SUMMER INSTITUTE OF LINGUISTICS PUBLICATIONS
IN
LINGUISTICS AND RELATED FIELDS

PUBLICATION NUMBER 19

EDITOR

Dow F. Robinson

EDITORIAL COMMITTEE

AZTEC STUDIES

I

Phonological and Grammatical Studies in Modern Nahuatl Dialects

WITH ARTICLES BY:

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EDITOR'S NOTE

It has been almost two years since we first approached the S. I. L. field workers whose articles are represented here and suggested that we cooperate in the preparation and publication of phonological and grammatical studies in Nahuatl dialects currently spoken in Mexico. Their articles represent four of the seven Nahuatl dialects in which S. I. L. workers are currently working.

Tentative conclusions from the dialect testing teams now engaged in measuring degree of intelligibility between Nahuatl dialects suggest that we must deal seriously with almost a dozen mutually unintelligible Nahuatl areas of speech. Dialects definition is an obvious necessity if S. I. L. is to accomplish its goals of literacy materials and Bible translation for indigenous peoples. The structural justification, however, for such dialect definition is not to be found exclusively in the testing devices for measuring intelligibility; rather, it is this set of descriptive articles, with others to follow in subsequent volumes, which will provide the phonological and grammatical clues for differentiating modern Nahuatl dialects.

A second and related purpose for publishing sets of articles on related dialects of one language family is to provide the raw materials for a pan-Nahuatl grammar based on "competence," not simply on "preformance." (Chomsky, 1965).

Wolgemuth's study, with its heavy reliance upon phonetic detail, presents the bare outline for what may prove to be the crucial factor in defining phonological differences among Nahuatl dialects, i.e., a laryngeal phonemena manifested as glottal action, vowel length, voicelessness, and the phoneme /h/. Robinson's article sets forth an analysis of phonological levels in Nahuat, using Pike's tagememic model of 1955. Each level of the "phonological hierarchy" is defined in terms of a different prosodic feature. Brewer's study of Tetelcingo Nahuatl, perhaps the most divergent of Nahuatl dialects from the viewpoint of testing intelligibility, is an inventory of verb and noun morphemes and constructions, emphasizing co-occurrence restrictions. The final article by Robinson and Sischo on Michoacán Nahual is especially useful because of the sparsity of data available of the so-called "-l" dialect of Nahuatl, i.e., the /l/ corresponds to the /tl/ in other Nahuatl dialects. The underlying grammatical structure shows surprisingly little difference with that of Puebla (Robinson, 1966) and southern Veracruz (Law, 1966). Our thanks to each field worker who cooperated in making this volume a reality.

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Dow F. Robinson
Tlalpan, Mexico
April, 1969.

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References cited in Editor's Note:

Chomsky, Noam. Aspects of the Theory of Syntax. 1965.
Law, Howard. Obligatory Construction of Isthmus Nahuat Grammar, 1966.
Pike, Kenneth L. Language in Relation to a Unified Theory of the Structure of Human Behavior, 1955.
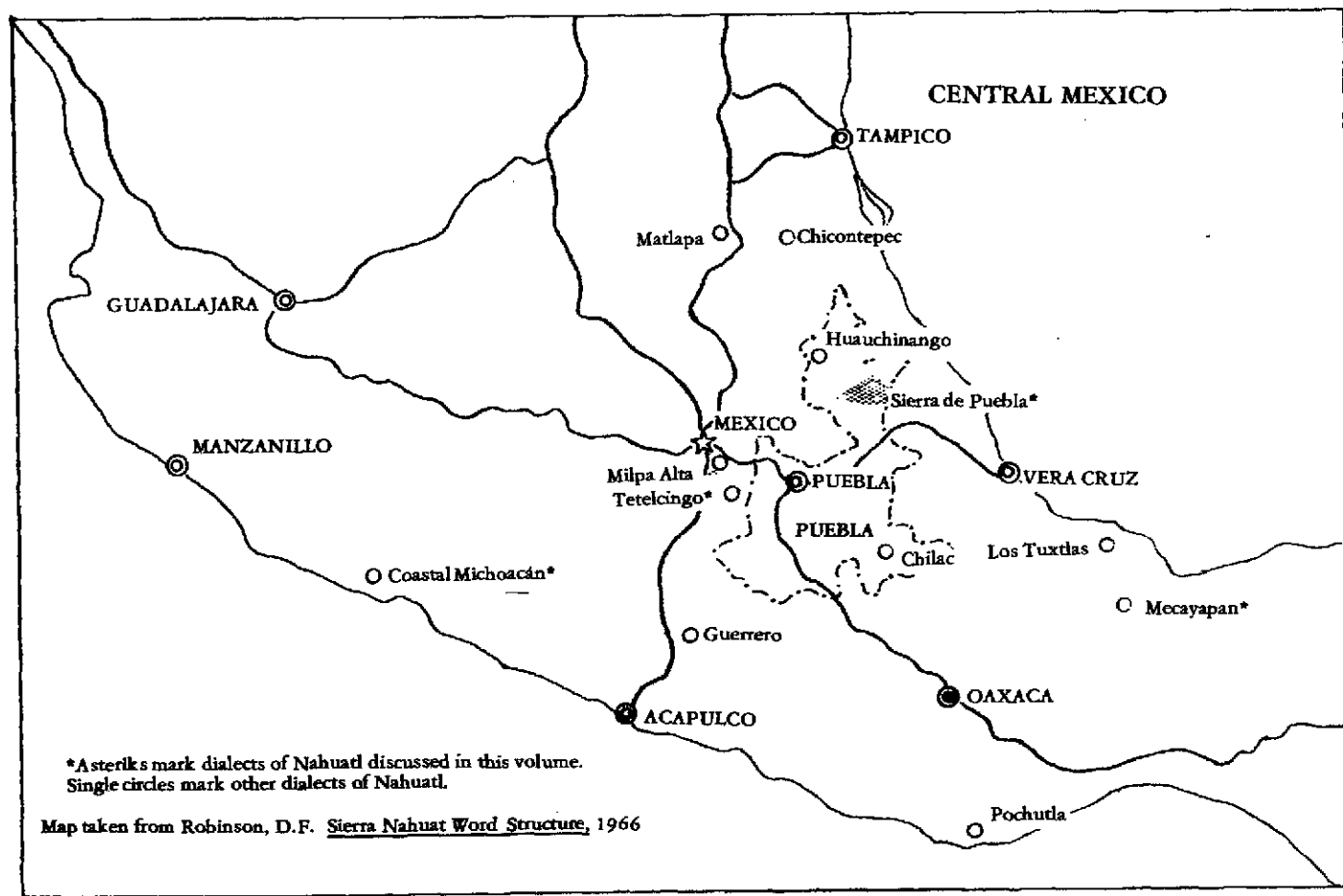Robinson, Dow F. Sierra Nahuat Word Structure, 1966.

CENTRAL MEXICO

TAMPICO

Matlapa ○ ○Chicontepec

GUADALAJARA ◎

Huauchinango
○

Sierra de Puebla*

MANZANILLO ◎

MEXICO ☆

Milpa Alta ◎
Tetelcingo* ○ ◎PUEBLA ◎VERA CRUZ

PUEBLA

Chilac ○ Los Tuxtlas ○

○ Coastal Michoacán*

○ Mecayapan*

○ Guerrero

ACAPULCO ◉ ◉OAXACA

*Asteriks mark dialects of Nahuatl discussed in this volume.
Single circles mark other dialects of Nahuatl.

Map taken from Robinson, D.F. Sierra Nahuat Word Structure, 1966

Pochutla
○

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III. MORELOS (TETELCINGO) NAHUATL
VERB STEM CONSTRUCTIONS

Forrest Brewer

0. A recent monograph[1] describes briefly the grammar of the Tetelcingo Nahuatl dialect but does not include a description of stem structure. This paper presents a preliminary description of such structure for verbs.

A study[2] of nearly 1400 Nahuatl verb stems shows more than one-third of them to be single roots (monomorphemic),[3] approximately one-seventh to be root plus verbalizer), and one-fifth to be particle root plus verb root.

A root is defined as a monomorphemic member of an open-end major morpheme class. A stem is defined as either a root or a ploymorphemic member of an open-end major morpheme class. V indicates a verb root, N indicates a noun root, L indicates a locative root, and P indicates a particle root. Vs, Ns, Ls, Ps indicate a verb stem, noun stem, locative stem, and particle stem, respectively.

Major stem classes for Tetelcingo Nahuatl are four in number: verbs, nouns, locatives, and particles. The formal features which distinguish these classes structurally are discussed below[4]. (See 2.)

1.1 The morphemic composition of verb stems is of the following types:

1) a single V root, as -saka 'carry' in the sequence (173 + V), ki-saka 'he carries it'; or as koči 'sleep' which may occur as a verb without affixes in which case the actor is third person and the tense is present, (V) koči 'he sleeps'.

2) root plus affixes:

N + 721, k^Waw- 'stick' + -wi 'verbalizer' (>-k^Wahwi 'beat with a stick'), as in the sequence (173 + Va + 231) ki-k^Wahwi-a 'he beats him with a stick'; or

V + 722, wiksi 'cook' + -ti 'transitivizer' (>-wikšiti 'cook'), as in the sequence (173 + Vs + 231), ki-wikšiti-a 'she cooks it'; or

724 + V C_1V_1- 'reduplication stem formative' + -k^Wa 'eat' (>-k^Wak^{W}a 'chew'), as in the sequence (173 + Va), ki-k^Wak^{W}a 'he chews it'.

3) two or more roots:

V + V koči 'sleep' + -ihta 'see' (>-kočihta 'see in one's sleep'), as in the sequence (173 + Vs) ki-kočihta 'he dreams it'; or

N + V tla:l- 'dirt' + aki 'enter', as in the sequence (173 + Vs + 231), ki-tla:laki-a 'he sticks it in the ground'; or

P + V, -ci:n 'bottom' + -teki 'cut', as in the sequence (173 + Va), ki-ci:
nteki 'he cuts it at the base'; or

P + P + V, a:- 'water' + i:hyo:- 'breath', 'air' + miki 'die', as in the se-
quence (Va), a:i:hyo:miki 'he drowns'.

4) two or more roots plus affixes:

P + V + 722, yek- 'well' + wiksi 'cook' + -ti 'transitivizer' (> -yekwikšiti
'cook well-done', as in the sequence (173 + Vs + 231), ki-yekwikšiti-a 'she cooks it
well-done'; or

P + 111 + V, i:š- 'eye' + C_1V_1h- 'reduplication' + -kaya:wa 'deceive' (>
-i:škahkaya:wa 'deceive'), as in the sequence (173 + Va), k-i:škahkaya:wa 'he de-
ceives him'; or

P + 111 + P + 721, ci:n- 'bottom' + C_1V_1h- 'reduplication' + tlaškal- 'tor-
tilla' + -o 'verbalizer' (> -ci:ntlahtlaškalo 'apank'), as in the sequence (173 + Va +
231), ki-ci:ntlahtlaškalo-a 'he spanks him'.

5) two or more roots plus a connective:

V + 725 + V, tlaciwi 'be lazy' + -ka: 'stem formative' + -ma:wa 'infect'
(> -tlacihka:ma:wa 'infect with laziness'), as in the sequence (173 + Vs), ki-tlacihka:
ma:wa 'he influences him to be lazy'; or

V + 725 + P + V, mawi 'fear' + -ka: 'stem formative' + yek- 'well' + -a:na
'grab' (> -mahka:yeka:na 'flee in fear'), as in the sequence (173 + Vs), ki-mahka:
yeka:na 'he flees in fear from him'.

1.2 There are a number of single-root stems that terminate in -ni or -na, -wi or
-wa. These final syllables are not regarded as morphemes for this dialect since
their function is ambiguous and uncertain.

The simple stem containing the syllable -ni may be intransitive, for example,
(V) k^{w}ala:ni 'he gets angry'; it may be both transitive and intransitive, for example,
(V) cili:ni 'it rings' and (173 + V + 231) ki-cili:ni-s 'he rings it', 'he makes it ring'.

The simple stem containing the syllable -na may be intransitive, for example,
(V) tena 'he groans'; it may be transitive, for example, (173 + V) ki-mana 'she pats
it' (tortilla).

The simple stem containing the syllable -wi may be intransitive, for example,
(V) siyawi 'he tires', 'he gets tired'; it may be transitive, for example, (173 + V +
231) ki-pale:wi-a 'he helps him'; it may be both transitive and intransitive, for
example, se:wi 'it goes out' (fire) and (173 + V + 231) ki-se:wi-a 'he extinguishes
it' (fire).

The simple stem containing the syllable -wa may be intransitive, for example,
(V) se:wa 'it is cold'; it may be transitive, for example, (173 + V) ki-te:ne:wa 'he
mentions him'; it may be both transitive and intransitive, for example, (V) pi:na:
wa 'he is embarrassed' and (173 + V) ki-pi:na:wa 'he embarrasses him'.

There are a few instances, however, where -ni contrasts with -na and -wi with
-wa. Examples: (V) caya:ni 'it splits', (173 + V) ki-caya:na 'he splits it';(V) koto:
ni 'it rips', (173 + V) ki-koto:na 'he rips it; (V) toma:wi 'it gets fat', (173 + V) ki-
toma:wa 'he fattens it'; (V) ši:pe:wi 'it peels', 'he divests', (173 + V) ki-ši:pe:wa
'he peels it', 'he divests him'.

Some single-root stems which contain -wi as the intransitive form of the verb,
e.g. tepi:cawi 'it hardens', have the transitive form as follows, (173 + V + 231)

ki-tepi:co-a 'he hardens it'. Further examples: (V) poliwi 'it is lost', 'it gets lost', (173 + V + 231) ki-polo-a 'he loses it'; (V) patlačiwi 'it gets covered', (173 + V + 231) ki-patlačo-a 'he covers it'.

There are 528 examples of single-root stems.

1.3 The combinations of components that comprise verb stems occur in the following sequence patterns:

1) (Root or stem) + 721 'verbalizer', or root + root + 721 'verbalizer', or Spanish infinitive + 721 'verbalizer'

2) (Root or stem) + 722 'transitivizer', or root + (root or stem) + 722 'transitivizer, or root + 721 'verbalizer' + 722 'transitivizer'.

3) (Root or stem) + 723 'causative'

4) 724 'reduplication' + (root or stem), or 724 'reduplication' + root + 721 'verbalizer'

5) 726 'stem formative' + (root or stem)

6) 121 'unspecified goal' + (root or stem), or 121 'unspecified goal' + root + root, or 121 'unspecified goal' + root + root + root

7) 121 'unspecified goal' + (root or stem) + 211 'second goal', or root + root + 211 'second goal'

8) (Root or stem) + (root or stem)

9) Root + root + (root or stem)

10) Root + 725 'stem formative' + (root or stem)

1.3.1 (Root or stem) + 721 'verbalizer', or root + root + 721 'verbalizer', or Spanish infinitive + 721 'verbalizer'

L + 721, -teč 'beside', 'against' + -ti 'verbalizer', as in the sequence (132 + Va + 231), mo-tečti-a 'he makes it his own'. This is the only example of this combination.

N + 721, kapoc- 'black' + -e:wi 'verbalizer', as in the sequence (Va), kapoce:wi 'it gets black'. Or, pah- 'medicine' + -wi 'verbalizer', as in the sequence (173 + Va + 231), ki-pahwi-a 'he fumigates it'. There are 40 examples of this combination.

P + 721, tlakin- 'clothing' + -ti 'verbalizer', as in the sequence (173 + Va + 231), ki-tlakinti-a 'he dresses him'. Or, a:- 'water' + -ti 'verbalizer', as in the sequence (Va + 231), a:ti-a 'it melts'. There are 38 examples of this combination.

La + 721, -yo:lipa 'in the heart' [< N + L yo:loh- 'heart' + -pan 'place'] + -ti 'verbalizer', as in the sequence (173 + Vs + 231), ki-yo:lipanti-a 'he heralds it'. Or, i:špa 'in front of', 'in the presence of' [< P + L i:š- 'eye' -pan 'place'] + ti 'verbalizer', as in the sequence '173 + Vs + 231), k-i:španti-a 'he reveals it'. Or, -ma:k 'in the hand' [< P + 731, -ma: 'hand' + -k 'place of'] + -ti 'verbalizer', as in the sequence '173 + Vs + 231), ki-ma:kti-a 'he delivers it to him'. These three are the only examples of this combination.

Ns + 721, tlakᵂal- 'food' [< 121 + V + 713, tla- 'unspecified goal' + -kᵂa 'eat' + -1 'nominalizer'] + -ti 'verbalizer', as in the sequence (173 + Vs + 231), ki-tlakᵂalti-a 'she feeds him'. This is the only example of this combination.

P + N + 721 pil- 'child' + a:wil- 'toy' + -ti 'verbalizer', as in the sequence (Vs + 231), pila:wilti-a 'he plays with the child', 'he baby sits'. This is the only example of this combination.

P + P + 721 i:š- 'eye' + teneš- 'lime' + -e:wi 'verbalizer', as in the sequence (Vs), i:šteneše:wi 'he has a cataract'. Or, i:š- 'eye' + a:- 'water' + -wi 'verba-

lizer', as in the sequence (173 + Vs + 231), k-i:ša:wi-a 'he washes his face'. There are six examples of this combination.

P + P + P + 721, kʷa:- 'head' + con- 'hair' + a:- 'water' + -wi 'verbalizer', as in the sequence (132 + Vs + 231) mo-kʷa:cona:wi-a 'he washes his own head with water'. This is the only example of this combination.

Spanish infinitive + 721, pensar 'to think' + -o 'verbalizer' (> -pensa:ro 'think'), as in the sequence (173 + Vs + 231), ki-pensa:ro-a 'he thinks it'. Or, recibir 'to receive' + -o verbalizer, as in the sequence (173 + Vs + 231), ki-resibiro-a 'he receives it'. Or, merecer 'to merit' + -o 'verbalizer' (> -meresiero 'merit'), as in the sequence (173 + V + 231), ki-meresiero-a 'he merits it'. Or, costar 'to cost' + -ewi 'verbalizer', as in the sequence (Vs), costa:rewi 'it costs' (such and such amount). Or, servir 'to serve' + -ewi 'verbalizer', as in the sequence (Vs), serfire-wi 'it is useful', 'it will serve'. Or, valer 'to be worth' + -ewi 'verbalizer', as in the sequence (Vs), vale:rewi 'it's worth' (such and such amount). There are 102 examples of this combination. There are more examples that could be included for Nahuatl speakers who have more contact with the Spanish language.

1.3.2 (Root or stem) + 722 'transitivizer', or root + (root or stem) + 722 'transitivizer', or root + 721 'verbalizer' + 722 'transitivizer' V + 722, či:či: 'suck' (nurse) + -ti 'transitivizer', as in the sequence (173 + Vs + 231), ki-či:či:ti-a 'she suckles him'. Or, pala:ni 'rot' + -lti 'transitivizer', as in the sequence (173 + Vs + 231), ki-pala:nalti-a 'it rots it'. There are 45 examples of this combination.

Vs + 722, tla:lo- 'get dirty' [< N + 721, tla:l- 'dirt' + -o 'verbalizer'] + -:ti[4] 'transitivizer', as in the sequence (173 + Vs + 231), ki-tla:lo:ti-a 'he gets him dirty'. There are five examples of this combination.

P + V + 722, yek- 'well' + wiksi 'cook' + -ti 'transitivizer', as in the sequence (173 + Vs + 231), ki-yekwikšiti-a 'she cooks it well-done'. Or, yek- 'well' + te:mi 'fill' + -li 'transitivizer', as in the sequence (173 + Vs + 231), ki-yekte:mili-a 'he fills it full'. These two are the only examples of this combination.

P + Vs + 722, tepos- 'iron' + tla:lo- 'get dirty' [< N + 721, tla:l- 'dirt' + -o 'verbalizer'] + -:lti 'transitivizer', as in the sequence (173 + Vs + 231), ki-tepostla:lo:lti-a 'it rusts it'. This is the only example of this combination.

N + 721 + 722, či:l- 'hot pepper' + -o 'verbalizer' + -:ti 'transitivizer', as in the sequence (173 + Vs + 231), ki-či:lo:ti-a 'she seasons it with hot pepper'. Or, kal- 'house' + -o verbalizer + -:ti 'transitivizer', as in the sequence (173 + Vs + 231), ki-kalo:ti-a 'he lodges him'. These two are the only examples of this combination.

P + 721 + 722, i:š- 'eye' + -o 'verbalizer' + -:ti 'transitivizer', as in the sequence (173 + Vs + 231), k-i:šo:ti-a 'he takes care of him', 'he keeps an eye on him'. Or, tlapal- 'dye' + -o 'verbalizer' + -:ti 'transitivizer', as in the sequence (173 + Vs + 231), ki-tlapalo:ti-a 'she dyes it'. These two are the only examples of this combination.

1.3.3 (Root or stem) + 723 'causative'.

V + 723, -či:wa 'do', 'make' + -lti 'causative', as in the sequence (173 + Vs + 231), ki-či:walti-a 'he makes him do it'. Or, -tolo 'swallow' + -:lti 'causative', as in the sequence (173 + Vs + 231), ki-tolo:lti-a 'he makes him swallow it'. There are 15 examples of this combination.

Vs + 723, -tlapolo 'lose things' [< 121 + V, tla- 'unspecified goal' + -polo 'lose']

+ -:lti 'causative', as in the sequence (173 + Vs + 231), ki-tlapolo:lti-a 'he errs, he makes a mistake'. Or, -tlana:miki 'meet things' [< 121 + V, tla- 'unspecified goal' + -na:miki 'meet'] + -ti 'causative', as in the sequence (132 + Vs + 231), mo-tlana: mikti-a 'he puts the pieces together' (e.g. of the broken griddle). Or, -tlalna:miki 'remember things' [< 121 + V, tla- 'unspecified goal' + -ilna:miki 'remember'] + -ti 'causative', as in the sequence (173 + Vs + 231), ki-tlalna:mikti-a 'he reminds him'. These three are the only examples of this combination.

1.3.4 724 'reduplication' + (root or stem), or 724 'reduplication' + root + 721 'verbalizer' 724 + V, C_1V:$_1$- 'reduplication' + -no:ca 'call' [> -no:no:ca 'converse'], as in the sequence (173 + Vs), ki-no:no:ca 'he talks to him'. Or, C_1V_1h- 'reduplication' + -no:ca 'call' [>-nohno:ca 'negotiate marriage'], as in the sequence (173 + Vs), ki-nohno:ca 'he negotiates for the hand of his daughter'. There are 37 examples of this combination.

724 + Vs, V_1h- 'reduplication' + -a:mati 'know water' [< P + V, a: - 'water' + -mati 'know'], as in the sequence (Vs), aha:mati 'it gets wet'. Or, C_1V_1h- 'reduplication' + -tlahto 'say something' [< 121 + V, tla- 'unspecified goal' + -ihto 'say'] (> tlahtlahto- 'talk'), as in the sequence (Vs + 231), tlahtlahto-a 'he talks'. There are six examples of this combination.

724 + P + 721, C_1V_1- 'reduplication' + soki- 'mud' + -wi 'verbalizer', as in the sequence (173 + Vs + 231), ki-sosokiwi-a 'he gets it muddy'. This is the only example of this combination.

Some stems appear to contain reduplication but never occur without the apparent reduplication. Such stems are regarded as single-root stems. For example, (173 + V) ki-pehpena 'he gathers it', (173 + V + 231) ki-cecelo-a 'he shakes it', etc.

1.3.5 726 'stem formative' + (root or stem).

726 + V, te: - 'stem formative' + -ilwi 'tell', as in the sequence (173 + Vs + 231), ki-to:ilwi-a 'he accuses him', 'he complains against him'. Or, te: - 'stem formative' + -maka 'give', as in the sequence (173 + Vs), ki-te:maka 'he gives'. Or, te: - 'stem formative' + -tla:okoli 'give a gift', as in the sequence (173 + Vs + 231), ki-te:tla: okoli-a 'he gives him gifts'. There are five examples of this combination.

726 + Vs, te: - 'stem formative' + -ma:kti 'place of the hand' [< P + 731 + 721, -ma: 'hand' + -k 'place of' + -ti 'verbalizer'], as in the sequence (173 + Vs + 231), ki-te:ma:kti-a 'he delivers it to him'. Or, te: - 'stem formative' + -tlane:hti 'loan' [< V + 723, tlane:wi 'borrow' + -ti 'causative], as in the sequence (173 + Vs + 231), ki-te: tlane:hti-a 'he loans it'. Or, te: - 'stem formative' + -wi:kili 'carry it' [< V + 211, -wi:ka 'carry' + -li 'second goal'], as in the sequence (173 + Vs + 231), ki-te:wi:kili-a 'he owes him'. These three are the only examples of this combination.

1.3.6 121 'unspecified goal' + root or stem, or 121 'unspecified goal' + root + root, or 121 'unspecified goal' + root + root + root 121 + V, tla- 'unspecified goal' + ki:sa 'go out', as in the sequence (Vs), tlaki:sa 'it (the rainy season) ends'. Or, 121 tla- 'unspecified goal' + k^wepo:ni 'explode', as in the sequence (Vs) tlak^{w}epo:ni 'it thunders'. Or, tla- 'unspecified goal' + -ko:wi 'buy', as in the sequence (173 + Vs + 231), ki-tlako:wi-a 'he buys things for him'. There are fifteen examples of this combination.

121 + Vs, tla- 'unspecified goal' + šošoke:wi 'become green' [< šošok- 'green'

+ -e:wi 'verbalizer'], as in the sequence (Vs), tlašošoke:wi 'it ('the landscape') be-
comes green' (at the beginning of the rainy season). Or, tla- 'unspecified goal' +
wahwa:ki 'dry', 'get dry' [< 111 + V, C_1V_1h- 'reduplication' + wa:ki 'dry'], as in
the sequence (Vs), tlawahwa:ki 'it dries up'. There are four examples of this
combination.

121 + P + V, tla- 'unspecified goal' + i:š- 'eye', 'face' + tlehko 'rise', as in the
sequence (Vs), tlai:štlehko 'he goes up the incline' (that is, hill, etc.). Or, tla-
'unspecified goal' + po:k- 'smoke' + te:mi 'fill', as in the sequence (Vs), tlapo:kte:
mi 'fills up with smoke'. There are five examples of this combination.

121 + V + V, tla- 'unspecified goal' + koči 'sleep' + -mela:wa 'straighten', as in
the sequence (Vs), tlakočmela:wa 'he sleeps a dead sleep'. This is the only example
of this combination.

121 + P + P + V, tla- 'unspecified goal' + ših- 'weeds' + -ma: 'hand' + -te:ka
'lay down', as in the sequence (Vs), tlašihma:te:ka 'he pulls weeks'. This is the
only example of this combination.

1.3.7 121 'unspecified goal' + (root or stem) + 211 'second goal', or root + root + 211
'second goal'.. In this construction, 121 'unspecified goal' (of the pattern 121 + root
or stem + 211) and the initial root (of the pattern root + root + 211) are amplifications
of 211 'second goal'. That is, 121 specifies the second goal (211) as being various
items unspecified, and the root specifies the second goal (211) as being that particular
item. For example, in k-a:-saki-li-a 'he carries water for him', a:- 'water' makes
specific what -li the second goal is.

121 + Vs + 211, tla- 'unspecified goal' + -yeka:na 'lead' [< P + V, yek- 'well' +
-a:na 'grab'] + -lti 'second goal', as in the sequence (173 + Vs + 231), ki-tlayeka:
nalti-a 'he goes on ahead of him'. Or, tla- 'unspecified goal' + -k^{W}ihk^{W}i 'bring'
[< 111 + V, C_1V_1h- 'reduplication' + k^{W}i 'grab', 'bring'] + -li 'second goal', as in
the sequence (173 + Vs + 231), ki-tlak^{W}ihk^{W}ili-a 'he picks it out' ('trash from beans',
'etc'.). Or, tla- 'unspecified goal' + -ne:šti 'find' [< V + 722, ne:si 'appear' + -ti
'transitivizer'] + -li 'second goal', as in the sequence (173 + Vs + 231), ki-tlane:
štili-a 'he lights it', 'he shines light on it'. Or, tla- 'unspecified goal' + -mahma:
ka:wa 'drop from the hand' [< 111 + Vs, C_1V_1h- 'reduplication' + -ma:ka:wa (< P +
V, -ma: 'hand' + -ka:wa 'leave')] + -li 'second goal', as in the sequence (132 + Vs +
231), mo-tlamahma:ka:wili-a 'he loses his balance'. There are ten examples of this
combination.

P + V + 211, a:- 'water' + -saka 'carry' + -li 'second goal', as in the sequence
(173 + Vs + 231), k-a:sakili-a 'he carried water for him'. Or, tepos- 'iron' + -keca
'stand' + -li 'second goal', as in the sequence (173 + Vs + 231), ki-teposkečili-a 'he
brands it'. There are nine examples of this combination.

1.3.8 (Root or stem) + (root or stem).
N + V, tla:l- 'dirt', 'ground' + -ičpa:na 'sweep', as in the sequence (173 + Vs),
ki-tla:ličpa:na 'he drags it on the ground'. Or, to:č- 'rabbit' + -mo:tla 'throw', as
in the sequence (Vs), to:čmo:tla 'he hunts rabbits'. There are 74 examples of this
combination.

N + Vs, k^{W}a:k^{W}a:- 'ox' + -i:šo:ti 'take care of' [< P + 721 + 722, i:š- 'eye' +
-o 'verbalizer' + -:ti 'transitivizer'], as in the sequence (Vs + 231), k^{W}a:k^{W}a:i:šo:
ti-a 'he pastures the oxen'. Or, ko:kone:h- 'doll' + -čihči:wa 'make' [< 111 + V,

C_1V_1h- 'reduplication' + -či:wa 'make'], as in the sequence (173 + Vs), ki-ko:kone: hčihči:wa 'she makes an effigy'. There are four examples of this combination.

P + V, tlaškal- 'tortilla' + -mana 'pat', as in the sequence (Vs), tlaškalmana 'she makes tortillas'. Or, k^Wal- 'good' + -ihta 'see', as in the sequence (173 + Vs), ki-k^Walihta 'he likes it'. There are 269 examples of this combination.

P + Vs, yeka- 'nose' + -pohpo 'clean' [< 724 + V, C_1V_1h- 'reduplication' + -po 'count'], as in the sequence (132 + Vs + 231), mo-yekapohpo-a 'he blows his nose'. Or, yes- 'blood' + -kišti 'take out' [< V + 722, ki:sa 'go out' + -ti 'transitivizer'], as in the sequence (173 + Vs + 231), ki-yeskišti-a 'he extracts blood from him'. Or, pah- 'medicine' + k^Walti 'make eat' [< V + 723, -k^Wa 'eat' + -lti 'causative'], as in the sequence (173 + Vs + 231), ki-pahk^{W}alti-a 'he poisons him'. Or, tlawe:l- 'anger' + tlahtlahto- 'talk' [< 724 + 121 + V, C_1V_1h- 'reduplication' + tla- 'unspecified goal' + -ihto 'say'], as in the sequence (Vs + 231), tlawe:ltlahtlahto-a 'he speaks angrily'. Or, ci:n- 'bottom' + -tlahtlaškalo 'pat' [< 111 + P + 721, C_1V_1h- 'reduplication' + tlaškal- 'tortilla' + -o 'verbalizer'], as in the sequence (173 + Vs + 231), ki-ci:ntlah-tlaškalo-a 'he spanks him'. There are 60 examples of this combination.

Ps + V, tlahtlako:l- 'sin' [< 121 + V + 713, tla- 'unspecified goal' + -ihtlako 'put in disrepair' + -:l 'nominalizer'] + -či:wa 'maka', as in the sequence (Vs), tlahtlako: lči:wa 'he sins'. Or, tlao:l- 'shelled corn' [< 121 + V + 713, tla- 'unspecified goal' + -o 'shell' + -:l 'nominalizer'] + -cecelo 'shake', as in the sequence (Vs + 231), tlao:lcecelo-a 'he cleans corn'. Or, tla:lkakawa- 'peanut' [< N + P, tla:l- 'dirt' + kakawa- 'cocoa bean'] + -kopi:na 'pull up', as in the sequence (Vs), tla:lkakawakopi: na 'he harvests peanuts'. There are 12 examples of this combination.

Ps + Vs, -to:nal 'soul' [< V + 713, to:na 'shine' + -l 'nominalizer'] + -cahcili 'call on him' [< V + 211, cahci 'call' + -li 'second goal'], as in the sequence (173 + Vs + 231), ki-to:nalcahcili-a 'he casts evil on him'. Or, i:šk^{W}ahmo:l 'eyebrow' [< P + P, i:š- 'eye' + -k^{W}ahmo:l 'brow'] + -kehkeca 'stand' [< 111 + V, C_1V_1h- 'reduplication' + -keca 'stand'], as in the sequence (132 + Vs), m-i:šk^{W}ahmo:lkehkeca 'he raises his eyebrows'. These two are the only examples of this combination.

V + V, -tlalwi 'invite' + ki:sa 'go out', as in the sequence (Vs), tlalwiki:sa 'he gives a feast'. Or, siyawi 'tire' + -tla:sa 'drop', 'put down' (> -siyahtla:sa 'rest'), as in the sequence (132 + Vs), mo-siyahtla:sa he rests. There are ten examples of this combination.

V + Vs, -pa:co 'dent' + kalaki 'enter' [< N + V, kal- 'house' + aki 'fit in', 'enter'], as in the sequence (Vs), pa:ckalaki 'he sinks in'. Or, koči 'sleep' + -mahmahti 'be scared' [< 111 + Vs, C_1V_1h- 'reduplication' + -mahti 'scare' (< V + 722, mawi 'fear' + -ti 'transitivizer')], as in the sequence (132 + Vs + 231), mo-koč-mahmahti-a 'he gets frightened in his dream'. There are five examples of this combination.

Ls + V, -ma:teč 'by the hand' [< P + L, -ma: 'hand' + -teč 'beside', 'against'] + -a:na 'grab', as in the sequence (173 + Vs), ki-ma:teča:na 'he takes him by the hand'. Or, ahkopa- 'upwards' [< P + L, ahko- 'up' + -pa 'place'] + tlači- 'see', 'look', as in the sequence (Va + 231), ahkopatlači-a 'he looks up'. There are six examples of this combination.

1.3.9 Root + root + (root or stem).

P + N + V, yek- 'well' + k^{W}aw- 'wood' + -nelo 'mix' (> yehh^{W}ahnelo 'stir well

with wooden utensil'), as in the sequence (173 + Vs + 231), ki-yehk^{W}ahnelo-a 'she stirs it thoroughly'. This is the only example of this combination.

P + P + V, a:yo: - (meaning uncertain) + -ci:n 'bottom' + -k^{W}epa 'change', 'turn', as in the sequence (173 + Vs), k-a:yo:ci:nk^{W}epa 'he somersaults him'. Or, -te:n 'edge', 'mouth' + con- 'hair' + -pihpi ' cut', as in the sequence (132 + Vs), mo-te: ncopihpi 'he shaves' ('his beard'). There are 13 examples of this combination.

P + P + Vs, a: - 'water' + i:hyo: - 'breath', 'air' + -mikti 'kill' [< V + 722, miki 'die' + -ti 'transitivizer'], as in the sequence (173 + Vs + 231), k-a:i:hyo:mikti-a 'he drowns it'. Or, a: - 'water' + i:hyo: - 'breath' + kalaki 'enter' [< N + V, kal- 'house' + aki 'enter'], as in the sequence (Vs), a:i:hyo:kalaki 'he dives in the water'. There are three examples of this combination.

P + V + Vs, lo:ko: - 'throat', 'neck' + -pa:c 'squeeze' + -mikti 'kill' [< V + 722, miki 'die' + -ti 'transitivizer'], as in the sequence (173 + Vs + 231, ki-ko:ko:pa: cmikti-a 'he chokes him to death'. This is the only example of this combination.

V + P + V, koči 'sleep' + -kama 'mouth' + -koya:wi 'perforate', as in the sequence (Vs), kočkamakoya:wi 'he yawns'. Or, koči 'sleep' + tlapeč- 'bed' + -tepešiwi 'knock down', as in the sequence (132 + Vs + 231), mo-kočtlapečtepešiwi-a 'he fell out of bed in his sleep'. These two are the only examples of this combination.

1.3.10 Root + 725 'stem formative' + (root or stem).

V + 725 + V, -mela:wa 'straighten' + -ka: 'stem formative' + -po 'count' (> -mela:hka:po 'recount truthfully'), as in the sequence (173 + Vs + 231), ki-mela:hka: po-a 'he tells it straight', 'he speaks as a witness'. Or, pa:ki 'be happy' + -ka: 'stem formative' + poliwi 'lack' (> pa:hka:poliwi 'lose happiness'), as in the sequence (Vs), pa:hka:poliwi 'he doesn't feel good'. Or, -e:wa 'raise' + -te 'stem formative' + -keca 'stand', as in the sequence (173 + Vs), k-e:witekeca 'he straightens it up' (something hanging down, e.g. sleeping child's head, plant, etc.). There are 16 examples of this combination.

P + 725 + Vs, -ma: 'hand' + -te 'stem formative' + ah ack^{W}epo:ni 'hit resoundingly' [< 111 + V + V, C_1V_1h- 'reduplication' + -tlaco 'beat', 'whip' + k^{W}epo:ni 'explode'], as in the sequence (173 + Vs + 231), ki-ma:tatlahtlack^{W}epo:ni-a 'he whips him with his hand'. Or, -ci:n 'bottom' + -te 'stem formative' + tlahtlack^{W}epo:ni 'hit resoundingly' [< 111 + V + V, C_1V_1h- 'reduplication + -tlaco 'beat', 'whip' + k^{W}epo: ni 'explode'], as in the sequence (173 + Vs + 231), ki-ci:ntetlahtlack^{W}epo:ni-a 'he spanks him'. Or, -yeka 'nose' + -ste 'stem formative' + mohmolo:ni 'open' (flower), 'boil' [< 724 + V, C_1V_1h- 'reduplication' + molo:ni 'open' (flower), 'boil'], as in the sequence (132 + Vs + 231), mo-yekastemohmolo:ni-a 'he hits himself in the nose' (making it bleed). These three are the only examples of this combination.

V + 725 + Vs, miki 'die' + -ka: 'stem formative' + tlacili:ni 'ring' [< 121 + V, tla- 'unspecified object' + cili:ni 'ring'] (> mihka:tlacili:ni 'ring' [bell] 'for a dead one'), as in the sequence (Vs), mihka:tlacili:ni 'it' (the bell) 'rings for someone who has died'. Or, mawi 'fear' + -ka: 'stem formative' + -mikti 'kill' [< V + 722, miki 'die' + -ti 'transitiviser'] (>mahka:mikti 'scare to death'), as in the sequence (173 + Vs + 231), ki-mahka:mikti-a 'he frightens him'. Or, mawi 'fear' + -ka: 'stem formative' + -yeka:na 'lead' [< yek- 'well' + -a:na 'grab'], as in the sequence (173 + Vs), ki-mahka:yeka:na 'he flees from him in fear'. These three are the only examples of this combination.

2. Both simple stems and complex stems (see 1.) occur with the affix morphemes which divide stems into classes. One stem class is distinguished from another by the affix or affixes which uniquely occur in combination with the members of that stem class and never occur in combination with the members of any other stem class. Such an affix or set of affixes occurring exclusively with members of one and only one class of stems and with all members of that class is said to be diagnostic for that stem class.[5]

It is not required that a diagnostic affix occur in obligatory sequence with the members of the stem class but rather that it at least occur in optional sequence with them. It may be that a diagnostic affix will occur in obligatory combination with the stem class members, but such obligatory occurrence is not an essential characteristic in order that the affix be diagnostic.

The function of the diagnostic affix is not to mark the boundary limits of the stem but rather to signal the fact that the stem, whatever its limits may be, belongs to the class which is marked by that diagnostic affix. The combination of stem components is treated above (see 1.), but it may be well to point out here that century 700 affixes occur exclusively as components of stems; that affixes 111, 121, and 211 may occur either as components of stems (according to patterns described under 1.) or as inflectional morphemes outside the stems; and that all other affixes occur only outside the stems.

If the affix is diagnostic for verbs, the right boundary of the verb stem is either 211, a root, or a member of Class 720, whichever occurs last in the sequence; and the left boundary of the verb stem is either 111, 121, or a root. The diagnostic affix for nouns and for locatives also marks the stem boundary.

2.1 Stems which occur with the following affixes are verb stems: 194 o- 'past tense', 232 -h 'preterit tense', 233 -s 'future tense', and 234 -ya 'imperfect tense'. Both simple stems and complex stems may occur with these morphemes as the following examples demonstrate.

194   o- 'past tense[6]'
　　(193 + V + 232) o-čo:ka-k 'he cried'
　　(193 + Vs + 232) o-kočihta-k 'he dreamed'
　　(193 + V + 234) o-koči-ya 'he was sleeping'
　　(193 + Vs + 234) o-yekwikal-ya 'it was getting well-cooked'
232   -h 'preterit tense'
　　(V + 232.1 + 261) ča:lo-h-ki 'they escaped'
　　(Vs + 232.1 + 261) tlao:lcecelo-h-ki 'they cleaned the corn'
　　(V + 232.2 + 261) cik^{W}i:n-ki 'they ran'
　　(Vs + 232.2 + 261) pa:ckalah-ki 'they sank in'
　　(V + 232.3 + 261) čo:ka-k-i 'they cried'
　　(Vs + 232.3 + 261) kočihta-k-i 'they dreamed'
　　(173 + V + 232.4 + 261) ki-pi-š-ki 'they had it'
　　(173 + Vs + 232.4 + 261) ki-ma:pi-š-ki 'they had it in their hand'
　　(173 + V + 232.5 + 261) ki-ko-:h-ki 'they bought it'
　　(173 + Vs + 232.5 + 261) ki-pohpo-:ki 'they cleared it off'
233   -s 'future tense'
　　(V + 233) cik^{W}i:ni-s 'he will run'

(Vs + 233) kapeco:wi-s 'it will get black'

(173 + V + 231 + 233) ki-pi-a-s 'he will have it'

(173 + Vs + 231 + 233) ki-ma:pi-a-s 'he will have it in his hand'

234 -ya 'imperfect tense'

(V + 234) čo:ka-ya 'he was crying'

(Vs + 234) tlaškalnamaka-ya 'she was selling tortillas'

(173 + V + 231 + 234) ki-no:ki-a-:ya 'he was pouring it out'

(173 + Vs + 231 + 234) k-a:i:hyo:mikti-a-:ya 'he was drowning him'

2.2 Stems which occur with morpheme 423 -me 'unpossessed noun plural' are noun stems.

Other affixes could be selected as marking noun stems instead of 423 but they do not yield as large a class. For example, morpheme 422 -tli 'unpossessed noun singular' as a divisive suffix would yield a somewhat smaller list of noun stems. Likewise, morpheme class 300 'possessor person prefixes' and morpheme 411 -ci: '2nd person honorific possessor' (singular or plural) could be selected as divisive affixes for noun stems were it not for semantic limitations that reduce the size of the class. That is, such words as 'star', 'sky', 'day', etc., are not generally thought of as being possessed.

Both simple stems and complex stems may occur with morpheme 423 -me 'unpossessed noun plural'. For example, (N + 423) sowa-me 'women' or šo:či-me 'flowers', and (Ns + 423) tlo:lto:to: -me 'maizero birds' (corn-eaters)[< Ps ⨥ N, tlao:1- 'corn' (< 121 + V + 713 tla- 'unspecified goal' + -o 'shell' + -:1 'nominalizer') + to:to: - 'bird] or talatla:1-te 'ant-hills' [< N + N, tala- 'ant' + tla:1- 'dirt'] or teopan-me 'churches' [< N + L, teo- 'god' + -pan 'place of'].

2.3 Stems which occur with morpheme 511 -ci:nko '2nd person honorific' (singular or plural) are locative stems. Both simple stems and complex stems may occur with morpheme 511. For example, (412 + L + 511) mo-wan-ci:nko 'with honorable you' ('sg'.) or mo-pan-ci:nko 'upon honorable you' ('sg'.) and (412 + Ls + 511) m-i:špan-ci:nko 'in your honorable presence' ('sg'.) [< P + L, i:š- 'eye' + -pan 'place of'], or mo-ma:tlan-ci:nko 'in your honorable possession' ('sg'.) [< P + L, -ma: 'hand' + -tlan 'place of'].

2.4 Stems which occur with none of the above divisive affixes are particle stems. Particle stems include those stems which occur with affixes but are non-divisive, such as (313 + P) i: -ma: 'his hand' or (P + 422) či:1-i 'hot pepper': stems which never occur with affixes, such as lalewis 'very' or mo:stla 'tomorrow'; and stems which are bound unique root components of stems, such as -ci:n 'bottom' or -a:wa 'soft spot' (of baby's head).

3. Since Tetelcingo Nahuatl affixes have been described in a previous monograph,[1] they are not discussed in this paper. Nevertheless, a summary inventory of affixes is included as a convenience for reference.

In the inventory and in all references to the affixes in this paper, each affix is assigned an index number. The decade indexes indicate, both for prefixes and for suffixes, the relative position from the stem outward. That is, members of Class 110 occur nearest the stem, and members of Class 120 in the next position from the stem, and so on. This does not mean, however, that members of Class 170, for example,

cannot occur at times next to the stem but rather means that decade number 170 is assigned to that particular class of affixes since the seventh position is the outermost position from the stem in which members of that class of affixes may occur.

The affixes within a decade class are mutually exclusive. However, members of Class 230, while mutually exclusive in position 3 and mutually exclusive in position 5, may at times occur in sequence in those two positions.

Class 240-250 requires two decades to accommodate the membership of the class. Its members, however, are mutually exclusive and occupy only one suffix position, namely, position fourth from the stem. Class 260, nevertheless, occurs in position 6 as indicated by its decade number since Class 230 may occur in both positions 3 and 5.

For each affix listed a parenthetic notation indicates the stem class association of that affix. The order used in listing the classes of affixes for each of the major stem classes begins at the left outermost prefix position and moves toward the stem and from the stem toward the right outermost suffix position.

AFFIX INVENTORY

100 Prefixes occurring with V
    190 'Tense-mode morphemes' (closing prefixes)
        191 ma- 'hortative' (V)
        192 mahkamo- 'negative hortative' (V)
        193 ši- 'imperative' (V)
            193.1 ši- occurs preceding consonant
            193.2 š- occurs preceding vowel
            193.3 šo- occurs in free variation with 193.1 preceding 132
    180 'Actor person morphemes'
        181 ni- '1st person singular actor' (V, N, P)
            181.1 ni- occurs preceding consonant
            181.2 n- occurs preceding vowel
            181.3 no- occurs preceding (173.2 + 161)
        182 ti- '2nd person singular actor' (V, N. P)
            182.1 ti- occurs preceding consonant
            182.2 t- occurs preceding vowel
            182.3 to- occurs preceding (173.2 + 161) or in free variation with
                182.1 preceding 132
        183 ti- '1st person plural actor' (V. N P)
            183.1 ti- occurs preceding consonant
            183.2 t- occurs preceding vowel
            183.3 to- occurs preceding (173.2 + 161)
        184 ne- '2nd person plural actor' (V, N, P)
            184.1 ne- occurs preceding consonant
            184.2 nem- occurs preceding vowel
            184.3 nen- occurs in free variation with 184.1 preceding velar
                consonant
    170 'Goal person prefixes'
        171 ne:č- '1st person singular goal' (V)
            171.1 ne:č- occurs except preceding c or č

171.2 ne:h- occurs preceding c or č

172 timic- '2nd person singular goal' (V)

    172.1 timic- occurs as goal with 1st person as actor except before c or č

    172.2 timih- occurs as goal with 1st person as actor before c or č

    172.3 mic- occurs as goal with 3rd person as actor except before c or č

    172.4 mih- occurs as goal with 3rd person as actor before c or č

173 ki- '3rd person singular familiar goal' (V)

    173.1 ki- occurs word initially preceding consonant; or following 184 preceding consonant

    173.2 k- occurs word initially preceding vowel; or following 181, 182, 183 preceding consonant except k or k^W

    173.3 h- occurs following 181, 182, 183 preceding k or k^W

174 te:- '3rd person singular honorific goal' (V)

175 te:č- '1st person plural goal' (V)

    175.1 te:č- occurs except preceding c or č

    175.2 te:h- occurs preceding c or č

176 neme:č- '2nd person plural goal' (V)

    176.1 neme:č- occurs except preceding c or č

    176.2 neme:h- occurs preceding c or č

160 'Lexically Indeterminate Morpheme'

161 on- (meaning not yet determined((V)

    161.1 on- occurs preceding consonant except bilabial

    161.2 om- occurs preceding vowel and bilabial

    161.3 o- occurs in free variation with 161.2 preceding m

150 'Action moving (spatial or temporal) toward speaker'

151 wal- 'come' (V)

140 'Plural of 3rd person goal prefixes'

141 in- 'plural of 3rd person goal (V)

    141.1 in- occurs elsewhere

    141.2 im- occurs preceding vowel or m

    141.3 inm- occurs in free variation with 141.2

    141.4 i- occurs following 161.2 and preceding n

    141.5 i:n- occurs following 174 and preceding consonant

    141.6 i:m- occurs following 174 and preceding vowel

    141.7 i:nm- occurs in free variation with 141.6

130 'Reflexive 2nd person honorific prefixes'

131 mo- '2nd person honorific (actor/goal); deity honorific (2nd or 3rd person)' (V)

    131.1 mo- occurs preceding consonant

    131.2 m- occurs preceding vowel

132 mo- 'reflexive' (V)

    132.1 mo- occurs preceding consonant

    132.2 m- occurs preceding vowel

    132.3 o- occurs when 1st person singular or plural is subject

    132.4 ne- occurs when 3rd person honorific is subject

120 'Unspecified goal prefix'

   121 tla- 'unspecified goal'

110 'Reduplication prefix'

   111 $(C_1V_1 + h \Rightarrow$ C_1V_1h- 'repetitive' (of action or of person actor = plural) (V). Occurrence of the allomorphs is unpredictable

      111.1 C_1V_1h- before C_1V_1 initial stem

      111.2 C_1V_1h- before C_1V_1 initial stem

      111.3 C_1V_1- before C_1V_1 initial stem

      111.4 C_1V_1- before C_1V_1 initial stem

      111.5 C_1V_1h- before C_1V_1 initial stem

      111.6 C_1V_1h- before C_1V_1 initial stem

      111.7 C_1V_1- before C_1V_1 initial stem

      111.8 C_1V_1- before C_1V_1 initial stem

      111.9 V_1h- before V_1 initial stem

      111.10 V_1h- before V_1 initial stem

      111.11 ho- minus stem initial V

200 Suffixes occurring exclusively with V

   210 'Referent'

   211 -li 'second goal' (always direct goal) (V)
        Occurrence of allomorphs is unpredictable

      211.1 -li

      211.2 -lwi

      211.3 -wi

      211.4 -:lti

   220 'Honorific suffixes'

   221 -li '2nd person honorific non-reflexive (actor or goal); deity honorific non-reflexive (2nd or 3rd person)' (V)
        Occurrence of allomorphs is unpredictable

      221.1 -li

      221.2 -:li

      221.3 -lti

      221.4 -:lti

      221.5 -lwi

      221.6 -ti

      221.7 -:ti

      221.8 -wi

      221.9 -∅

   222 -ci:no '2nd person honorific reflexive; deity honorific reflexive (2nd or 3rd person)'

   223 -lo '3rd person honorific actor' (V). Occurrence of allomorphs is unpredictable

      223.1 -lo

      223.2 -lo:

      223.3 -:lo

      223.4 -:lo:

      223.5 -:ro

      223.6 -:ro:

223.7 -o replaces stem final a or i

223.8 -o: replaces stem final a or i

223.9 -:wa

223.10 -a

223.11 -oa (-o replaces stem final a or i) + a

230 'Tense suffixes'

231 -a 'present tense' (V)

232 -h 'preterit tense' (V)

232.1 -h occurs with verb class 1 (V_1)

232.2 minus final stem vowel occurs with verb class 2 (V_2)

232.3 -k occurs with verb class 3 (V_3); or following 223.9, 223.10, 223.11

232.4 -š occurs with verb class 4 (V_4)

232.5 -:h occurs with verb class 5 (V_5)

233 -s 'future tense' (V)

233.1 -s occurs elsewhere

233.2 -:s occurs following 211, 221, 247, and V_1

234 -ya 'imperfect tense' (V) (closing suffix)

234.1 -ya occurs elsewhere

234.2 -:ya occurs following (V_1 + 231) or V_6

234.3 -a:ya occurs following 222

240-250 'Aspect suffixes'

241 -te:wa action done upon leaving (V)

241.1 -te:wa occurs word final when action of verb is present

241.2 -te: occurs word final when action of verb is past

241.3 -te:h occurs preceding 261.1

242 -tiki:sa suddenly-occurring action (V)

242.1 -tiki:sa occurs when action of verb is non-past

242.2 -tiki:s occurs when action of verb is past

243 -tiweci 'immediative' (V)

243.1 -tiweci occurs when action of verb is non-past

243.2 -tiwec occurs when action of verb is past

244 -ta 'durative' (V)

245 -tinemi 'ambulative' (V)

246 -ta: 'durative' (V)

247 -tehko 'pass by and do something, do upon arrival' (V)

248 -tiwi:c 'comes doing' (V)

249 -tika 'present progressive' (V)

251 -ti: 'directional (go to do)' (V)

251.1 -ti: occurs except following V_1

251.2 -:ti: occurs following V_1

252 -ki: 'directional (come to do)' (V)

252.1 -ki: occurs except following V_1

252.2 -:ki: occurs following V_1

253 -to 'directional (went to do)' (V) (closing suffix)

253.1 -to occurs except following V_1

253.2 -:to occurs following V_1

254 -ko 'directional (came to do)' (V) (closing suffix)
    254.1 -ko   occurs except following V_1
    254.2 -:ko occurs following V_1
255 -sneki 'desiderative' (V) (closing suffix)
    255.1 -sneki   occurs except following V_1
    255.2 -:sneki occurs following V_1
256 -skia:ni 'contrary to fact' (V) (closing suffix)
        Occurrence of allomorphs is in free variation except that the
        allomorphs with heightening (:) occur with V_1
    256.1 -skia:ni
    256.2 -:skia:ni
    256.3 -skia:ya
    256.4 -:skia:ya
    256.5 -skia
    256.6 -:skia
    256.7 -ni
    256.8 -:ni
260 'Actor plural suffix'
  261 -ki 'plural of actor' (closing suffix)
    261.1 -ki   occurs elsewhere
    261.2 -ka: occurs in sequence $(191/192/193) + (V_2/V_3/V_4/V_5) + 261.2$
    261.3 -:ka: occurs in sequence $(191/192/193) + V_1 + 261.3$
    261.4 -i   occurs in sequence $V_3 + 232.3 + 261.4$ or $V + 248 + 261.4$
    261.5 -te occurs in sequence $V + 249 + 261.5$
    261.6 -we occurs in sequence $V + (251/252) + 261.6$
300 Prefixes occurring with N, P, and L
  310 'Possessor person prefixes'
    311 no- '1st person singular possessor' (N, P, L)
      311.1 no- occurs preceding consonant
      311.2 n-   occurs preceding vowel
    312 mo- '2nd person singular possessor' (N, P, L)
      312.1 mo- occurs preceding consonant
      312.2 m-   occurs preceding vowel
    313 i:- '3rd person familiar singular possessor' (N, P, L)
    314 i:n- '3rd person familiar plural possessor' (N, P, L)
      314.1 i:n- occurs preceding consonant
      314.2 i:nm- occurs preceding vowel
      314.3 i:m- occurs in free variation with 314.2
    315 te:- '3rd person honorific singular possessor' (N, P, L)
    316 to- '1st person plural possessor' (N, P, L)
      316.1 to- occurs preceding consonant
      316.2 t-   occurs preceding vowel
    317 nemo- '2nd person plural possessor' (N, P, L)
      317.1 nemo- occurs preceding consonant
      317.2 nem- occurs preceding vowel
400 Suffixes occurring with N and P
  410 'Specialized person markers'

411   –ci: '2nd person honorific possessor' (N, P)

    411.1 –ci: occurs in sequence (312/315/317) + N/P + 411.1

    411.2 –cici: occurs in sequence (312/315/317) + N/P + 411.2 + 421

412   -kone 'diminutive' (N, P)

    412.1 -kone   occurs in sequence N/P + 412.1 + 422.4; or 310 + N/P

               + 412.1; or (312/315/317) + N/P + 412.1 + 411.1

    412.2 -ko:kone occurs in sequence N/P + 412.2; or 310 + N/P + 412.2

                 + 421; or (312/315/317) + N/P + 412.2 + 411.2 + 421

413   -we:wen 'augmentative, male' (N)

    413.1 -we:wen occurs preceding a suffix

    413.2 -we:we   occurs word final

414   -lama 'female' (used in reference to animals) (N, P)

415   -karayo: 'male' (used in reference to animals) (N, P)

  420   'Number suffixes'

421   -wa 'possessed noun plural' (N, P)

422   -tli 'unpossessed noun singular' (N, P)

        Allomorphs .1, .2, .3 occur with most N and P stems and within
that group are predictable as indicated below. The occurrence
of the remaining allomorphs is unpredictable.

    422.1 -tli   occurs following consonant except 1

    422.2 -i   occurs following 1

    422.3 -tl   occurs following vowel

    422.4 -ci:

    422.5 -to:

    422.6 -itl

    422.7 reduplication ... -ci:

    422.8 reduplication ... -to:

  423   -me 'unpossessed noun plural' (N, P)

        Occurrence of these allomorphs is unpredictable

    423.1 -me

    423.2 -te

    423.3 reduplication

    423.4 reduplication ... -me

    423.5 reduplication ... -te

    423.6 -i

    423.7 -s

    423.8 -es

    423.9 -cici:

    423.10 -toto:

500 Suffix occurring exclusively with L

  510   'Honorific suffix'

    511   -ci:nko (2nd person honorific' (singular or plural) (L)

700 Affixes occurring exclusively as components of stems

  The occurrence of allomorphs of each morpheme of the following classes is
unpredictable.

  710   'Components of noun stem'

    711   -yo 'collectivizer' (?)

711.1 -yo
711.2 -yo:
712 -ki 'agentive nominalizer' (one who)
    712.1 -ki
    712.2 -ni
    712.3 -:ni
713 -lis 'abstractive nominalizer' (produces abstract noun)
    713.1 -lis
    713.2 -:lis
    713.3 -l
    713.4 -:l
714 -tik 'stem formative'
    714.1 -tik
    714.2 -k
720 'Components of verb stem'
  721 -wi 'verbalizer'
    721.1 -wi
    721.2 -:wi
    721.3 -iwi
    721.4 -o:wi
    721.5 -ewi
    721.6 -e:wa
    721.7 -ti
    721.8 -:ti
    721.9 -li
    721.10 -tili
    721.11 -o
    721.12 -yo
  722 -ti 'transitivizer'
    722.1 -ti
    722.2 -:ti
    722.3 -lti
    722.4 -:lti
    722.5 -li
    722.6 -wi
  723 -lti 'causative'
    723.1 -lti
    723.2 -:lti
    723.3 -li
    723.4 -ti
    723.5 -:ti
  724 C_1V_1h- 'stem formative'
    See prefix 111 for allomorphs
  725 -ka: 'stem formative'
    725.1 -ka:
    725.2 -te
  726 te:- 'stem formative'

730 'Components of locative stem'
    731 -tla 'place of'
        731.1 -tla   occurs word final
        731.2 -tlan occurs preceding 511
        731.3 -pa   occurs word final
        731.4 -pan   occurs preceding 511
        731.5 -k   occurs following -ma: 'hand'
        731.6 -ko   occurs following i:š- 'eye'

FOOTNOTES

1 Pittman, R.S., A Grammar of Tetelcingo (Morelos) Nahuatl, Language
          Dissertation 50, 1954.

2 Data were gathered by the author during various periods in the field from 1952 to
1961, while working and living in Tetelcingo, Morelos, Mexico, under the auspices
of the Summer Institute of Linguistics.
    For the phonemic analysis of this dialect see Pittman, R.S. , The Phonemes of
Tetelcingo (Morelos) Nahuatl, in the volume A WILLIAM C. TOWNSEND, en el
vigésimecuinto aniversario del Instituto Lingüístico de Verano, México, D.F., 1961,
643-51.
    Morphophonemic phenomena are not treated in this paper.

3 With a more extensive and thorough analysis than has so far been given, it may
well be that many of these stems are susceptible to further morpheme cuts. See 1.2.
for possibility of -wi versus -wa, -ni versus -na, etc., as morphemes.

4 In other dialects of Nahuatl there are four vowels, each of which may occur with
length: i, e, a, o and i: [ii], e: [ee], a: [aa], o: [oo]. In this dialect there are
also four vowels: i [I], e, a, o. Their "long" counterpart is one of quality rather
than quantity, namely vowels which are phonetically heightened rather than phoneti-
cally lengthened. That is, long vowels in the other dialects correspond to heightened
vowels in this dialect: i: [i], e: [ie], a: [ɔ], o: [u].
    As a kind of typological device to facilitate comparative studies, the same nota-
tion is used for the heightened vowels of this dialect that is used for the lengthened
vowels of the other dialects. Furthermore, the notation indicates more clearly the
interchange pattern between the two sets of four vowels which is exhibited both in
reduplication and in the morphophonemics involved in certain affixations. Where
morphophonemic vowel alternation occurs, the colon representing the heightened
feature of the vowel is assigned to the affix. This is done in order to reduce the
number of stem allomorphs. Such analysis, of course, results in an increased num-
ber of affix allomorphs. However, since affixes are members of closed classes,
allomorphic economy is gained by this analysis for the language as a whole.

5 The same is true for affixes in combination with subclasses of the major stem

classes. An affix or set of affixes that occurs exclusively in combination with members of one and only one sub-class and never in combination with the members of any other sub-class is divisive for that sub-class.

6 In the sequence 194 + V + 232 or 194 + V + 234 morpheme 194 o- 'past' is optional, being obligatory only in sequence with verbs which occur as monosyllables (194 + V of monosyllabic shape + 232). For example, (V) te:mi 'it fills', (194 + V + 232.2) o-te: 'it filled'. Perhaps the phonemic pattern of penultimate word stress has relevance here with respect to the obligatory sequence (194 + [V of monosyllabic shape in past tense] + 232.2). That is, what would otherwise be monosyllabic shaped verbs occur as bisyllabic forms by adding 194 o- 'past' which then receives the penultimate stress.