\cdot p\grave{a}k$  ( $< *u\cdot t\acute{a}\cdot ppk$ ) "they throw,"  $u\cdot \acute{s}\acute{i}\cdot t\grave{a}k$  ( $< *u\cdot \acute{s}\acute{i}\cdot tvk$ ) "they name,"  $a\text{'}\acute{e}p\grave{a}k$  ( $< *a\text{'}\acute{e}pak$ ) "he indeed says,"  $wal^{\text{v}}a\delta\acute{o}m\grave{e}t\grave{a}xa$  ( $< *wal^{\text{v}}a\delta\acute{o}matxa$ ) "he will be unable."

The occurrence of  $\acute{a}$  in the first five of these contexts may be accounted for in terms of the rules governing consonant clusters. It occurs a) between two consonants which cannot form a final consonant cluster, b) between the second and third, or c) between the first and second of a series of three consonants which cannot form a consonant cluster, d) following the second and the third, or e) between the second and the third of a series of four consonants which cannot form a consonant cluster. In all these contexts  $\acute{a}$  is in contrast with other postaccentual vowels ( $a\delta\acute{o}t\grave{a}m$  "he doing so" and  $a\delta\acute{o}t\grave{u}m$  "he always does so,"  $ac\acute{e}nt\grave{a}k$  "he descended" and  $ac\acute{e}nt\grave{i}k$  "he lays down again") and in complementary distribution with zero ( $\acute{s}ax\acute{a}\cdot c\grave{k}$  "it melts" and  $\acute{s}ax\acute{a}\cdot c\grave{c}a\grave{k}$  "they melt,"  $a\text{'}\acute{e}tk$  "he said" and  $a\text{'}\acute{i}ct\grave{a}k$  "they said").

The occurrence of  $\acute{a}$  in context (f) cannot be accounted for by the rules governing consonant clusters. In this context, furthermore,  $\acute{a}$  is in contrast with zero ( $at\acute{a}\cdot p\grave{a}k$  "he throws them" and  $u\cdot t\acute{a}\cdot p\grave{a}k$  "they throw";  $a\acute{s}\acute{i}\cdot tk$  "he names them" and  $u\cdot \acute{s}\acute{i}\cdot t\grave{a}k$  "they name"), not in complementary distribution with zero. Analysis of the forms in which  $\acute{a}$  occurs in this context shows that the single consonant preceding  $\acute{a}$  is derived from a morphophonemic consonant cluster ( $u\cdot \acute{s}\acute{i}\cdot t\grave{a}k < *u\cdot \acute{s}\acute{i}\cdot tvk$ ) or from a morpheme consisting of consonant + vowel whose vocalic element has been syncopated (see §11). Single consonants of these types are "strengthened," i.e., treated phonologically as consonant clusters. For example, themes ending in a vowel or a (morphophonemic) single consonant take the hortatory tense-modal suffix  $\acute{u}$ ; themes ending in a consonant cluster or a "strengthened" single consonant take the hortatory tense-modal suffix  $\acute{u}$ , e.g.  $kacu\cdot n\acute{a}v\acute{i}y\acute{u}$  ( $< *kacu\cdot n\acute{a}vv\acute{i}y\acute{u}$ ) "let them tell" (cf.  $kan\acute{a}\cdot v\acute{u} < kan\acute{a}\cdot v\acute{u}$  "let him tell"),  $wal^{\text{v}}a\text{'}\acute{e}m\acute{i}y\acute{u}$  ( $< wal^{\text{v}}a\text{'}\acute{e}m\acute{i}y\acute{u}$ ) "let him not be" (cf.  $\text{'}anay\acute{e}m\acute{u} < \text{'}nay\acute{e}m\acute{u}$  "let us go away"). The occurrence of  $\acute{a}$  in context (f) is thus congruent with its occurrence in contexts (b) and (d).<sup>3</sup>

<sup>3</sup> An inorganic vowel  $a$  occurs in the preaccentual position, especially between the first two consonants of a word:  $ta\text{'}ax^{\text{w}}\acute{e}jk < *t\text{'}ax^{\text{w}}\acute{e}jk$  "he reddens it,"  $cal^{\text{v}}av\acute{i}k < *cl^{\text{v}}av\acute{i}k$  "he fits it,"  $\text{'}a\text{'}an^{\text{v}}\acute{e}wxa < *'\text{'}an^{\text{v}}\acute{e}wxa$  "I will disappear." It has the same phonetic character and occurs in the same contexts as organic  $a$ .

## §10. Contacts between vowels.

Contacts of vowel with vowel within the word are of four types: a) between unaccented *a* and *a* preceding or following vowel, b) between postaccental *u* or *u·* and *a* preceding vowel, c) between two unaccented long vowels in the preaccental position, and d) between an unaccented long vowel and a following accented vowel.

a) *a* is always absorbed by a preceding or following long vowel: *nʷa·ʷí·m* (< \**nʷa·a·ʷí·m*) "when he says," *vi·vák* (< \**vi·avák*) "he is here," *wu·kavárak* (< \**wau·kavárak*) "he causes him to like it." *a* is also absorbed by a preceding short vowel but lengthens the short vowel in which it is absorbed without changing the latter's quality: *ka·ʷétám* (< \**kaaʷétám*) "how is it?" *ðo·tárak* (< \**ðoatárak*) "he is blind," *a dú·s* (< \**a dúas*) "he might do," *a ʷí·s* (< \**a ʷías*) "he might say."

b) when *á*, *á·*, *ó*, *ó·*, *ú*, or *ú·* is followed by *u* or *u·*, a *w*-glide appears between the two vowels: *amáwum* (< \**amáum*) "he might eat," *u·nó·wú·m* (< \**u·nó·ú·m*) "would they be present," *aštúwú* (< \**aštúú*) "let him gather." When *é*, *é·*, *í*, *í·*, or postaccental *i* is followed by *u* or *u·*, a *y*-glide appears between the two vowels: *tak·éyú* (< \**tak·éú*) "let him awake," *a dí·yú* (< \**a dí·ú*) "let him come," *masó·təntiyum* (< \**masó·təntium*) "you might eat (meat) again."

c) the following contacts of type (c) occur: *i·* + *a·*, *i·* + *u·*, *a·* + *u·*, and *u·* + *u·*. *i·* is shortened or absorbed by a following *a·*: *nʷia·taq·wérak* (< \**nʷi·a·taq·wérak*) "he follows," *nʷa·dí·k* (< \**nʷi·a·dí·k*) "bed." *i·* and *a·* in some cases are shortened or absorbed by a following *u·*: *nʷiu·cmának* (< \**nʷi·u·cmának*) "he cures them," *nʷu·šmám* (< \**nʷa·u·šmám*) "when they are asleep"; in other cases, *i·* and *a·* change following *u·* to *wa·*: *ʷa·wakó·yənʷ* (< \**ʷa·u·kó·yənʷ*) "her agedness," *ʷi·wamácənʷ* (< \**ʷi·u·mácənʷ*) "my dancing." *u·* alternatively is absorbed by a following *u·* or changes a following *u·* to *wa·*: *šu·dávənʷ* or *šu·wádávənʷ* (< \**šu·u·dávənʷ*) "his waiting," *cu·cécənʷ* or *cu·wacécənʷ* (< \**cu·u·cécənʷ*) "his spreading."

The vocalic element of *wa* < \**u·* is not absorbed by a following vowel: *a·waé·mnʷa* (< \**a·u·é·mnʷa*) "his pushing away of it," *a·waí·mnʷa* (< \**a·u·í·mnʷa*) "his recklessness."

d) the following contacts of type (d) occur: *a·* followed by *á*; *é*; *í*; *ú*; and *ó*: *i·* followed by *á·*; *u·* followed by *á·*, *é·*, and *í·*. *a·* is shortened to *a* when followed by *á·* but is not changed when followed by other accented vowels: *nʷa·ámak* (< \**nʷa·á·mak*) "when he passes," *a·é·mək* (< \**a·é·mək*) "he pushes it away," *a·í·mək* (< \**a·í·mək*) "he heedlessly does," *a·ú·x* (< *span. aguja*) "needle," *ʷa·ór* (< *span. oro*) "gold." *i·* changes a following *á·* to *yá·*: *nʷi·yápk* (< \**nʷi·á·pk*) "he throws them," *vi·yámak* (< \**vi·á·mak*) "he passes by." *u·* changes a following *á·* to *wá* and tends, but not consistently, to shorten following *é·* and *í·*: *u·wámpak* (< \**u·á·mpak*) "he leaves a remainder," *tu·émənʷ* or *tu·émənʷ* (< \**tu·é·mnʷ*) "his pushing away of it," *nʷu·ílʷənʷ* (< \**nʷu·í·lʷnʷ*) "its blackness," *nu·í·mənʷ* (< \**nu·í·mnʷ*) "his insistence."

## §11. Syncope of vowels.

Syncope of vowels occurs under the following conditions

a) Initial a rarely occurs preceding an accented vowel by more than one syllable. An initial a of a verb theme is syncopated when it occurs in this position: šu·mácənʸ (<\*ašu·mácənʸ < theme \*ašmá) "his sleeping," vu·ʔácək (<\*avu·ʔácvk < theme \*avʔá:) "they walk."

b) A number of suffixes composed of consonant + vowel occur as such when in the final position in the word but have the vocalic element syncopated when followed by another suffix: ʔa·véva "this snake (absolute)," >ʔa·vévəc (<\*ʔa·vévac) "this snake (nominative)," ađóxa "he will do" >u·đóxənʸ (<\*au·đóxənʸ) "his future action," ʔamáyva "sky, atmosphere" >ʔamáyvi (<\*ʔamáyvai) "up above, in the sky."

c) An accented final vowel of a noun theme may be syncopated before the locative suffix -i: vađí (<\*vađái, cf. vađác "this one") "here," makʔí (<\*makʔéi, cf. makʔéc "who?") "where?"

d) Series of more than two short vowels or two short and one long vowel separated by single consonants are generally avoided, preceding the accented syllable, by syncopation of the second vowel of the series: šamađí·k (<\*šmađí·k) "he does not know" >mašmađí·k (<\*mšmađí·k) "you do not know," natu·má·k (<\*natu·má·kk) "they abandon" >ʔantu·má·k (<\*ʔnatu·má·kk) "we abandon." Series of one long and two short vowels, or a long, a short and a long vowel, separated by single consonants may occur preceding the syllable bearing the accent: nʔa·matapúyk "when you kill," nʔi·natu·má·k "they abandon them."

e) Unaccented a may be syncopated between two consonants the first of which is a palatalized liquid: ʔanʔkó (<\*ʔnʔakó) "my father," walʔmúlʔmiyú·m (<\*walʔamúlʔmaiýú·m) "would it be nameless?"

### §12. Vowel-semivowel combinations.

The following combinations of an accented vowel with the vocalic form of a semivowel are found:

áy	éy	óy	úy
á·y	é·y	ó·y	ú·y
áw	éw	íw	ów
á·w	é·w	í·w	ó·w

Though íy and í·y do not occur, the phoneme í· in some of its occurrences is derived from morphophonemic \*íy or \*í·y. No other explanation accounts for the ablaut of í· to á·y (e.g., alʔaskʔí·k <\*alʔaskʔíy) "he continues the same" >alʔaskʔá·yk "they continue the same") or to é·y (e.g., xamí·k <\*xamí·yk "he is born" >xacmé·yk "they are born").

### §13. Vocalic ablaut.

Ablaut (change in quality, length, or both) of the accented vowel is a frequently employed grammatical process, and should really be discussed as a grammatical rather than a phonological process. It seems useful, however, to append here tables showing the types of vocalic ablaut which occur. Table II shows the



TABLE II. ABLAUT OF THE ACCENTED STEM VOWEL

Singular	Collective Plural		Distributive Plural		Distributive Object		Adaptive Verbal Abstract	
		with -c/-t		with -c/-t		with -c/-t		with -c/-t
á >	á·	á·	á·	á·	á·	á·	á·	á·
é >	á·		á·	á·	á·	á·	á·	
é >	í·	í·	í·	í·	í·	í·	í·	í·
é >						í		
í >	á·		á·		á·			
í >	í·		í·		í·		í·	
í/é >			é·					
í/é >				í·		í·		í·
ó >	ó·		ó·					
ó >	ú·		ú·	ú·	ú·	ú·	ú·	
ó >						ú <sup>1</sup>		
ú >	ó· <sup>2</sup>		ó· <sup>2</sup>		ó· <sup>2</sup>		ó· <sup>2</sup>	
ú >	ú·		ú·		ú·		ú·	
ú/ó >			ó·					
ú/ó >				ú·				
á· >		á	á	á	á	á	á	
á· >		é		é				
é· >			é	é		é		
é· >			á·		á·			
í· >			é		é			
í· >					í	í		
í· >			á·		á·			
í· >			é·		é·			
ó· >			ó		ó			
ó· >		ú <sup>1</sup>		ú <sup>1</sup>				
ó· >			á· <sup>1</sup>		á· <sup>1</sup>			
ú· >			ó		ó			
ú· >			ú	ú		ú		
áy >	á·		á·		á·			
áy >		á		á		á		
áw >			á·		á·			
áw >				ó		ó		
éw >			á·		á·			
éw >		ó <sup>1</sup>						
áy >			á·					
éy >						é <sup>1</sup>		
óy >						ó <sup>1</sup>		

<sup>1</sup> Occurs in only one stem.

<sup>2</sup> Occurs only in stems ending in -úy in the singular.

kinds of vocalic ablaut found in conjugation of the verb theme for the various plurals and in the formation of the adaptive verbal abstract. "with -c/-t" at the head of a column indicates that the verb stem is concurrently modified by the addition of a consonantal increment -c or -t immediately following the accented vowel. Semivowels immediately following the accented vowel of the stem are often, sometimes optionally, syncopated when the vowel is ablauted. Table III

TABLE III. ABLAUT OF THE ACCENTED STEM VOWEL  
PLUS SUFFIXATION OF -y

		With Benefactive -y	With Attributive -y
á	>	á·y	á·y
é	>	á·y	á·y
é	>		í·(í·y?)
í/é	>	é·y	
ó	>		ú·y
ó	>		úy
ú/ó	>	ó·y	
á·	>		áy
á·	>		éy
é·	>		í·(í·y?)
ó·	>		úy
ó·	>		ú·y
ú·	>	ó·y	

shows the kinds of vocalic ablaut found in the formation of verb themes from noun themes by suffixation of attributive -y and in the formation of the benefactive verb theme by suffixation of benefactive -y to an existing verb theme.

#### §14. Accent.

Accent is an inherent feature of certain morphemes. It falls on the last vowel of the verb or noun stem, whether this vowel is final in the word or is followed by one or several syllables, and on certain inherently accented suffixes (e.g. hortatory -ú, future possible interrogative -ú·m) which must occur in the final syllable of the word. The word, then, may contain one accent, that of the stem; or two accents,

the first being the accent of the stem and the second that of an inherently accented suffix.

In a word containing only one accent, the accented syllable is pronounced on a high falling tone: *kaná·vək* "he tells." In a word containing two accents, the first (stem) accented vowel is pronounced on a high tone, the second (suffix) accented vowel on a high falling tone: *kaná·vú* "let him tell."

#### §15. Syllabification.

The syllable may begin with a vowel or a single consonant and may end in a vowel, a single consonant, or a consonant cluster. The following types of syllable are found:

	v	vc	vcc
c	cv	cvc	cvcc

#### §16. Sandhi.

Sandhi forms occur in rapid speech when a) a word ending in a consonant is followed by a word beginning in a vowel, b) a word ending in *-k* is followed by a word beginning with *v-*, and c) a word ending in a vowel is followed by a word beginning in a vowel.

a) A final consonant of one word is often pronounced as the initial consonant of a following word which begins with a vowel: *matxá cá·mək* < *matxác á·mək* "the wind passes," *ʔaxtóʔ ma·dí·k* < *ʔaxtóʔəm a·dí·k* "he came through the red-berry bush."

b) Final *k* of one word plus initial *v-* of a following word becomes initial *kʷ-* of the second word: *aʔét kʷi·yá·k* < *aʔétk vi·yá·k* "so saying he went," *atápəm kʷi·vʔáwk* < *atápmək vi·vʔáwk* "standing here he threw it."

c) A final vowel of one word combines with initial *a-* of the following word into a long vowel having the quality of the first vowel: *nʔá·nʔi·mánək* < *nʔá·nʔi amánək* "there he starts," *ayú·lʔaʔémək* < *ayú·alʔaʔémək* "he does not see." Initial *u-* and *i-* of a word become *wa-* and *ya-* respectively when the preceding word ends in an accented vowel: *ʔaxá wasícənʔ* < *ʔaxá u·sícənʔ* "his drinking of water," *kʷa·pá yayá·* < *kʷa·pá i·yá·* "Cocopa language."

## MORPHOLOGY

### 17-20. GRAMMATICAL PROCESSES

#### §17. Word classes.

The word consists of two types of immediate constituents: a theme and non-thematic elements. The word usually contains one or more nonthematic affixes, but may contain none or only such as are phonetically zero.

The syntactic function of the word depends on its nonthematic affixes. These are of two types, nominal and verbal. Three syntactic classes of words may thus be distinguished: a) nouns, i.e., words constructed of a theme plus nominal affixes

or the absolute forms of themes to which nominal affixes may be added; b) verbs, i.e., words constructed of a theme plus verbal affixes or the absolute forms of themes to which verbal affixes may be added; and c) interjections, i.e., words constructed of a theme (generally of exclamatory meaning) to which no affixes can be added.

A similar threefold classification of themes may be made. Noun themes are those themes which may take only nominal affixes and from which verb themes may be derived by specific grammatical processes. Verb themes are those themes which take verbal affixes and from which noun themes (verbal abstracts) may be derived. Interjectional themes cannot be manipulated grammatically.

Any verb theme may be used as a noun theme, but the reverse is not true. Thus the theme \*vatáy "to be big" may serve as the theme of a verb (vatáyk < zero third person pronominal prefix + vatáy "to be big" + -k present-past suffix, "he is big") or of a noun (vatáyac < vatáy "big" + -c nominative case suffix, "the big one"). The rather numerous examples of themes which may be used without phonetic modification as either verb or noun themes are best explained as cases of the formation of verbal abstracts. Sometimes the noun theme thus formed serves as the base from which another verb theme is derived: \*ʔi:pá: "to be a man" > ʔi:pá: "man, male" > \*ʔi:páy "to be alive, to be human."

A verb theme plus verbal nonthematic elements may also be used as a noun theme. Thus some noun themes contain elements which are in origin nonthematic. The word kaʔaðómæk in the expression kaʔaðómæk ʔaðúwú:m? "How shall I do it?" (lit. "how-am-I-able? would-I-do?") is a verb whose theme is \*aðóm "to be able" and whose nonthematic elements are ka- interrogative prefix, ʔ- first person pronominal prefix, and -k present-past suffix. The word kaʔaðómæc in the expression kaʔaðómæc ʔaðúwú:m "What kind of person would I be?" (lit. "I-able-to-do-what would-I-do?") is a noun whose theme is kaʔaðóm "I able to do what" and whose nonthematic element is the nominative case suffix -c.

### §18. Word formation.

The mechanics of word formation are simple. The only processes employed are prefixation and suffixation. The noun theme may occur in the absolute form or with various combinations of affixes. The verb theme usually occurs with a pronominal prefix and a predicative suffix (ʔayú:k < ʔ- first person pronominal prefix + ayú: "to see" + -k present-past suffix, "I see"), but in some types of verbal phrase the predicative suffix may be omitted (ʔayú: ʔaʔi:m "I am going to see," lit. "I-seeing I-say"), while in others the pronominal prefix and predicative suffix may both be omitted (páq aʔi:m "it makes a popping noise," (lit. "pop it-says," cf. apáq < zero- third person pronominal suffix + apáq "to burst (into bloom)" + -k present-past suffix, "flower blooms").

The use of nonthematic verbal prefixes other than the pronominal prefixes is for the most part optional. There are, however, some verb themes which occur only with specific nonthematic prefixes or are altered in meaning when in associa-

tion with specific nonthematic prefixes. These may be designated as verb themes with adhering prefixes. An example of the first type is the theme \*atíš, which occurs only with the adhering prefix nʷi-, as in nʷi-tíšk (nʷi- adhering prefix + zero-third person pronominal prefix + atíš + -k present-past suffix) "he deceives." An example of the second type is the theme \*ʷi-páy, by itself meaning "to be alive, to be human," but with the adhering prefix wa- (wa-\*ʷi-páy) meaning "to be enlivened, to come to life." The adhering prefixes occupy the positions of and in some cases are phonetically identical with substantive and locative verbal prefixes. In the majority of cases, no definite meaning can be ascribed to the adhering prefix itself; it is only the combination of adhering prefix and theme which has meaning.

#### §19. Formation of nonthematic elements.

Nonthematic elements are for the most part unanalyzable unit morphemes. Some substantive and locative prefixes of the verb, however, are complex and must be regarded as composed of a pseudo-thematic or theme-derived element together with some exclusively nonthematic elements. The substantive prefix ʷac- "things" occurs in simple form in the word ʷacađú-m "he does things" (ađú-m "he does") the prefix ʷack-, as in ʷacku-vá-k "he stays about, in various places" (u-vá-k "he is present) consists of ʷac- plus the locative case suffix -k. Similarly the adhering prefix wanʷm-, as in wanʷmayák "he enjoys," contains a pseudo-thematic element wa- (possibly <i-wá- "heart") plus a demonstrative suffix -nʷ plus the ablative case suffix -m.

#### §20. Theme formation.

In regard to the processes employed and the relationship between the component parts, complex nonthematic elements follow the same patterns of formation as words, more especially nouns. The mechanics of theme-formation differs from the mechanics of word formation in both these respects.

The processes employed in the formation of the theme and in the modification of the theme for grammatical purposes are affixation (prefixation, infixation, and suffixation), reduplication, vocalic ablaut, and composition. The association between the component parts of the theme is much firmer than that between a theme and nonthematic elements in that both the structure and the meaning of the theme are determined or altered by the grammatical processes mentioned. Affixes which thus affect the theme will be called thematic affixes to distinguish them from nonthematic elements.

Affixation is more characteristically employed with the verb theme (both in formation and grammatical modification) than with the noun theme. The scope of the process is indicated by the following series of forms: \*ađáp "to be split" is a verb theme consisting of a stem alone; from it is derived, by prefixation of the thematic prefix t-, the theme \*tađáp (\*t-ađáp) "to split"; the gerund of \*tađáp is tu-đáp (\*t-a<u>đáp) "his splitting"; the distributive plural form of tađáp is tatu-đá-p (\*t-a<t><u>đá-p) "many split."

The chief use of affixation with the noun theme is in the formation of derived verb themes: e.g. \*nʷu-tí-šv "to be equipped with a bow" is derived from the noun theme ʷu-tí-š "bow" plus the thematic affix-complex nʷ. . .v.

The process of infixation calls for some comment. It is not used with noun themes proper (i.e. noun themes other than those derived from verb themes) but only with verb themes. The term infix is here used to refer to morphemes which occupy such positions with respect to the stem of a verb theme that under certain conditions they are included within it. Some infixes occupy a position immediately preceding the first consonant of the stem, others a position immediately preceding the consonant which precedes the accented vowel of the stem. With stems of the types vcʷ and vccʷ both types of infix are included within the stem: e.g. tatu-sú:lʷ (\*t-a<t><u>:sú:lʷ, stem \*asúlʷ) "many gouge," cacxu-tátʷ (\*c-a<c>x<u>:tátʷ, stem \*axtátʷ) "many crawl." With stems of the type ʷ both types of infix precede the stem: ya-šatu-wálʷv (ya-\*š-<t><u>:á:lʷ-v, stem \*á:lʷ) "many crave." With stems of the type cvcʷ infixes of the first type precede the stem while infixes of the second type are included within it: šatku-vírʷv (š-a<t>ka<u>:vírʷ, stem \*kavér) "many overcome."

Reduplication is employed as a theme-forming process with both verb and noun themes. There are two types, both involving complete reduplication of the stem element. In the first type, the stem is reduplicated in de-accented form and, under the appropriate conditions (see §11a), with loss of the initial vowel: toxatóx (<stem \*atóx) "to be spotted," xʷecaxʷéc (<stem \*axʷéc ?) "oriole," axlakaxlák (<stem \*axlák) "to be intertwined," axnaraxnár (<stem \*axnár ?) "turtle." In the second type, found only in noun themes, the stem is repeated with retained accent, so that the result resembles a nominal phrase: xál xál "wagtail (bird sp.)." The treatment of such forms is analogous to that of single nouns rather than that of nominal phrases.

Vocalic ablaut, alone or together with other grammatical processes, is employed chiefly for grammatical modification of the theme, less often as a theme forming process. It is characteristically used with the verb rather than the noun theme.<sup>4</sup>

Composition is employed only in the formation of the noun theme. The verb theme never contains more than one stem; the noun theme may be composed of two stem elements. Some of these are modified forms of stems which are noun themes in themselves: ḍo-šu-nʷá "eye-lash" (cf. i:ḍó "eye"), ʷavu-tó "center of the house" (cf. ʷavá "house" and ató "center"). Others are not etymologizable.

## 21-26. THE NOUN

### §21. General remarks.

The noun form may consist of a theme alone or of a theme plus affixed non-thematic elements. The nonthematic elements are of four types: a) pronominal

<sup>4</sup> For table of vocalic ablaut series, see §13.

prefixes, b) demonstrative suffixes, c) the locative suffix *-i*, and d) case suffixes. No two affixes of the same type may occur in the same word. Pronominal prefixes may not occur in the same word with the locative suffix *-i*.

The tabulated analysis in Table IV of a few typical forms indicates the relative positions occupied by the several elements of the noun form.

TABLE IV. POSITIONAL ANALYSIS OF NOUN FORM ELEMENTS

Pronominal Prefix	Theme	Demonstrative Suffix	Locative <i>-i</i>	Case Suffix	Form and Meaning
<i>ʔanʔ-</i> "I, we"	cam ʔaδúlʔ "ant"			<i>-c</i> nominative	ʔanʔcam ʔaδúləc "we ants"
	ʔa:vé "snake"	<i>-va</i> "this"		<i>-c</i> nominative	ʔa:vévəc "this snake"
<i>m-</i> "your"	i:δó "eye"	<i>-nʔ</i> "that"		<i>-c</i> nominative	mi:δónʔc "your eye"
	ʔamáy "above, sky"	<i>-sa</i> "that"	<i>-i</i>	<i>-lʔ</i> allative	ʔamáysilʔ "up into the sky"
	vaδá "this one"		<i>-i</i>		vaδí "here"

### §22. The noun theme.

Three types of noun theme<sup>5</sup> are found:

- Simple noun themes consist of a single unanalyzable stem element: ʔaxá "water," takšé "gopher."
- Reduplicated noun themes consist of a repeated single stem element, with or without loss of accent (see §20).
- Compound noun themes consist of two stem elements. Some of the stem elements found in compound noun themes are etymologizable, others are not. They may be classified as first- and second-position elements according to the positions which they must occupy in the word. The following are typical:

First-position elements:

*i-* (used in body part terms)

i:δó "tooth," i:máʔ "body," i:mé "foot," i:šá:lʔ "hand," i:ʔé "hair," i:pálʔ "tongue."

*kam-*

kamcú:ləq "green berry sp.," kamnálʔ "boulder," kamʔu:tá "dipper."

*malʔ-*

<sup>5</sup> I.e., noun theme proper, excluding those derived from verb themes.

- malʷka·tēs “gnat,” malʷʷú·v “wild tobacco,” malʷxó “pipe,” malʷpú· “umbilical cord.”
- xam·  
xamkʷé “swallow,” xamsúlʷ “chameleon,” xamʷu·kʷé “pestle” (poss. cf. kʷasʷu·kʷé  
“pottery paddle”).
- ya· (cf. i·yá· “mouth”)  
ya·vu·mé “beard,” ya·xaʷáw “jawbone,” ya·xu·pó “side of thorax,” ya·saδúlʷ “gums.”
- ʷi· (cf. ʷaʷi· “wood”)  
ʷi·δó· “willow,” ʷiδú·t “wild turnip,” ʷi·sáv “arrowweed.”
- ʷavu· (cf. ʷavá “house”)  
ʷavu·lʷpó “house post,” ʷavu·mák “back of house,” ʷavu·yá· “door,” ʷavu·cúlʷ  
“smoke-hole.”

Second-position elements (listed here are a few which occur in more than one theme. A large number of others can of course be extracted from themes containing isolable first-position elements):

- mák (cf. amák “behind”)  
šalʷmák “back,” ʷavu·mák “back of house.”
- tát (connotes “spiny”)  
ʷatát “thorn,” malʷtát “viznaga cactus,” axtát “backbone, back,” ʷu·tát “spear.”
- tót  
ʷaxtót “red-berry bush,” xalʷtót “spider.”
- pót (cf. verb stem \*apót “to be scattered”)  
ʷampót “dust,” xalʷpót “Dispersal (clan name).”

The noun theme generally may have either a singular or a plural significance: ʷi·δó· “my tooth” or “my teeth,” maxʷá· “badger” or “badgers.” A suffix -c is added to the theme when respective possession is indicated or when the members of a group are referred to severally: ʷi·δó·ca “our (respective) teeth,” ma·maxʷá·ca “you (who are) badgers” (both forms with vocative case ending -a).

### §23. Pronominal prefixes.

Possessive pronominal prefixes indicate first, second, third, and indefinite third (someone’s) person possessor, but do not indicate number. The first person possessive pronominal prefix may be translated as “my” or “our,” etc. There are two sets of possessive prefixes:

	I	II
1 pr.	ʷ·	ʷanʷ·
2 pr.	m·	manʷ·
3 pr.	zero·	nʷ·
indef. 3 pr.	kʷ·	kʷanʷ·

The first set is used chiefly with body part and kinship terms, the second chiefly with natural objects and artifacts, but also with certain body part terms. The distinction, however, is not quite identical with that between inalienable and alienable possession: i·kʷé “his horn” may refer to a deer’s own horn or to a person’s deer horn.



A few themes, most of them having *ʔ* as initial consonant, have a possessed form which differs from the absolute form: *ʔakmé* "bag" > *ʔanʔkamé* "my bag," *ʔaxná·lʔ* "gourd" > *ʔanʔxaná·lʔ* "my gourd," *ʔavu·spó* "abandoned home" > *ʔanʔvu·sapó* "my abandoned home," *taškʔén* "cookpot" > *ʔanʔtaškʔén* "my cookpot." In some cases the change is optional: *ʔamát* "land" > *ʔanʔmát* or *ʔanʔʔamát* "my land," *ʔaʔú·v* "tobacco" > *ʔanʔʔú·v* or *ʔanʔʔaʔú·v* "my tobacco."

A few themes occur only with possessive prefixes: *\*·u·ʔá·lʔ* in *nʔu·ʔá·lʔ* "his clothes," *\*·i·xʔét* in *nʔi·xʔét* "his blood."

Referential pronominal prefixes are *ʔanʔ·* for the first person singular or plural and *ma·* (>*ma·* when preceding *ʔ*) for the second person singular or plural: *paʔi·pá·* "person, people," *ʔanʔpaʔi·pá·* "I (who am a) person, we people," *ma·paʔi·pá·* "you (who are a) person, you people."

#### §24. Nonthematic nominal suffixes.

The demonstrative suffixes are *-va* "this (nearby)," *-sa* "that (far off)," and *-nʔ* "that (location unspecified)."

The locative suffix *-i* has approximately the meaning of English "at, the vicinity of." It is usually affixed to the noun theme plus demonstrative suffix: *i·mé šamá·vi* (*i·mé* "foot," *šamá·* "root" + *-va* "this" + *-i* "at") "at his feet, underfoot," lit. "at the root of his foot." Noun themes of demonstrative meaning may take the locative suffix *-i* directly: *vađí* (<*vađá* "this" + *-i* "at") "here."

The noun theme in the absolute form is used as the object of a verb, as the possessor of a following noun, or as a member of a nominal phrase: *xatalwé kaná·vək* "he tells about coyote," lit. "coyote he-tells-of"; *xatalwé nʔaʔú·v* "coyote's tobacco," lit. "coyote his-tobacco"; *xatalwé šalʔáy* "sand coyote," lit. "coyote sand." The theme with case suffixes functions as the subject of a verb, as an adverb, or (with vocative *-a*) as a predicative expression: *šalʔʔáyç ʔamé·k* "the sand is high," lit. "sand it-is-high"; *šalʔʔáyəm ađí·k* "he came through the sand," lit. "sand-through he-came"; *šalʔʔáya* "the sand!"

The case suffixes are:

- c* nominative
- k* locative ("at, from")
- lʔ* allative ("to, into")
- m* ablative ("through, by means of")
- a* vocative

The following suffix combinations are found (*-nʔ* being taken as representative of the demonstrative suffixes):

Absolute	<i>-zero</i>	<i>-nʔ</i>	<i>-i</i>	<i>-nʔi</i>
Nominative	<i>-c</i>	<i>-nʔc</i>		
Locative	<i>-k</i>	<i>-nʔk</i>	<i>-ik</i>	<i>-nʔik</i>
Allative	<i>-lʔ</i>	<i>-nʔəlʔ</i>	<i>-ilʔ</i>	<i>-nʔilʔ</i>
Ablative	<i>-m</i>	<i>-nʔəm</i>	<i>-im</i>	<i>-nʔim</i>
Vocative	<i>-a</i>	<i>-nʔa</i>		

Themes with the plural suffix *-c* occur in the absolute form, with nominative suffix, and with vocative suffix, but take no other suffixes except these.

§25. Demonstratives, pronouns, and adverbs.

Noun themes of demonstrative and pronominal meaning take no pronominal prefixes and are limited to certain suffix combinations. The following forms of *vaðá·* "this one (nearby)" illustrate the suffix combinations taken by it and by the themes *avá·* "this one (a short distance away)," *savá·* "that one (far off)," and *makʷé* "who?, anyone?"

Absolute	—	<i>vaðánʷ</i>	<i>vaði</i>	—
Nominative	<i>vaðác</i>	—	—	—
Locative	—	—	<i>vaðík</i>	—
Allative	—	—	<i>vaðilʷ</i>	—
Ablative	<i>vaðám</i>	—	<i>vaðim</i>	—
Vocative	—	—	—	—

The theme *makʷíp* "which one?, someone?" occurs only in the following forms:

Absolute	<i>makʷíp</i>	—	—	—
Nominative	<i>makʷípac</i>	—	—	—
Locative	—	—	—	—
Allative	—	—	—	—
Ablative	<i>makʷípəm</i>	—	—	—
Vocative	<i>makʷípa</i>	—	—	—

The theme *nʷá·* "that" occurs only with demonstrative suffixes: *nʷá·va* "that one here," *nʷá·sa* "that one there," *nʷá·nʷ* "that one (location unspecified)." The following forms of *nʷá·nʷ* indicate the suffix combinations with which the theme *nʷá·* may occur:

Absolute	—	<i>nʷá·nʷ</i>	—	<i>nʷá·nʷi</i>
Nominative	—	<i>nʷá·nʷc</i>	—	—
Locative	—	—	—	<i>nʷá·nʷik</i>
Allative	—	—	—	<i>nʷá·nʷilʷ</i>
Ablative	—	<i>nʷá·nʷəm</i>	—	<i>nʷá·nʷim</i>
Vocative	—	<i>nʷá·nʷa</i>	—	—

Free pronominal themes indicating first and second person singular and plural are somewhat irregular in treatment. The following forms occur:

	1 pr. sing.	1 pr. plural	2 pr. sing.	2 pr. plural
Absolute	<i>?anʷép, ?anʷá·p</i>	<i>?anʷéc</i>	<i>má·nʷ<sup>6</sup></i>	—
Nominative	<i>?anʷá·c</i>	<i>?anʷécac</i>	<i>má·nʷc</i>	<i>mácac</i>
Locative	—	—	—	—

<sup>6</sup> I.e., *má·* +demonstrative *·nʷ*.

Allative	—	—	—	—
Ablative	ʔanʔépəm	—	má:nʔəm	—
Vocative	ʔanʔépa	ʔanʔéca	má:nʔa	máca

Adverbial themes (themes of place and time reference), e.g., amák “(the) behind” maxák “(the) underneath,” ʔaxkʔé “(the) across,” take no pronominal prefixes, but otherwise are treated as normal noun themes.

§26. Derivation of verb themes from noun themes.

Verb themes are derived from noun themes in several ways.

a) From noun themes ending in an accented vowel, by suffixation of attributive -y with or without concurrent ablaut of the accented vowel:

- ʔaxá “water” > \*ʔaxáy “to be damp”
- ʔanʔá “sun” > \*ʔanʔáy “to be bright”
- ʔaxʔé “enemy” > \*ʔaxʔáy “to be hostile”
- ʔi·dó “willow” > \*ʔi·dúy “to be willow-covered”

If the accented vowel of the noun theme is preceded by a consonant cluster, a vowel a may be intercalated between the two consonants of the cluster:

- ʔaxʔá “cottonwood” > \*ʔaxaʔáy “to be cottonwood-covered”
- masʔé “mud” > \*masaʔí (\*masaʔíy ?) “to be muddy”
- kʔaxʔó “ashes” > \*kʔaxaʔúy “to be ashy”

But cf. xalʔʔá “moon” > xalʔʔáy “to be moonlit.”

b) From noun themes ending in a consonant and having the accented vowel preceded by a consonant cluster, by intercalation of a vowel a between the two consonants of the cluster:

- kamnálʔ “boulder” > \*kamanálʔ “to be heavy as stone”
- salʔʔáy “sand” > \*salʔaʔáy “to be sandy”
- ʔampót “dust” > \*ʔampót “to be dusty”

c) From noun themes ending in an accented vowel, by suffixation of possessive -v to the attributive form:

- ʔaxʔé “enemy” > \*ʔaxʔáyv “to be at war with” (cf. \*ʔaxʔáy “to be hostile”)
- ya·vu·mé “beard” > \*ya·vu·mív (\*ya·vu·mív ?) “to be bearded”
- i·tó “belly” or ató “center” > \*atúyv “to be pregnant”

d) By prefixation of nʔ- (third person possessive pronominal prefix) and suffixation of possessive -v to the noun theme:

- ku·pét “quiver” > \*nʔaku·pétv “to be equipped with a quiver”
- i·xʔét “blood” > \*nʔi·xʔétv “to bleed”
- xu·már “child” (cf. verb theme xu·már “to be young”) > \*nʔaxu·mráv “to have a child, to be a father.”

TABLE V. POSITIONAL ANALYSIS OF VERB FORM ELEMENTS

4	3	2	1	Theme	1	2	3	4	5	Word and Meaning
Substantive Prefix	Locative Prefix	Conditional Prefix	Pro-nominal Prefix		Aspective Suffix	Aspective Suffix	Tense and Tense-Modal Suffix	Modal Suffix	Syn-tactic	
av' "thus"	?		1 pr.	aðð "to do (static)"	-t assertive	-apat oneself	-k present-past			av'aððtapatk "thus I also do"
ka' "what"	m·		2 pr.	a'é "to say"			-ra future	-l'va optative		kama'ésal'va "what would you say?"
ka' "what"	m·	n'a· conditional	2 pr.	awém "to be able to do"			-m subordinate			kan'a·mawémom "if you can do anything"
	al'v· "into"		n'z· "he-me"	á:pc "to throw (collective plural)"	-t assertive			-ʔaš evidential		al'v'n'z·aš "they threw me in"
	al'v· adhering prefix		n'i·n· "I-ye"	a·x'i'v· "to associate with"	-t assertive		-xa future	-l'va optative		al'v'i·n'a·x'i'v'vətəxal'va "I would associate with you"
av' "thus"	?		1 pr.	a'l'ʔé "to think, believe"	-t assertive		-k present-past		-a'ʔa (end of phrase)	av'ʔa·l'ʔétka'ʔa "that's what I think"
	n'i· "there"	n'a· conditional	zero· 3 pr.	namák "to leave behind"			-k present-past			n'i·n'a·namák "when he left it there"
ʔac· "things"			?	kaná·v "to tell, relate"	-t assertive		-xa future			ʔac'akaná·vətəxa "I will tell about things"
ma't reflexive	n'i· adhering prefix	n'a· conditional	zero 3 pr.	acéw "to make something out of"	-t assertive		-k present-past			ma'tn'i·na·cévətək "when he had transformed himself"
av' "thus"	?		1 pr.	a'é "to say"			-xa future	-as dubitative		av'ʔa'ʔéxas "whatever I may say"
wal'v· adhering prefix	zero 3 pr.		zero 3 pr.	á·rmc "to not desire (collective plural)"			-k present-past			wal'v·á·rmacək "they do not care for it"

e) With the adhering prefix  $alʔ$ , verb themes of these types have the meaning "to turn into . . .," "to become . . ."

$ʔamó$  "mountain sheep"  $> alʔ.*ʔamúy$  "to turn into a mountain sheep"

$kamnáʔ$  "boulder"  $> alʔ.*kamanáʔ$  "to become heavy as stone"

$šamá$  "root"  $> alʔ.*šamáyv$  "to take root" (i.e., "to become possessed of a root" ?).

## 27-45. THE VERB

### §27. General remarks.

The complete verb form ordinarily consists of a theme and two nonthematic elements, a pronominal prefix and a predicative suffix,<sup>7</sup> but may contain more than two nonthematic elements. The theme is the relatively invariant portion of the verb form, i.e. that portion which remains unchanged in structure and meaning irrespective of the presence or absence of specific nonthematic affixes. The positions of the various nonthematic elements with respect to the theme and to one another are fixed. The order in which they may occur is substantive prefix-locative prefix-conditional prefix-pronominal or imperative prefix-*theme*-position 1 aspective suffix-position 2 aspective suffix-tense or tense-modal suffix-modal suffix-enclitic. Nonthematic elements may thus be classified according to relative nearness to the verb stem. A third-position (tense or tense-modal) suffix may follow the theme immediately if no first- or second-position suffixes occur in the same word, but must follow a first- or second-position suffix that does occur in the same word. In some cases two substantive or two locative prefixes occur in the same word, but no two nonthematic affixes of any other positional class may co-occur in a single word.

The tabulated analysis in Table V indicates the relative positions of the several elements of the verb form.

### §28. Types of verb theme.

The verb theme<sup>8</sup> itself may be either a simple or a complex element. Themes may be classified according to three levels of development. On the simplest level the theme consists of a stem (an unanalyzable thematic element) alone or a reduplicated stem. On the next higher level of complexity the theme consists of a simple or reduplicated stem to which are added thematic prefixes. On the third level are themes of either the simple-stem or prefix-stem types to which are added thematic infix-suffix complexes.

The classification of theme types may be expressed in tabular form.

- I. Themes based on stem alone
  - A. simple-stem theme
  - B. reduplicated-stem theme

<sup>7</sup> But see §18; 36.

<sup>8</sup> In this discussion of theme types, only the singular form of the theme will be considered. The various plural forms of the theme are derived from the singular form in definable ways which depend largely on the type to which the latter belongs.

## II. Prefix-stem themes

A. single prefix plus simple or reduplicated stem

B. two prefixes plus stem

## III. Developed themes

Theme of type I or II plus thematic infix-suffix complex

The theme may be further modified on any of these levels by the addition of thematic suffixes. Since these exercise no influence on the type of grammatical modification to which the theme is subject, no subclassification is necessary.

## §29. The verb stem.

Verb stems are classified primarily according to the number and character of the phonemes preceding the accented vowel, secondarily according to the number and character of the phonemes following the accented vowel.

The following types are found.

Accented vowel preceded by—	Accented vowel followed by		
	·zero	·c	·cc
zero·	·v	·vc	·vcc
c·		c·vc	
vc·	vc·v	vc·vc	vc·vcc
vcc·	vcc·v	vcc·vc	vcc·vcc
cvc·	cvc·v	cvc·vc	cvc·vcc
cvcc·	cvcc·v	cvcc·vc	cvcc·vcc
vcvc·	vcvc·v		
cvcvc·	cvcvc·v	cvcvc·vc	cvcvc·vcc
cvccvc·	cvccvc·v	cvccvc·vc	

About ninety percent of all verb stems are disyllabic.

The verb stem normally has the same form with all nonthematic suffixes. Some stems ending in an accented vowel which take the present-past suffix ·vm<sup>9</sup> have two singular forms. One form (the present-past stem) is used with second-position aspective suffixes, the present-past suffix ·vm, and underlies the collective plural form. The other form (the future stem) is used with first-position aspective suffixes, the future tense suffix ·xa, and most thematic suffixes. When the accented vowels of the present-past stem are ·ú and ·í, the accented vowels of the future stem are ·ó and ·é respectively.<sup>10</sup>

## §30. Reduplication of the verb stem.

Reduplication adds to the meaning of the stem the element of repetitive or intermittent activity. Only vcvc and vccvc type stem are reduplicated. The initial

<sup>9</sup> Rather than the more common present-past suffix ·k; see §44.

<sup>10</sup> A table of these changes is to be found in §44c.

vowel of *vcvc* type stems is syncope in the reduplicated form. The initial vowel of *vccvc* type stems is retained.

*atóx* “to have a spot” (cf. *šatóx* “to make a spot on”), *toxatóx* “to be spotted”  
*aspúk* “to be curled” (cf. *kaspúk* “to curl (self) up”), *aspukaspúk* “to be kinky (hair)”

### §31. Thematic prefixes.

Thematic prefixes, when a definite meaning can be ascribed to them, are for the most part causative. There are, however, some to which no definite meaning can be ascribed. The following are typical and common:

- k-* “to cause with foot, with a large or heavy instrument, or with great force”  
*kasúlʷ* (\**k-asúlʷ*, cf. *asúlʷ* “to be ripped”) “to rip with great force”  
*kaʔák* (\**k-aʔák*) “to kick”
- c-* “to cause with the teeth”  
*caʔéw* (\**c-akʔéw*) “to bite”  
*canʔé* (\**c-anʔé*) “to chew on” (cf. *kanʔé* “to press down lightly with the foot”)
- c-* “to cause a bunch of objects”  
*caʔúlʷ* (\**c-aʔúlʷ*) “to carry a bunch of objects in the hand” (cf. *taʔúlʷ* “to carry in the hand”)  
*cađúʔn* (\**c-ađúʔn*) “to dip a bunch of small objects” (cf. *tađúʔn* “to dip small object”)
- c-* generalized causative  
*cayáʔ* (\**c-ayáʔ*, cf. *ayáʔ* “to go”) “to send”  
*canálʷ* (\**c-análʷ*, cf. *análʷ* “to drop off”) “to lose”
- t-* “to cause (general), to cause by means of an instrument”  
*tayúʔš* (\**t-ayúʔš*, cf. *ayúʔš* “to be cool”) “to cool (it)”  
*taqʷeraqʷér* (\**t-qʷeraqʷér*, cf. *qʷeraqʷér* “to be sharp-pointed”) “to sharpen to a point”
- š-* “to cause a small object, to cause with the hand or with a small instrument”  
*šalwax* (\**š-awwáx*) “to punch a hole with the finger” (cf. *kalwáx* “to kick a hole through”)  
*šaréq* (\**š-aréq*) “to hold, grasp”
- aʔ-* “to cause a long object”  
*aʔvkʔéw* (\**aʔ-avkʔéw*) “to carry long heavy object”  
*aʔúlʷ* (\**aʔ-aʔúlʷ*) “to carry long object in the hand” (cf. *taʔúlʷ* “to carry in the hand”)  
 With numerals *aʔ-* has a special significance.  
*aʔxavík* (\**aʔ-xavík*, cf. *xavík* “to be two”) “to do twice”
- uʔ-* “to cause or induce a condition without altering the nature of the object”  
*uʔdíʔ* (\**uʔ-ađíʔ*, cf. *ađíʔ* “to come”) “to bring”  
*uʔvatáy* (\**uʔ-vatáy*, cf. *vatáy* “to be big”) “to exaggerate” (cf. also *tavaʔáy* “to enlarge”)
- aʔc-* causative (?)  
*aʔcmanʔéʔ* (\**aʔc-manʔéʔ*, cf. *manʔéʔ* “to be sweet”) “to relish”  
*nʔam-aʔclʔuʔvév* (*nʔam-aʔclʔuʔvév*, cf. *lʔuʔvév* “to be equal”) “to match against something”
- uʔc-* causative, especially with numerals

nʔi·u·cxamók (nʔi·\*u·c·xamók, cf. xamók "to be three") "to divide into three parts"  
 u·clʔu·vév (\*u·c·lʔu·vév, cf. lʔu·vév "to be equal") "to divide in halves"

a·c· and u·c· are sometimes used alternatively:

a·cu·pís or u·cu·pís (\*a·c·/u·c·a<u>pís, cf. apís "to suck") "to give suck"

v· "to do in standing position"

vakʔá·v (\*v·akʔá·v) "to walk around" (cf. cakʔá·v "to place objects around")

vém (\*v·é·m, stem \*é· "to be in motion") "to move back (in standing position)"

m· "to do on account of"

manʔúv (\*m·anʔúv, cf. anʔúv "to fight with someone") "to fight over something"

maxán (\*m·axán) "to admire"

n· "used chiefly in kinship terms"

napí (\*n·apí) "to call someone father's sister"

nakʔí (\*n·akʔí) "to call some one mother's brother"

nʔ·?

nʔu·wíc (\*nʔ·u·wíc) "to own"

nʔaváy (\*nʔ·aváy, poss. cf. ʔavá "house") "to inhabit"

xʔ· "to do in a hostile manner" (?)

xʔanʔó·v (\*xʔ·anʔó·v) "to dodge, to flinch"

xʔaʔá·v (\*xʔ·aʔá·v) "to be jealous"

x·?

xamí (\*x·amí) "to be born"

xalʔqíc (\*x·alʔqíc) "to grab small object"

s·?

samá·v (\*s·amá·v) "to borrow"

sakʔalʔxé (\*s·kʔalʔxé) "to tie a knot"

kʔ·?

kʔí (\*kʔ·í) "to give"

kʔakʔé (\*kʔ·akʔé) "to ask for, to request"

### §32. Compounding of prefixes.

The prefix-stem theme may contain two prefixes. The most frequent combination of prefixes is causative u· plus some other prefix.

u·caqáw (\*u·c·aqáw, cf. caqáw "to eat fruit") "to feed fruit to"

u·takanáy (\*u·t·kanáy, cf. takanáy "to stop overnight") "to provide a stopping place"

u·maxán (\*u·m·axán, cf. maxán "to admire") "to cause to admire"

u·kʔí (\*u·kʔ·í, cf. kʔí "to give") "to buy"

Other combinations are rare.

a·sakʔév (\*a·s·akʔév, cf. sakʔév "to be half full") "to fill half full"

taqʔalayéw (\*t·qʔ·alayéw, cf. qʔalayéw "to become morning") "to do all night"

u·cavašáw (\*u·c·v·ašáw, cf. vašáw "to guard") "to post a guard"

### §33. Stem modification in prefix-stem themes.

The stem, as in most of the examples already cited, usually undergoes no changes when incorporated in a prefix-stem theme. Under some circumstances, however, modification of the stem occurs.



a) In prefix-stem themes with prefix *t-*, *š-*, or *c-* an element <a> may be infix before the consonant immediately preceding the accented vowel of the stem.

tašáy (\**t-a<a>šáy*, cf. ašáy "to be fat") "to fatten"  
 tama·dó·lʷq (\**t-ma<a>dó·lʷq*, cf. ma·dó·lʷq "to be sweet") "to sweeten"  
 ca·táqš (\**c-a<a>táqš*, cf. atáqš "to jump") "to flip"  
 taxvašú· (\**t-xava<a>šú·*, cf. xavašú· "to be blue") "to make blue"

The accented vowel may be concurrently ablauted.

ta·ní·x (\**t-a<a>ní·x*, cf. anéx "to be quiet") "to do quietly"  
 ta·ʔa·qó·l (\**t-ʔa<a>qó·l*, cf. ʔaqól "to be long") "to lengthen"

b) In themes with prefix *a·c-* or *u·c-* an element <u> may be infix before the consonant immediately preceding the accented vowel of the stem.

u·cu·yó·y (\**u·c-a<u>yó·y*, cf. ayú· "to see") "to show"  
 a·cvu·kʷéw or u·cvu·kʷéw (\**a·c-/u·c-av<u>kʷéw*) "to give someone a long heavy object to carry" (cf. a·vkʷéw <\**a·avkʷéw* "to carry a long heavy object")  
 a·ckolu·kól (\**a·c-kola<u>kól*, <stem \*akól) "to lay one long object on top of another"

c) When *u·-* is prefixed to stems containing an unaccented *i·*, the *i·* may change to *u·*.

u·xu·pán (\**u·xu·pán*, cf. xi·pán "to be near") "to bring near"  
 u·kʷasʷu·dí· (\**u·kʷasʷu·dí·*, cf. kʷasʷi·dí· "to be a doctor") "to make into a doctor"

But cf.:

u·si·pxú·k (\**u·si·pxú·k*, cf. si·pxú·k "to be in groups of seven") "to arrange by sevens"

d) Some stems add a consonantal increment *-c* when incorporated in prefix-stem themes.

kacpác (\**k-acpác*, cf. acpá "to emerge") "to drive out"  
 tamanʷé·c (\**t-manʷé·c*, cf. manʷé· "to be sweet") "to sweeten"  
 šapaʷi·páyc (\**š-paʷi·páyc*, cf. paʷi·páy "to become alive") "to make into a human being"

### §34. The developed theme.

A simple-stem theme or prefix-stem theme may be further developed in two ways.

a) By infixation of <u> before the consonant preceding the accented vowel of the stem plus suffixation of a thematic suffix *-v/-p*.<sup>11</sup> The meaning of the developed theme is then "to be one who does . . ." or "to have been doing . . ."

u·šúcv (\**a<u>šúcv*, cf. ašúc "to call someone younger brother") "to have a younger brother"

ku·nácv (\**k-a<u>nácv*, cf. kanác "to order, summon") "to be one who orders"

<sup>11</sup> *-v* after vowels and most consonants, *-p* after *m* and *p*. The closest analogue of this suffix appears to be the possessive thematic suffix *-v* (see §26c, d, e).

wi·a·vu·kʷáwv (wi·\*a·av<u>kʷáw·v, cf. wi·a·vkʷáw “to call someone paternal half-sibling”) “to have a paternal half-sibling”

nʷi·a·tu·qʷerv (nʷi·\*a·t·a<u>qʷér·v, cf. nʷi·a·taqʷér “to follow”) “to be a follower, to have been following”

b) By infixation of <i> before the consonant preceding the accented vowel of the stem plus suffixation of a thematic suffix -v/-p.<sup>11</sup> The meaning of the developed theme is “to be worthy or capable of doing . . . or of having . . . done to one.”

a·cqi·dá·yv (\*a·c·aq<i>dá·y·v, cf. a·caqdá·y “to slip”) “to be slippery”  
wa·ni·mi·lv (wa·\*n·a<i>mí·l·v, cf. namí·l “to coax”) “to be a nuisance”

The accented vowel of the stem may be concurrently ablauted:

maši·dé·v (\*m·aš<i>dé·v, cf. mašdé “to fear”) “to be fierce, dangerous, terrible”

The stem may be further modified by addition of a consonantal increment ·c:  
a·cxi·núcv (\*a·c·ax<i>núc·v) “to be contagious” (cf. a·xnó <\*a·axnó “to become infected”)

### §35. Thematic suffixes.

The following are the most important thematic suffixes:

a) Directional ·k “towards self or speaker” and ·m “away from self or speaker” are found with simple-stem and prefix-stem themes.

acpák (\*acpá·k) “to come out”; acpám (\*acpá·m) “to go out” (cf. acpá “to emerge”)  
té·k (\*t·é·k) “to bring closer”; té·m (\*t·é·m) “to move away” (<stem \*é· “to be in motion”)

b) medio-passive -v/-p<sup>12</sup> is found rarely with simple-stem themes, fairly frequently with prefix-stem themes.

δam·ayú·v (δam·\*ayú·v, cf. ayú· “to see”) “to be plain, manifest”  
u·spérv (\*u·aspér·v, cf. u·spér “to tie tight,” aspér “to be strong”) “to exert oneself”

Themes with prefix t· and medio-passive suffix often have the meaning “to do while sitting,” and themes with prefix a· and medio-passive suffix the meaning “to do while walking or lying.” With themes with prefix v· “to do while standing” they form a triad of themes in which position is indicated.

tapétv (\*t·apét·v) “to sit in front of”  
a·pétv (\*a·apét·v) “to lie in front of”  
vapét (\*v·apét) “to stand in front of”

The medio-passive suffix always follows a directional suffix occurring in the same theme.

té·kv (\*t·é·k·v) “to come closer (sitting)”  
té·mp (\*t·é·m·p) “to move back (sitting)”

<sup>12</sup> -v after vowels and most consonants, ·p after m and p.

c) Benefactive *-y* occurs with simple-stem and prefix-stem themes. The accented vowel of the stem may or may not be ablauted.

ađá:y (cf. ađá: "to gather greens") "to gather greens for someone"  
 acá:y (cf. acé "to lay a bunch down") "to lay down for someone"  
 tará:y (cf. tará: <\*t-ará: "to kindle") "to kindle for someone"  
 kamé:y (cf. kamí/é <\*k-amí/é "to bring") "to bring for someone"

Benefactive *-y* is compulsory in some themes with *u-* prefix.

u·só:y (cf. asó: "to eat meat") "to feed meat to"  
 u·šamá:y (cf. šamá: <\*š-amá: "to dream") "to empower"  
 u·má:y (cf. amá "to eat") "to feed"  
 u·takʷá:y (cf. takʷé <\*t-akʷé "to awake") "to wake, revive"

d) The suffix *-m* "to be able" occurs only with five themes, all of the simple stem types. It occurs with the future stem of bimorphous stems.

aʷém (cf. aʷí/é "to say") "to be able to say"  
 awém (cf. awí/é "to do") "to be able to do"  
 ađóm (cf. ađú/ó "to do, be") "to be able to do, be"  
 ayúm (cf. ayú: "to see") "to be able to see"  
 aʷám (cf. aʷáv "to hear") "to be able to hear"

e) Intensive *-pa* occurs with simple-stem and prefix-stem themes.

ašmápa (cf. ašmá "to sleep") "to be sound asleep"  
 kaná:pa (cf. kaná:v <\*k-aná:v "to tell") "to tell all"  
 a:vírpa (cf. a:vír <\*a·avír "to finish") "to finish completely"

f) Privative *-ma* occurs with all types of themes. An adhering prefix *walʷ-* is usually affixed concurrently.

walʷ-á:rma (cf. á:r "to desire") "to have no desire for"  
 walʷađóma (cf. ađú/ó "to do, be") "to be unable"  
 walʷtayú:šma (cf. tayú:š <\*t-ayú:š "to cool") "to have not cooled"  
 walʷ-ci:vá:ma (walʷ·c-a<i>vá:m·p·ma, cf. cavám <\*c-avám "to probably not be")  
 "to be impossible"

### §36. Reduction of the theme.

The verb themes cited heretofore are used with nonthematic affixes. Many themes occur in a reduced form which takes no nonthematic affixes but is predicated by an auxiliary verb (generally a form of *aʷí/é* "to say") in which nonthematic affixes occur. The reduced theme plus auxiliary verb has a momentaneous meaning.

If the theme begins in a short vowel followed by a single consonant, the initial vowel is dropped in the reduced form.

šáʷt aʷím "straight down he comes!" (cf. tašáʷt <\*t-ašáʷt "to set upright")  
 xʷír aʷím "long object comes out slowly" (cf. u·xʷír <\*u·axʷír "to draw long object out of matrix")

If the theme begins in a short vowel followed by a consonant cluster, a long vowel, or a consonant, the reduced form is the same phonetically as the full form.

aklét aʔí'm (<stem ak lét) "it rises on its hind legs!"

a·dév aʔí'm (cf. a·dév "to step aside") "aside he moves!"

manamán aʔí'm (cf. amán "to arise") "it goes up and down"

### §37. Plural forms of the verb theme.

Verb themes of intransitive meaning are normally conjugated for the collective (subject) and distributive (subject) plurals. Verb themes of transitive meaning are normally conjugated for both these plurals and for distributive object (with singular subject). Themes consisting of a reduplicated stem only and developed themes are conjugated only for the collective plural. See §39; 40.

The collective plural form indicates action taken by a group of people together, on a single object, or at the same place and time. The distributive plural form indicates action taken by a number of people severally, or each on an object of his own, or at different places and times. The distinction emerges clearly in such forms as nʔu·wíc "he owns it," coll. plu. nʔu·wícčək "they own jointly," nʔacu·wícčək "they own severally." For the sake of convenience, the collective plural will be glossed as "two (subj.) . . ." and the distributive plural as "many (subj.) . . ."

The distributive object form indicates primarily action performed on a number of different objects: nʔi·ká·mək "he conquers him," dist. obj. nʔi·kacámək "he conquers them." It may also indicate action performed on a number of successive occasions: a·dápək "he makes an incision," dist. obj. a·cđá·pək "he makes several incisions"; in several places successively: axʔélʔk "he digs," axʔá·lʔk "he digs here and there"; or by habit, inclination or profession: ʔaci·mák "he dances," dist. obj. ʔaci·cmá·čək "he is a dancer," a·nʔórək "he writes," dist. obj. a·cnʔú·rək "he is a clerk."

The method by which the theme is conjugated for the plurals depends on the structure and meaning of the theme. Only regular types of conjugation will be discussed here. Partly or wholly aberrant types of conjugation are numerous, but outside the scope of this paper.

### §38. Distributive object conjugation.

The theme may be conjugated for distributive object by one of three methods: a) by ablaut of the accented vowel of the stem; b) by infixation of <t> or <c> before the first consonant of the stem; and c) by ablaut and infixation both. In all three types of conjugation the stem may be concurrently modified by the addition of a consonantal increment -c or -t.<sup>13</sup>

<sup>13</sup> The infix <c> is used with simple-stem themes and with prefix-stem themes with prefix k-, c-, aʔ-, uʔ-, aʔc-, uʔc-, v-, x-, xʔ-, kʔ-, nʔ-, or m-. The infix <t> is used with prefix-stem themes with prefix t-, š-, s-, or n-. In themes containing two prefixes, the choice of infix is governed by the prefix which stands closest to the stem. If the infix directly precedes a consonant cluster of the stem, an inorganic vowel a occurs between the infix and the following consonant.

All three types of conjugation are used with both simple-stem and prefix-stem themes. Type (b) is the least frequent. Types (a) and (c) are of about equal frequency with simple-stem themes. Type (c) is much the most frequent with prefix-stem themes.

a) The following forms illustrate type (a):

ašílʷ “to fry” > ašílʷ “to fry many”

taspér (\*t·aspér) “to tighten” > taspír “to tighten many”

taʔoraʔór (\*t·ʔoraʔór) “to make spherical” > taʔuraʔúr “to make many spherical”

With consonantal increment:

b) The following forms illustrate type (b):

anʷúv “to fight” > acnʷúv (\*a<c>nʷúv) “to be a fighter”

caḱʷéw (c·akʷéw) “to bite” > cackʷéw (\*c·a<c>kʷéw) “to bite several times”

With consonantal increment:

šék (\*š·ék) “to bring closer” > šaté·ck (\*š·<t>ék) “to bring many closer”

u·šá (\*u·ašá) “to sting” > ucšát (\*u·a<c>šát) “to sting several times”

c) The following forms illustrate type (c):

axér “to tie up” > acxír (\*a<c>xír) “to tie up many”

xʷaʔá·v (\*xʷ·aʔá·v) “to be jealous” > xʷacʔáv (\*xʷ·a<c>ʔáv) “to have a jealous nature”

u·talaxóx (u·t·laxóx) “to empty” > utat·laxú·x (\*u·t·<t>laxú·x) “to empty many”

With consonantal increment:

así/é “to drink” > acsíc (\*a<c>síc) “to drink habitually”

casvé (\*c·asvé) “to wipe” > cacasvíc (\*c·a<c>svíc) “to wipe many”

cašé (\*c·ašé) “to challenge” > cacšít (\*c·a<c>šít) “to challenge many”

### §39. Plurals of simple-stem themes.

Simple-stem themes<sup>14</sup> of intransitive meaning are conjugated for the collective plural in one of three ways:

a) By ablaut of the accented vowel:

ayér “to fly” > ayár “to fly (two)”

mavís “to be soft” > maví·s “to be soft (two)”

ʔoraʔór “to be spherical” > ʔuraʔúr “to be spherical (two)”

b) By ablaut of the accented vowel plus addition of a consonantal increment ·c:

ató “to be sated” > atúc “to be sated (two)”

vatáy “to be big” > vatác “to be big (two)”

apám (\*apá·m) “to fall down” > apá·cm (\*apá·c·m) “to fall down (two)”

<sup>14</sup> And reduplicated-stem themes.

c) Five themes only are conjugated for the collective plural by prefixation of *u·*:

ašmá "to sleep" > u·šmá (\*u·ašmá) "to sleep (two)"  
 acpá "to emerge" > u·cpá "to emerge (two)"  
 acpák (\*acpá·k) "to come out" > u·cpák (\*u·cpá·k) "to come out (two)"  
 acpám (\*acpá·m) "to go out" > u·cpám (\*u·acpá·m) "to go out (two)"  
 avʔá "to walk" > u·vʔá (\*u·avʔá) "to walk (two)"

Simple-stem themes of transitive meaning are conjugated for the collective plural by suffixation of a thematic suffix *-c*.

á·y "to give" > á·yc (\*á·y·c) "to give (two)"  
 á·pm (\*á·p·m) "to throw away" > á·pmac (\*á·p·m·c) "to throw away (two)"  
 alʔúl "to cook" > alʔúlʔc (\*alʔulʔ·c) "to cook (two)"  
 ašá·m (\*ašá·m) "to see in the distance" > ašá·mc (\*ašá·m·c) "to see in the distance (two)"

Simple-stem themes are conjugated for the distributive plural in one of two ways:

a) By infixation of <*u·*> before the consonant preceding the accented vowel plus (optional) suffixation of a thematic suffix *-v/-p*,<sup>15</sup> usually with concurrent ablaut of the accented vowel of the stem, and sometimes with concurrent modification of the stem by addition of a consonantal increment *-c* or *-t*. The following subtypes are thus found:

1) with neither vocalic ablaut nor consonantal increment:

á·r "to desire" > u·wárv (\*<u·>á·r·v) "to desire (many)"  
 alʔáy "to call some one female cross cousin" > u·lʔáyv (\*a<u·>lʔáy·v) "to call etc., (many)"  
 avsúc "to urinate" > vu·súcv (\*av<u·>súc·v) "to urinate (many)"

2) with consonantal increment only:

apám (\*apá·m) "to fall down" > u·pácm (\*a<u·>pác·m) "to fall down (many)"  
 xʔa·acpá "to advance hostilely" > xʔa·cu·pácv (xʔa·\*ac<u·>pác·v) "to advance hostilely (many)"

3) with vocalic ablaut only:

así/é "to drink" > u·sé·v (\*a<u·>sé·v) "to drink (many)"  
 ašá·m (\*ašá·m) "to see something far off" > u·šámp (\*a<u·>šá·m·p) "to see something far off (many)"  
 ʔaqʔás "to be tired" > ʔu·qʔásv (\*ʔa<u·>qʔás·v) "to be tired (many)"

4) with both vocalic ablaut and consonantal increment:

aʔí/é "to say" > u·ʔí·cv (\*a<u·>ʔí·c·v) "to say (many)"

<sup>15</sup> *-v* after vowels and most consonants, *-p* after *m* and *p*.

ató "to be sated" > u·túcv (\*a<u>túcv) "to be sated (many)"

ašé "to name" > u·šítv (\*a<u>šítv) "to name (many)"

b) Of the five themes which take the collective plural in u·, two are conjugated for the distributive plural by prefixation of a· plus addition of a consonantal increment -c.

ašmá "to sleep" > a·šmác (\*a·ašmác) "to sleep (many)"

acpá "to emerge" > a·cpác (\*a·acpác) "to emerge (many)"

Two others are conjugated by this method plus ablaut of the accented vowel.

acpák (\*acpák) "to come out" > a·cpácck (\*a·acpácck) "to come out (many)"

acpám (\*acpám) "to go out" > a·cpác·cm (\*a·acpác·cm) "to go out (many)"

The fifth is conjugated by method (a).

av·á· "to walk" > vu·?á·cv (\*av<u>?á·cv) "to walk (many)"

#### §40. Plurals of prefix-stem themes.

Prefix-stem themes<sup>16</sup> are conjugated for the collective plural in one of two ways.

a) By suffixation of a thematic suffix -c:

kan·ó (\*k·an·ó) "to trail" > kan·ó·c (\*k·an·ó·c) "to trail (two)"

té·k (\*t·é·k) "to bring closer" > té·k·c (\*t·é·k·c) "to bring closer (two)"

maši·dé·v (\*m·aš<i>·dé·v) "to be fierce" > maši·dé·vc (\*m·aš<i>·dé·vc) "to be fierce (two)"

b) A limited number of themes are conjugated by infixation of <t> or <c><sup>17</sup> before the first consonant of the stem plus infixation of <a> before the consonant preceding the accented vowel of the stem plus (evidently optionally) suffixation of a thematic suffix -v/-p.<sup>18</sup> Two subtypes are found, depending on whether the accented vowel of the stem is or is not ablated.

1) without vocalic ablaut

namák (\*n·amák) "to leave behind" > natamák (\*n·a<t><a>mák) "to leave behind (two)"

šamé· (\*š·amé·) "to miss" > šatamé·v (\*š·a<t><a>mé·v) "to miss (two)"

2) with vocalic ablaut

a·ví·r (\*a·aví·r) "to finish" > a·cavér (\*a·a<c><a>vér) "to finish (two)"

šama·đí· (\*s·ma·đí·) "to not know" > šatma·đá·v (\*š·<t>ma<a>đá·v ?) "to not know (two)"

mu·đúcv (\*m·a<u>·đúcv) "to be a practical joker" > mu·cađú·cv (\*m·a<u><c>·<a>đú·cv) "to be (two) practical jokers"

<sup>16</sup> And developed themes.

<sup>17</sup> For the rules governing the choice of infix <t> or <c>, see §38, footnote 16.

<sup>18</sup> -v after vowels and most consonants, -p after m and p.

Prefix-stem themes are conjugated for the distributive plural by infixation of <t> or <c><sup>17</sup> before the first consonant of the stem plus infixation of <u> before the consonant preceding the accented vowel of the stem, plus (optional) suffixation of a thematic suffix -v/-p;<sup>18</sup> the accented vowel of the stem is usually ablauted and a consonant increment -t or -c may be added to the stem. Four subtypes are thus found.

1) with neither vocalic ablaut nor consonantal increment

nʔi·ká·m (nʔi·\*k·á·m) "to conquer" > nʔi·kac·wámp (nʔi·\*k·<c><u>·á·m·p) "to conquer (many)"  
 xalʔqíc (\*x·alʔqíc) "to grab" > xaclʔu·qícv (\*x·a<c>ʔ<u>·qíc·v) "to grab (many)"

2) with consonantal increment only

tawé (\*t·awé) "to grind" > tatu·wécv (\*t·a<t><u>·wéc·v) "to grind (many)"

3) with vocalic ablaut only

tayúš (\*t·ayúš) "to cool" > tatu·yúšv (\*t·a<t><u>·yúš·v) "to cool (many)"  
 a·lʔʔí/é (\*a·alʔʔí/é) "to consider" > a·clʔu·ʔé·v (\*a·a<c>ʔ<u>·ʔé·v) "to consider (many)"  
 u·taraʔúy (\*u·t·raʔúy) "to prepare" > u·tataru·ʔó·yv (\*u·t·<t>ra<u>·ʔó·y·v) "to prepare (many)"

4) with both vocalic ablaut and consonantal increment

šamá (\*š·amá) "to dream" > šatu·mác·v (\*š·a<t><u>·mac·v) "to dream (many)"  
 casvé (\*c·asvé) "to wipe" > cacsu·ví·c (\*c·a<c>s<u>·ví·c) "to wipe (many)"  
 cakaná (\*c·kaná) "to decide" > cacku·ná·cv (\*c·<c>ka<u>·ná·c·v) "to decide (many)"  
 u·šá (\*u·ašá) "to sting" > u·cu·šá·tv (\*u·a<c><u>·šá·t·v) "to sting (many)"

§41. Plurals of themes indicating position.

Themes indicating position are of three types, simple-stem themes, themes with prefix v·, and themes with prefix t· or a· and medio-passive suffix. All three types are conjugated for the collective plural by prefixation of n· and for the distributive plural by prefixation of a· or a·k·, the latter two prefixes being used alternately in some cases.

With simple-stem themes, the prefixes n· and a·/a·k· are simply added to the theme.

acén "to descend," coll. plu. nacén, distr. plu. a·cén  
 xi·pán "to be near," coll. plu. naxi·pán, distr. plu. a·xi·pán

With themes with prefix v·, v· is replaced by the prefixes n· and a·/a·k·.

vakʔá·v "to walk around" coll. plu. nakʔá·v, distr. plu. a·kʔá·v or a·kakʔá·v

vakamé (\*v·kamé) "to stand on the edge," coll. pl. nakamé, distr. plu. a·kamé



With themes of the third type, the prefix *t-* or *a-* is replaced by the prefixes *n-* and *a-/a-k-* and the medio-passive suffix is dropped in the plural forms.

takamé·v (\*t·kamé·v) "to sit on the edge," coll. plu. nakamé', distr. plu. a·kamé'  
 al·a·x·wíl·v (al·\*a·ax·wíl·v) "to associate with someone," coll. plu. al·nax·wíl·v, distr.  
 plu. al·a·kax·wíl·v

#### §42. Plurals of reduced themes.

Reduced themes are usually conjugated for the plurals by conjugation of the auxiliary verb rather than of the theme.

lá·x a·í·m, "it flashes," lá·x a·í·ck "they two flash," lá·x u·ʔé·vək "they many flash"  
 manamán a·í·m "it goes up and down," manamán a·í·ck "they two go up and down,"  
 manamán u·ʔí·cək "they many etc."

Reduced forms of themes indicating position are, however, conjugated for the plurals, the auxiliary verb remaining singular.

va·dé· a·í·m "he steps aside," na·dé· a·í·m "they two step aside"  
 vaná·l·y a·í·m "he stands off," naná·l·y a·í·m "they two stand off," a·ná·l·y a·í·m "they  
 many stand off"

#### §43. Nonthematic prefixes of the verb.

The positional classes into which nonthematic prefixes of the verb fall have already been indicated in §27.

a) Prefixes of the first position are the pronominal prefixes and the imperative prefix. The subjective pronominal prefixes (zero—third person, *m-*—second person, and *ʔ-*—first person) and the imperative prefix *k-* indicate person but not number, number being indicated in the theme. The following forms of \*ayér "to fly" indicate the use of these prefixes.

	Singular	Coll. Plural	Distr. Plural
3 pr.	ayérək	ayá·rək	u·yá·rək
2 pr.	mayérək	mayá·rək	mu·yá·rək
1 pr.	ʔayérək	ʔayá·rək	ʔu·yá·rək
imper.	kayérək	kayá·rək	ku·yá·rək

Objective pronominal prefixes cannot be isolated as such. Instead there are pronominal prefixes in which both singular pronominal object and pronominal subject are indicated simultaneously. The following table shows the use of these prefixes with the theme \*ayú· "to see" and the present-past suffix *-k*.

Subject	Object (Singular)		
	1 pr.	2 pr.	3 pr.
1 pr.		n <sup>ʔ</sup> ·ayú·k	ʔ·ayú·k
2 pr.	ʔan <sup>ʔ</sup> m·ayú·k		m·ayú·k
3 pr.	n <sup>ʔ</sup> ·ayú·k	m·ayú·k	(zero-)ayú·k
imper.	ʔan <sup>ʔ</sup> k·ayú·k		k·ayú·k

An element n<sup>ʔ</sup>i· (>n<sup>ʔ</sup>i· before ʔ) is prefixed to the pronominal object-subject prefixes to indicate plural pronominal object.

Subject	Object (Plural)		
	1 pr.	2 pr.	3 pr.
1 pr.		n <sup>ʔ</sup> i·n <sup>ʔ</sup> ·ayu·k	n <sup>ʔ</sup> i·ʔ·ayú·k
2 pr.	n <sup>ʔ</sup> i·ʔan <sup>ʔ</sup> m·ayú·k		n <sup>ʔ</sup> i·m·ayú·k
3 pr.	n <sup>ʔ</sup> i·n <sup>ʔ</sup> ·ayú·k	n <sup>ʔ</sup> i·m·ayú·k	n <sup>ʔ</sup> i·yú·k
imper.	n <sup>ʔ</sup> i·ʔan <sup>ʔ</sup> k·ayú·k		n <sup>ʔ</sup> i·k·ayú·k

b) The second prefix position is occupied by the conditional prefix n<sup>ʔ</sup>a· (>n<sup>ʔ</sup>a· before ʔ), indicating true to fact condition.

n<sup>ʔ</sup>a·rúvəm (“when-it-was-dry”) a·k<sup>ʔ</sup>étk (“he-cuts-it”) a·dáwk (“he-takes-it”), “When it was dry, he cut a piece off and took it.”

ʔan<sup>ʔ</sup>ʔi·pá (“my-arrow”) n<sup>ʔ</sup>a·ʔak<sup>ʔ</sup>émək (“when-I-shoot”) u·rá·vtəxa (“there-will-be-lightning”), “When I shoot my arrow, lightning will flash.”

c) The third prefix position is occupied by prefixes of locative meaning.

al<sup>ʔ</sup>· “in, into, onto, away”

ʔak<sup>ʔ</sup>i·śá (“shade”) xal<sup>ʔ</sup>k<sup>ʔ</sup>wá·k (“he-seeks”) al<sup>ʔ</sup>apá·m (“he-lies-down-in”) al<sup>ʔ</sup>a·dík (“he-is-(lying)-in”), “He sought out a shady place and lay down in it.”

al<sup>ʔ</sup>ka·páxmək, “Throw it away!”

vi· (>vi· before ʔ) “here, nearby, in this direction”

vi·dím (“it-coming-here”) ayú·k (“he-sees”), “He sees it coming.”

ʔa·í·mək (“I-do-regardless”) vi·ayá·txa (“I-here-will-go”), “Nevertheless I will go on.”

si· (>si· before ʔ) “there, in that direction”

ʔamát (“land”) ʔamé·c (“high”) si·wáwum (“it-might-be-situated-there”), “There might be high land there.”

si·kavák, “Stay there!”

n<sup>ʔ</sup>ik· (<n<sup>ʔ</sup>i· plus locative case suffix ·k?) “on that side, from there”

nʷikcacénək “he brings it down on that side”

nʷikaδí:k “he comes from there”

The prefixes *alʷ-* and *nʷi-* occur also as adhering prefixes.

*alʷapám* (<theme *alʷ·\*apá*) “he makes a mistake”

*nʷi·tí:šk* (<theme *nʷi·\*atí·š*) “he deceives him”

*alʷnʷi·δú:ck* (<theme *alʷ·nʷi·\*aδú:c*) “he thinks”

d) The fourth prefix position is occupied by 1) substantive prefixes and 2) a group of prefixes found only as adhering prefixes.

Typical substantive prefixes are:

*ʔac-* “things, objects”

*ʔacʷakaná·vək* “I tell about things”

*ʔacnʷa·matapúyk* “if you kill things”

*ʔack-* (<*ʔac-* plus locative *-k*) “at places”

*ʔackamu·vá·xa* “You will stay at (different) places”

*nʷam-* (<*nʷ-* “that?” plus ablative *-m*) “thereby”

*nʷama·ckʷé:k* “He guides him with it.”

*maʃ-* or *ma·ʃ-* (cf. *i·má·ʃ* “body”) reflexive and reciprocal

*maʃu·pó:yk* “He pretends to be dead” (lit. “he causes himself to die”)

*ma·ʃá:yk* “They give to each other.”

*av-* “whatever”

*avawí:m* “What (ever) he does.”

*avʷámək* “Wherever I pass by.”

*ka-* “what?, anything”

*kaʷaδóxa* (“I-shall-do-what”) *ʷašmaδí:k* (“I-do-not-know”) “I don’t know what I shall do.”

Typical adhering prefixes are:

*δo-* (cf. *i·δó* “eye”)

*δó·tárək* (<theme *δo·\*atár*) “he is blind”

*δonʷamé:k* (<theme *δo·\*nʷamé:*) “he is dizzy”

*wa-* (cf. *i·wá:* “heart”)

*wakaʷi·páyk* (<theme *wa·\*ʷi·páy*) “be lively!”

*wanʷašqʷí:ck* (<theme *wa·\*ašqʷé*) “they two dislike me”

*walʷ-* (coupled with privative thematic suffix *-ma*)

See §35f.

*wi-*

*wi·anʷmu·vsó:yk* (<theme *wi·\*u·avsó·y*) “you curse me”

*wi·a·vkʷáwk* (<theme *wi·\*a·avkʷáw*) “he calls him his paternal half-sibling”

§44. Nonthematic suffixes of the verb.

The five positions in which nonthematic affixes of the verb occur are outlined in §27.

a) Suffixes of the first position are aspective in meaning. Of those cited below,

assertive *-t* is not normally predicative and is usually followed by a predicative suffix; the others are predicative and are never followed by another suffix.

*-t* assertive. The verb form with assertive *-t* is used in answer to a question, in emphasizing the truth of an assertion, and in conveying information previously unknown.

acéntaʔa "He did descend"

maséctaxa "They will (surely) name you."

*-tum* (following an accented vowel) / *-tium* (following a consonant or ə) usitative; the interrogative forms of this suffix are *-túm* and *-tíyúm*.

amátum "He always (usually) eats."

ʔalʔaqʔáqtíyúm "Is it always bitter?"

*-tʔa* (following an accented vowel) / *-tiya* (following a consonant or ə). The verb form with *-tʔa*/*-tiya* indicates completed action or that which is obviously, naturally, or universally so.

ʔaváʔmtək ("I arrive") ʔadútʔa ("I did-so"), "I have arrived."

xalʔáytiya "There is (normally) moonlight."

b) Suffixes of the second position are aspective in meaning. They are never predicative but must be followed by another suffix or an auxiliary verb.

*-nti* "again"

ʔakanáʔvənti ʔaʔíʔm "I am going to tell of it again."

ʔawétəntixa "I will do it again."

*-apat* / *-nʔpat* "oneself, in turn, also"

mawépataxa "you in turn will do so"

ʔamaʔwíʔtənʔpatk "we also call him kin"

*-nʔ* "until now"

viʔuʔnóʔnʔk ("we-are-engaged-in-doing-until-now") ʔanʔuʔpáyk ("we-are-depleted"),

"We have gone on in this way until now we are depleted."

*-xay* "still, no sooner than"

viʔuʔnóʔxayk "I am still engaged in doing so"

saví ("there") apáʔxayk ("he-no-sooner-arrives") amíʔm ("he weeps"), "No sooner did he arrive there than he wept."

c) Suffixes of the third position are of tense or tense-modal meaning. All are predicative. Present-past *-k* and future *-xa* may be followed by other suffixes.

*-k* present-past

atápk "He throws, threw it."

kawíntik "Do it again!"

*-ʔm* present-past. This suffix is used to the exclusion of *-k* with all themes having stems ending in final *-ú/ó* or *-í/é* and with some themes having stems ending in final *-á* or *-é*, provided that no other suffix, thematic or nonthematic, occurs be-

tween the stem and the present-past suffix. The following table indicates the treatment of such themes in the singular and collective plural forms with present-past, hortatory, and future suffixes and zero- third person pronominal prefix.

	Theme	Present-past	Hortatory	Future
sing. c. plu.	amá "to eat" amá·c	amá·m amáck	amáwú amá·cú	amáxa amá·cxa
sing. c. plu.	ašmá "to sleep" u·ašmá	ašmá·m u·šmá·m	ašmáwú u·šmáwú	ašmáxa u·šmá·cxa
sing. c. plu.	akʷé "to shoot" akʷé·c	akʷá·m akʷéck	akʷá·wú akʷé·cú	akʷéxa akʷé·cxa
sing. c. plu.	c·amí/é "to place" c·amí·c	camí·m camíck	camíyú camí·cú	caméxa camí·cxa
sing. c. plu.	aštú/ó "to gather" aštú·c	aštú·m aštúck	aštúwú aštú·cú	aštóxa aštú·cxa

-xa future

maʔávæctæxa "You two will hear."

apúyxaʔa "He would die."

-ú (following single consonants and, with an intervening w- or y-glide (see §10b), vowels) /-iyú (following consonant clusters and strengthened consonants) hortatory

ʔaʔávú "Let me hear!"

atáqšiyú "Let him jump!"

-um (following single consonants and, with an intervening w- or y-glide (see §10b), vowels) /-iyum (following consonant clusters and strengthened consonants) future possible. The interrogative forms of this suffix are -ú·m/-iyú·m.

ʔalá·yum "He might be bad."

walʔašémíyú·m "Would I not name it?"

-ám interrogative. This suffix is used only with verbs in the first and third persons. The present-past form of the verb is used with interrogative meaning in the second person.

nʔi·mu·má·yám "Did he feed ye?"

kaʔaʔétám "What did I say?"

-m subordinating. The following sentence illustrates the uses of the subordinate verb form.

vi:yá:k (“he-goes-along”) ayú:m (“he-seeing-it”) xa:sa’ílʷ (“sea”) atók (“from-the-middle”) acpákəm (“it-coming-out”) ayú:k (“he-sees”), ayú:m (“he-seeing-it”) axávək (“it-goes-in”) acpákəntik (“it comes-out-again”) lá:x a’étk (“it-flashes”) axávəm (“it-going-in”) ayú:’ (“he-sees”), “As he went on he saw (something) come out from the midst of the sea: looking at it, he saw that it went in (to the water), came out again, flashed, and went in.”

d) Suffixes of the fourth position are modal in meaning. All are predicative and may be preceded by other (predicative or nonpredicative) suffixes.

·ʔaš evidential

ʔawétʔaš “I did it.”

kamétəntiʔaš “He brought it again.”

·lʷa optative

ʔayó·vlʷa “We would like to see.”

kamaʔéxalʷa “What would you say?”

·va “perhaps”

nʷa·dú·va “perhaps it is so”

ʔayémxava “perhaps I will go away”

·as dubitative. Translatable as “although . . .” or “if (contrary to fact) . . .”

avʔá:kas “if it were to walk”

nʷašéxas “although I will name you”

·nka / ·mka interrogative

ti·nʷá·mənka “Is it dark?”

maʔéxamka “Will you say?”

e) Suffixes of the fifth position have a syntactic rather than a semantic function. For example:

·a/·aʔa end of phrase.

nʷavánʷ (“his-house”) ayú:k (“he-sees”) aʔétk (“he-says”) kaná·vtaʔa (“he-told-of-it”), “He saw his house, and so he told of it.”

§45. Derivation of noun themes from verb themes.

As noted previously (§17) any verb theme may be used in unaltered form as a noun theme. There are also certain specific grammatical methods by which verbal abstracts may be formed. Of these, the three most important are the adaptive, the definite, and the gerund.

a) The adaptive is formed from the singular verb theme by infixation of <a> before the consonant immediately preceding the accented vowel of the stem plus ablaut of the accented vowel. In some cases the stem is concurrently modified by addition of a consonantal increment ·c. The resulting noun theme has the meaning “that which is capable of, worthy of, fit for doing . . . or having . . . done to it.”

axér “to tie” >a·xír (\*a<a>xír) “rope”

takanáy “to stop overnight” > taka.ná.y (\*t-ka<a> ná.y) “a stopping place”  
 amá “to eat” > a.má.c (\*a<a> má.c) “food, that which is edible”

b) The definite is formed by prefixation of the definite prefix  $k^w$  to the theme either in the singular or any of the plural forms.

apúy “to die (sing.)” >  $k^w$ apúy “the dead one”

u.xacmé.y (distr. obj. form of \*u.x.amí “to procreate”) >  $k^w$ u.xacmé.y “the procreator”

kacu.náv (distr. plu. form of \*k.aná.v “to tell”) >  $k^w$ akcu.návənʔc “those who tell”

The nominal series of referential pronominal prefixes is used with the definite verbal abstract. Verbal nonthematic prefixes and suffixes may also occur as part of the noun theme, the non-thematic prefixes preceding the referential pronoun.

vi.k<sup>w</sup>aδíkva “this one that lies here” < noun theme \*vi.k<sup>w</sup>aδík < verb theme \*aδík “to be lying” plus verbal nonthematic affix vi· “here” and definite  $k^w$ .

avʔan<sup>w</sup>k<sup>w</sup>ámənʔc “I who pass by any places” < noun theme \*avk<sup>w</sup>ám < verb theme \*ám “to pass by” plus verbal nonthematic prefix av· “whatever” and definite  $k^w$ .

ma.k<sup>w</sup>u.váxəc “you who will remain here” < noun theme \*k<sup>w</sup>u.váxa < verb theme \*u.vá “to remain” plus verbal nonthematic suffix -xa future and definite  $k^w$ .

c) The gerund is formed from the verb theme in any person or number by infixation of <u> before the consonant immediately preceding the accented vowel of the stem (see §10c). In some cases the stem is concurrently modified by addition of a consonantal increment -c. As with the definite, verbal nonthematic affixes may become part of the noun theme. The gerund usually occurs with the demonstrative nominal nonthematic suffix -nʔ.

The meaning of the gerund is approximately that of English verbal abstracts in -tion; e.g., u.céwənʔ “his creation” (< \*acéw “to create”) means either “his act of creation” or “that which he has created.”

The following examples illustrate the formation of the gerund.

\*á.r “to desire” < u.wárənʔ (\* <u> á.r + nʔ) “his desire”

\*á.rc (coll. plu.) > u.wárcənʔ (\* <u> á.r.c + nʔ)

\*u.wárv (distr. plu.) > u.wárvənʔ (\* <u> <u> á.r.v + nʔ)

\*amán “to arise” > u.mánənʔ (\*a <u> mán + nʔ) “his arising”

\*amá.n (coll. plu.) > u.má.nənʔ (\*a <u> má.n + nʔ)

\*u.má.nv (distr. plu.) > u.má.nvənʔ (\*a <u> <u> má.n.v + nʔ)

\*ašmá “to sleep” > šu.mácənʔ (\*aš <u> mác + nʔ) (see §11a) “his sleeping”

\*u.šmá (coll. plu.) > u.š.mácənʔ (\*u.aš <u> mác + nʔ)

\*a.šmác (distr. plu.) > a.š.mácənʔ (\*a.aš <u> mác + nʔ)

\*aʔí/é “to say” > u.ʔícənʔ (\*a <u> ʔíc + nʔ) “his saying”

\*aʔíc (coll. plu.) > u.ʔícənʔ (\*a <u> ʔíc.c + nʔ)

\*u.ʔí.cv (distr. plu.) > u.ʔí.cvənʔ (\*a <u> <u> ʔí.c.v + nʔ)

Cf. however:

\*aʔé-xa "to say (future)" > uʔéxənʔ (\*a<u>ʔé-xa + nʔ) "his future saying, what he will say"

\*aʔíc-xa (coll. plu.) <uʔícxənʔ (\*a<u>ʔíc-xa + nʔ)

\*uʔícvə-xa (distr. plu.) > uʔícvəxənʔ (\*a<u><u>ʔícv-xa + nʔ)

The formation of the gerund from themes in the distributive object form is irregular in some cases. When the distributive object infix <c/t> occurs following a short vowel and preceding the consonant which precedes the accented vowel of the stem, the gerund infix <u> precedes the infix <c/t>.

\*tađáp "to split" > tuđápənʔ (\*t-a<u>đáp + nʔ) "his splitting," "that which he has split"

\*tatđá-p (distr. obj.) > tu-tđá-pənʔ (\*t-a<u><t>đá-p + nʔ)

\*tatuđá-p (distr. plu.) > tatuđá-pənʔ (\*t-a<t><u>đá-p + nʔ)

When the vowel preceding the infix <c/t> is long, or when the infix <c/t> falls in some other position than that regularly occupied by the gerund infix <u>, the gerund of the distributive object theme is formed regularly.

\*ađáp "to make an incision" > a-wađápənʔ (\*a·a<u>đáp + nʔ) "his incising of it"

\*a·cđá-p (distr. obj.) > a·cuđá-pənʔ (\*a·a<c><u>đá-p + nʔ)

\*a·cuđá-p (distr. plu.) > a·cuđá-pənʔ (\*a·a<c><u>đá-p + nʔ)

\*a·lʔák "to befriend" > a·lʔuʔákənʔ (\*a·alʔ<u>ʔák + nʔ) "the one has he befriended"

\*a·calʔák (distr. obj.) > a·clʔuʔákənʔ (\*a·a<c>lʔ<u>ʔák + nʔ)

\*a·clʔuʔák (distr. plu.) > a·clʔuʔákənʔ (\*a·a<c>lʔ<u><u>ʔák + nʔ)

\*šakavér "to overpower" > šakuvérənʔ (\*š-ka<u>vér + nʔ) "his overpowering of him"

\*šatkavír (distr. obj.) > šatkuvírənʔ (\*š-<t>ka<u>vír + nʔ)

\*šatkuvír (distr. plu.) > šatkuvírənʔ (\*š-<t>ka<u><u>vír + nʔ)

## SUMMARY

Since the primary interest of this paper has been in sketching the salient morphological features of Yuma, practically no material has been presented to show the ways in which words are combined into larger predicative constructions. A discussion of syntax would have had to deal with situations too complicated for adequate presentation within the limits of space.

If any one morphological feature may be said to be basic, I should say that in Yuma it is the sharp distinction of nouns and noun themes from verbs and verb themes. This distinction is based not only on the difference in syntactical use of the two word classes, but also on the relative simplicity and immutability of the noun theme in contrast to the verb theme and the existence of definite techniques for the deriving of noun themes from verb themes and vice versa. The distinction between verb and noun states a configuration; other morphological features fill in the details. The verb conveys most of the nuances of meaning and most of the indication of relations, both grammatical and notional. The primary function of the noun is to supply relatively simple referential content.