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Dow F. Robinson

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# AZTEC STUDIES
# I
# Phonological and Grammatical Studies in Modern Nahuatl Dialects

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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.

<div style="text-align:right">

Dow F. Robinson
Tlalpan, Mexico
April, 1969.

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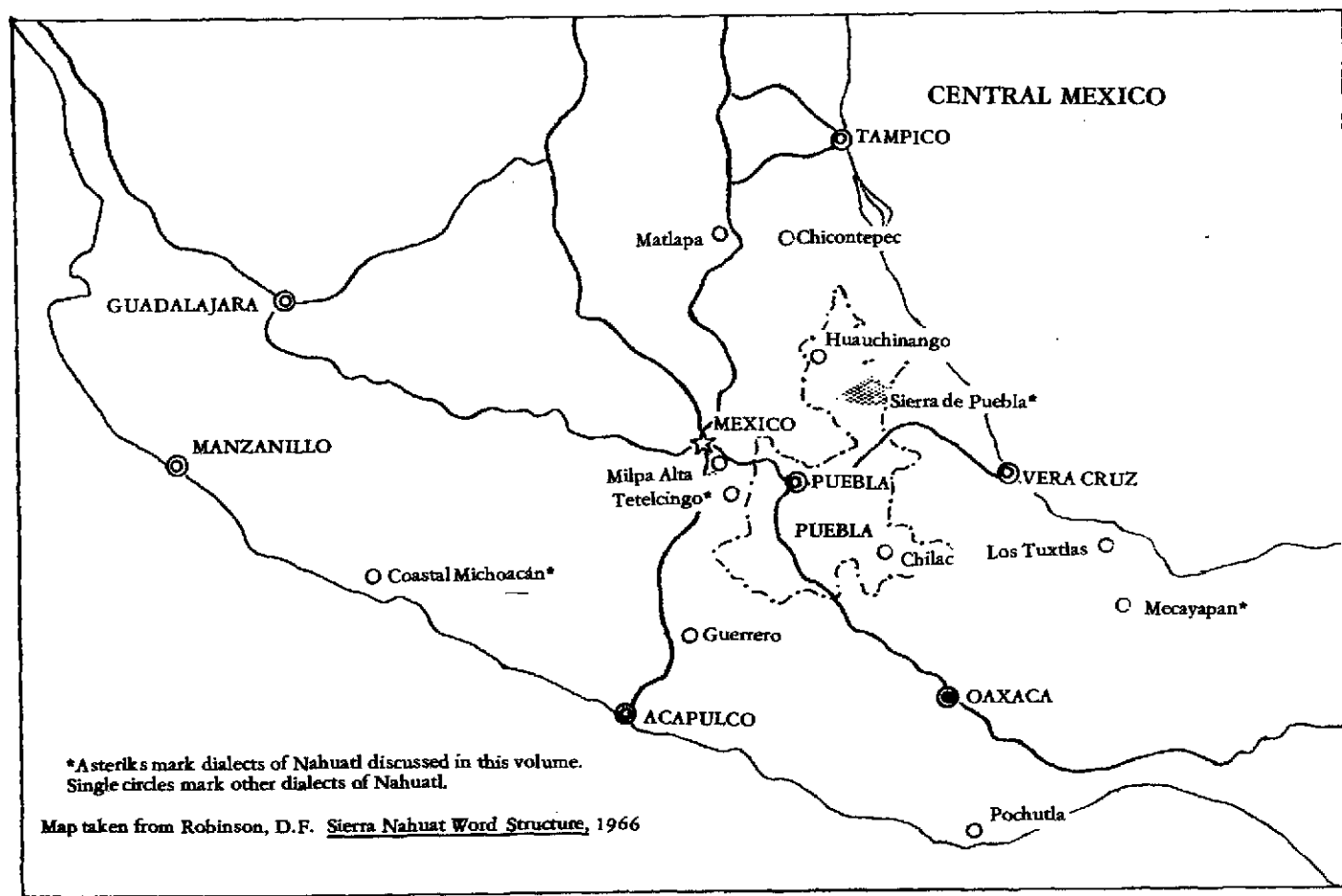
Robinson, Dow F. Sierra Nahuat Word Structure, 1966.

CENTRAL MEXICO

TAMPICO

Matlapa ○   ○ Chicontepec

GUADALAJARA

Huauchinango

Sierra de Puebla*

MEXICO

MANZANILLO

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 ○

IIA

# TABLE OF CONTENTS

# IV. MICHOACÁN (PÓMARO) NAHUAL CLAUSE STRUCTURE

## Dow F. Robinson and William R. Sischo

1.  There are four major systems of clauses in Michoacán Nahual (MN)[1] : indicative (I), causative (C), referential (R), and causative-referential (CR). Within the indicative system four kernel clauses are distinguished: transitive (tr), reciprocal (r), semi-transitive (st), and intransitive (i). For each of the causative, referential, and causative-referential clause systems there are five kernel clauses distinguished: two transitive, two reciprocal, and one semi-transitive. In the following diagram the items on the horizontal axis are differentiated by the number of DRAMATIS PERSONAE involved; the items on the vertical axis are kernel clauses which are differentiated by degree of transitivity.

CHART  A

|                 | INDICATIVE | CAUSATIVE | REFERENTIAL | CAUSATIVE-REFERENTIAL |
|-----------------|------------|-----------|-------------|-----------------------|
| Transitive      | X          | X         | X           | X                     |
|                 |            | X         | X           | X                     |
| Reciprocal      | X          | X         | X           | X                     |
|                 |            | X         | X           | X                     |
| Semi-transitive | X          | X         | X           | X                     |
| Intransitive    | X          |           |             |                       |

Each of the nineteen kernel clauses represented by an X on the chart has two derived clause types: imperative and permissive.

In addition to the four major verb clause systems, with their nineteen kernel clauses, another clause system will be described, a system which manifests nominal elements and the verb 'to be' as contrastive fillers of predicate slots. Kernel clauses of the nominal system are descriptive and existential. The existential clause has two derived types: imperative and permissive. Sections 1-6 are used to define the verb clause systems and section 7 for the nominal clauses.

1.1  A composite formula for any one of the kernel clauses is: verb clause = + (Nuc) $\pm$ (Peri), i.e., a verb clause consists of an obligatory nucleus and an optional periphery. The clause nucleus consists of an obligatory predicate and optional subject, causative-object, referential-object, and object, i.e., Nuc  =  + Pred $\pm$ S $\pm$ cO $\pm$ rO $\pm$ O. The basis for differentiating the various kernel clauses lies in (1) the contrastive status of fillers of the predicate tagmeme, and (2) the obligatory versus optional presence or absence of the various object tagmemes.

The peripheral tagmemes are: Locative (L), location in both space and time; Manner (M), i.e., manner, instrumentality, and accompaniment; Purpose (P); and Quotative (Q).

A composite formula for the periphery is:  Peri  =  $\pm L^3 \pm M^3 \pm P \pm Q^2$, i.e., a periphery consists of an optional locative tagmeme which may be manifested three times in one clause, an optional manner tagmeme which may be manifested three times in one clause, an optional purpose tagmeme, and an optional quotative tagmeme which may be manifested twice in the same clause. The peripheral tagmemes are essentially the same from one clause system to another both in occurrence and ordering.

1.2  The four peripheral tagmemes are defined below both as to classes which manifest the tagmemes and as to the ordering of the tagmemes within the clause.

The locative tagmeme (L) refers to location in time or space; it is manifested by temporal attributatives: mohmosta 'every day', yalwa 'yesterday', iteki 'daily, and tiolak 'afternoon. Locative is manifested by locational attributative: temuán 'down below', lakpan 'up there', laihtik 'inside'. Locative is manifested by attributives, locative or temporal, whose meaning is determined by the context: umpa 'there, then'; nikan 'here, now'. umpa nikitak 'there I-him-saw'; umpa tikyapalu in ikpal 'then we-it-dye the thread' (in 'the', ikpal 'thread'). nikan nionka 'here I-am'; nikan tikpia tikpakalo 'now we-it-have we-it-wash'.

Locative is manifested by a relator-axis noun phrase: walas pa lunes 'he-will-come on Monday' (pa 'on', lunes 'Monday'); pin kwahlan 'in the forest' (pin 'in', kwahlan 'forest'); de pa yina 'from way back there' (de 'from', pa 'to', yina 'ancient time'); lahko pin tišušli 'in the midst of the fire' (lahko 'middle', pin 'in', tišušli 'fire').

Locative is manifested by a series of locative tagmemes: yes nikan laihtik 'it-must-be here inside' (nikan 'here', laihtik 'inside'); nikitak ašan wahcinko 'I-him-saw today morning' (ašan 'today', wahcinko 'morning').

Locative is manifested by an attributive noun phrase: nikõlas han ok se tonali wehkanik san 'I'll-wait-for-him just one more long day only' (attributive NP = han ok se tonali, han 'just', ok 'yet', se 'one', tonali 'day', wehkanik 'long', san 'only'); nihuala in mierkoles 'I-come this Wednesday' (attributive NP = in mierkoles, in 'this', mierkoles 'Wednesday').

Locative is manifested by a clause: tilamilo tiktekalo 'when we finish laying it down' (tilamilo 'we-it-finish', tiktekalo 'we-it-lay-down'); kapik tiyawilu pan nekwli 'to where we go for honey' (kapik 'to where', tiyawilu 'we go', pan nekwli 'for honey').

The locative tagmeme in its temporal significance usually occurs before the predicate: newal yawipla niak San Pedro (newal I, yawipla 'day-before-yesterday', niak 'went') 'I went to (the town of) San Pedro the day before yesterday'. The locative tagmeme in its locational significance usually occurs after the predicate; see examples given in previous paragraphs.

The manner tagmeme (M) comprises three areas of meaning or function, i.e., (1) manner, how an action is accomplished; (2) instrumentality, the means by which an action is accomplished; and (3) accompaniment, the object or event which accompanies the action of the verb.

The manner tagmeme is manifested by relator-axis noun phrases: (1) manner: ka kwidados wala iteko in mihkil 'with grief comes his owner the corpse' (NP = ka kwidados 'with grief', wala 'comes', iteko 'his owner', in mihkil 'the corpse'); (2) instrumentality: tiktekilu ka tomahma 'we-it-cut with our hand' (NP = ka tomahma 'with our-hands'), panua in al de in totonki 'the water evaporates because of the heat' (NP = de in totonki 'by-means-of the heat', panua 'evaporates', al 'water'); (3) accompaniment: pa kuntikate kafe ka alkool 'so that they may be drinking coffee with alcohol' (NP = ka alkool 'along-with alcohol', pa 'so that', kuntikate 'they-may-be-drinking', kafe 'coffee').

Other illustrations of the manner tagmeme, manifested by relator-axis noun phrases, are: tihkwalu ha šušuwitos 'we eat it just a little underdone' (NP = ha šušuwitos 'just a-little-underdone', tihkwalu 'we-it-eat'); ninehnemiaya ipunta notalon

'I walked on the back of my heel' (NP  =  ipunta notalon 'its-back my-heel', nineh-
nemiaya 'I walked').

Manner is also manifested by manner attributives:  huntos 'together', yohi 'thus'.
The following example shows the manner tagmeme manifested three times in one
clause:  porque tiamigos miak ka amhuanten entero anomenten 'because we are great
friends with you, very much with you (perque 'because', tiamigos 'we are friends',
M =  miak 'very much', M =  ka amhuanten 'with you-pl', M =  entero anomen-
ten 'completely with-you-pl').

The ordering of the manner tagmeme in the clause is relatively free.  About two
thirds of the occurrences of the manner tagmeme follow the predication.  See examples
given above for freedom of occurrence.

The quotative tagmeme (Q) is manifested by only one particle, i.e., kil 'it-is-
said'.  It usually occurs following the predicate and but once in a clause:  kataya kil
he lakal riko 'there was, it is said, a rich man' (kataya 'there was', he 'a', lakal
'man', riko 'rich').  The quotative tagmeme usually follows the predicate.

The purpose tagmeme (P) is manifested only by a relator-axis noun phrase:  ma
nia pan laškali 'let me go for tortillas' (NP  =  pan laškali 'for tortillas', ma 'let',
nia 'I-go'); pa kihkikwas nošolul 'that he may eat my daughter' (NP  =  pa kihkik-
was 'that he-it-will-eat', nošolul 'my-daughter').  The purpose tagmeme occurs be-
fore or after the predicate.

For any given clause there is rarely more than one peripheral tagmeme, in addi-
tion to the nuclear tagmemes.  Clauses containing five tagmemes are rare;  the fol-
owing example shows three peripheral tagmemes, in addition to two nuclear tagmemes:
moabentaruk kil pa ikišlan kil in leona 'she-threw-herself it-is-said on his-neck it-
is-said the lionness' (Pred  =  moabentaruk 'she-threw-herself', Q  =  kil 'it-is-
said', L = pa ikišlan 'on his-neck', Q = kil, S = in leona 'the lioness').

2.  The  nuclei of the indicative clause system involve a maximum of two dramatis
personae, a subject (S), and an object (O).  The  predicate slot is manifested by a
transitive or an intransitive verb stem to which are affixed appropriate tense and per-
son markers.  There are four kernel clauses within the indicative clause system:
transitive, reciprocal, semi-transitive, and intransitive.

2.1 The transitive clause is expressed by the formula:  tr = +(+Pt +S +O) +Peri,
i.e., a transitive clause consists of an obligatory predicate tagmeme, manifested by
a transitive verb stem, an optional subject and object tagmeme and an optional peri-
phery.  Examples:  tewanten pwes tikpialu in kostumbre nikan 'we now have the cus-
tom here' (S = tewanten 'we', pwes 'now', Pt = tikpialu 'we-it-have', O = in kos-
tumbre 'the custom', L = nikan 'here');[1]  kinamikik ok se ikni he cikal 'he met ano-
ther of his brother ants' (Pt = kinamikik 'he-him-met', O = ok se ikni 'another his-
brother', he cikal 'an ant');  kahsik pan puro icontekito 'he got him right on his little
old head' (Pt = kahsik 'he-him-got', L = pan puro ' on exactly', icontekito 'his-head-
little');  nimihcontekik yalwa ka nomačete 'I slashed you yesterday with my machete'
(Pt = nimihcontekik 'I-you-slashed', T = yalwa 'yesterday', M = ka nomačete 'with
my-machete').

Ptr, transitive predicate tagmeme, is manifested by a verb phrase, simple or
expanded;  the head slot of the verb phrase is manifested by transitive verb stems.
The transitive verb stems are obligatorily marked by first order prefixes (from the

root) which signal singular or plural objects: nič- 1st sg; mic- 2nd sg;[2] k- ~ ki-
3rd sg (k- occurs before all vowel-initial stems and before consonant-initial stems
only in the first and second singular and the first plural; ki- occurs before conso-
nant-initial stems in the second plural, third singular and third plural);[3] tič- 1st pl;
anmic- 2nd pl; kin- 3rd pl.[4]

All stems are obligatorily marked for subject by prefixes (second order) which
correlate with the person of the optional subject tagmeme.[5]  The prefixes which mark
subject are: ni- '1st sg', nikita 'I-it-see', niktoma 'I-it-untie; ti- '2nd sg', tikita
'you-it-see', tiktoma 'you-it-untie'; Ø- '3rd sg', kita 'he-it-sees', kitoma 'he-it-
unties', kinmita 'he-them-sees', kintoma 'he-them-unties'; ti-. . . -lu '1st pl',[6]
tikitalu 'we-it-see', tiktomalu 'we-it-untie'; an- '2nd pl', ankita 'you-it-see', anki-
toma 'you-it-untie'; Ø-. . . -lu '3rd pl', kitalu 'they-it-see', kitomalu 'they-it-
untie', kinmitalu 'they-them-see', kintomalu 'they-them-untie'.

The subject tagmeme is manifested by pronouns: nel, newal '1st sg'; tewante
(n) '1st pl'; tel, tewal '2nd sg'; amwante (n) '2nd pl'; yial, yil, yiwal '3rd sg';
yiwante '3rd pl'. Examples: amo wil kisaya yial 'he couldn't get out' (Pred = amo
wil kisaya, amo 'not', wil 'able to', kisa 'get out', -aya 'imperfect', S = yial 'he');
kinami tewanten tipanulu nikan pa topweblo 'as we get along here in our village'
(kinami 'as', S = tewante 'we', Pred = tipanulu 'we-get-along', L = nikan 'here',
L = pa topweblo 'in our-village'). Of the alternate forms of pronouns, the shorter
ones are heard more often in conversational speech.

Subject is manifested by noun phrases, i.e., the descriptive, attributive and
possessive noun phrases. Descriptive: in ome calimes čihčičiltik 'these two red
houses' (in 'these', ome 'two', calimes 'houses', čihčičiltik 'red'). Attributive:
se kwali lakal čikawak 'a good man and strong' (se 'a', kwali 'good', lakal 'man',
čikawak 'strong'). Possessive: nošolomes ' my-children'; itahcin in mučača 'the
girl's father' (itahcin 'her-father', in mučača 'the girl').

Subject is manifested by a clause: aki kipia inakas ma lakaki 'he who has ears
let him hear' (S = aki kipia inakas, aki 'he who', kipia 'he-it-has', inakas 'his-
ears', ma 'let', lakaki 'he-hears').

The object tagmeme is manifested by the same set of items which manifests the
subject tagmeme.  The manifestants of the subject and object tagmemes are largely
the same from clause type to clause type; hence, their definition will not be repeated
in succeeding sections.

The ordering of tagmemes within the nucleus is not fixed.  The following genera-
lizations, however, are possible:  The object tagmeme occurs more frequently than
the subject;  the object usually follows the predicate.  When both the subject and ob-
ject occur, the preferred order is predicate-subject-object.  The object may be
moved to first place in the clause for emphasis:  in burro nikwitekik newal 'I, myself,
beat the donkey (in burro 'the donkey', nikwitekik 'I-it-beat', newal 'I').  Subject
tagmeme may also occur in the first place of the clause:  in lakwacin kikwa totolin
'the possum eats chicken' (in lakwacin 'the possum', kikwa 'eats', totolin 'chicken').

2.2  The reciprocal clause is expressed by the formula:  r = +(+Pr +S) +Peri,
i.e., a reciprocal clause consists of an obligatory predicate tagmeme, manifested by
a transitive verb stem and an optional subject.  The reciprocal clause has an obliga-
tory absence of the object tagmeme;  it has, within the predicate tagmeme, a recipro-
cal object in place of the specific object of the transitive predicate tagmeme.  ka umpa

mokistitiwalak pin seriatilan 'from there he came taking himself out of the forest'
(L = ka umpik 'from there', Pr = mokištitiwalak, mo- 'reflexive', kišti 'take out',
-ti- 'connective', walak 'came', L = pin seriatilan 'in forest'); timopalewihi 'we
helped ourselves/one another' (Pr = ti- 'we', mo- 'ourselves/one another', palewi
'help', -hi 'preterite plural').

Pr, reciprocal predicate tagmeme, is manifested by a verb phrase, simple or
expanded;  the head slot of the verb phrase is manifested by transitive verb stems
with the reflexive prefix mo-.  The morpheme mo- indicates that the action of the
verb is received by the subject either reflexively or reciprocally.  The reciprocal
predicate differs from the transitive predicate in that the marker mo- is the only
manifestant possible for the object slot within the predicate.  The subject of the re-
ciprocal predicate is, in effect, the object of the action of the verb, i.e., the sub-
ject and the reflexive object are the same person.  Hence, only one dramatis persona
is possible within the nucleus of the reciprocal clause, i.e., the subject.  The sub-
ject tagmeme is optionally present on the clause level. momihmiluk pan lali 'he rolled
himself on the ground' (Pr = mo- 'self', mihmilu 'roll', -k 'preterite', L = pan lali
'on ground');  ašan ke ya timoišimatihi 'now that we have become acquainted' (ašan
ke 'now that', Pr = ya 'already', ti- 'we', mo- 'reciprocal', išmati 'know a person',
-hi 'preterite plural');  mokeca k$^W$alkan 'he-gets-up before dawn' (Pr = mo- 'self',
-keca 'get up', L = k$^W$alkan 'before dawn').

2.3  The semi-transitive clause is expressed by the formula:  st = +(+Pst +S)
+Peri, i.e., a semi-transitive clause consists of an obligatory predicate tagmeme,
manifested by a transitive verb stem, and an optional subject.  The semi-transitive
clause has an obligatory absence of the object tagmeme;  it has within the predicate
tagmeme a generalized or impersonal object in place of the specific object of the tran-
sitive clause.  yial latokatia atras 'he goes along sowing it behind' (S = yial 'he',
Pst = latokatia 'he-goes-along sowing-it', L = atras 'behind');  ya pewas lakwas in
perikos 'already they will begin to eat it' (Pst = ya 'already', pewas 'they will be-
gin', lakwas 'they-will-eat-it', S = in 'the', perikos 'parrots').

Pst, semi-transitive predicate tagmeme, is manifested by a verb phrase, simple
or expanded;  the head slot is manifested by transitive verb stems with the indefinite
object prefix la-.  A semi-transitive predicate differs from a transitive and recipro-
cal predicate by the obligatory presence of the indefinite object prefix la-;  no other
bound object occurs with the semi-transitive predicate.  There is an obligatory ab-
sence of the clause level object tagmeme.  The subject tagmeme is optionally present.
The semi-transitive predicate is transitive in the sense that the action of the verb is
passed on to the indefinite object;  the object is identified in a clause other than the
semi-transitive clause.  ya tilamantinemi kinami len bwey 'already you go about
carrying loads like some ox' (Pst = ya 'already', tilamantinemi, ti- 'you', la- 'in-
definite obj', man- 'carry loads', -tinemi 'go about', M = kinami len bwey 'like
some ox');  tewanten tilamamalu yohi pan lomo 'we bear loads thus on the back' (S =
tewanten 'we', Pst = tilamamalu, ti-. . . -lu 'we', la- 'indefinite obj', mama-
'bear loads', M = yohi 'thus', L = pan lomo 'on back');  yial lamatiaya kil 'he felt
it, it is said' (S = yial 'he', Pst = lamatiaya, la- 'indefinite obj', mati 'feel', -aya
'imperfect', Q = kil, 'it is said').

2.4  The intransitive clause is expressed by the formula:  i = +(+Pi +S) +Peri,
i.e., an intransitive clause consists of an obligatory predicate tagmeme, manifested

by an intransitive verb stem, and an optional subject. There is an obligatory absence of the object tagmeme.

ya istatika in ičkal seha 'already the cotton is turning white again' (Pi = ya 'already', istatika 'is-turning-white', S = in ičkal 'the cotton', M = seha 'again'); kapa lastika pan lapešli 'where she was lying on the bed' (kapa 'where', Pi = las- 'lie down', -tika 'progressive tense', L = pan 'on', lapešli 'bed'); nia pin lwahlan pan nekwli 'I'm going to the woods for honey' (Pi = nia 'I'm going', L = pa kwahlan 'into woods', P = pan nekwli 'for honey').

Pi, intransitive predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot is manifested by an intransitive verb stem. The intransitive predicate has neither specific, indefinite, nor reciprocal bound objects; it has a zero grade of transitivity on both the word and clause level. ašan kiahtika ka yohi 'today it is raining over there' (L = ašan 'today', Pi = kiah- 'it rains', -tika 'progressive tense', L = ka yohi 'over there'); solahtika in kwawil ka miak lakilyo 'the tree is heavy with fruit' (Pi = solah- 'bend limbs', -tika 'progressive tense', S = in kwawil 'the tree', M = ka miak lakilyo 'with much fruit').

3. The nuclei of the causative clause system involve a maximum of three dramatis personae, a subject, an object, and a causative object (cO), i.e., the object which is caused to perform the action of the verb. The predicate slot of the causative clause is manifested by causative verb bases. The term base refers to a construction which consists of a verb stem plus a causative, referential, or causative-referential marker. The causative base itself consists of transitive or intransitive verb stems plus the causative morpheme -ti/-lti (-ti occurs following consonants; -lti occurs following vowels).

All causative bases are non-transitive; some are di-transitive. Causative bases with intransitive stems involve a maximum of two dramatis personae, a subject and a causative object. Causative bases with transitive stems involve a maximum of three dramatis personae, a subject, object, and causative object. The indicative intransitive clause is transformed to a causative clause by the suffixation of the causative morpheme and the addition of the substantitive which manifests the causative object. There are five kernel clauses within the causative system: two transitives, two reciprocals, and one semi-transitive.

3.11 The causative clause A is expressed by the formula: Ctr A = +(+CPtr ±S ±cO ±O) ±Peri, i.e., the causative, transitive clause A consists of an obligatory causative predicate tagmeme, manifested by a causative base with transitive verb stem, optional subject, object, and causative object, and optional periphery. nikihnamikiltik Juan de in lahtol 'I reminded John of the word' (CPtr = nikihnamikil-tik, ni- 'I', k- '3rd sg obj', ihnamiki 'remember', -lti 'causative', -k 'preterite', cO = Juan 'John', O = de in lahtol 'about the word'); nikintohtokaltik in pelohmes in lakwacin 'I set the dogs on the opossum' (CPtr = nikintohtokaltik, ni- 'I', kin- '3rd pl obj', tohtoka 'persecute', -lti 'causative', -a 'present tense', cO = in pelohmes 'the dogs', O = in lakwacin 'the opossum').

CPtr, causative predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot is manifested by causative verb bases with transitive verb stems. A causative verb base with transitive verb stem has three dramatis personae implicit in its bound subjects and objects; they may be optionally made explicit by the

occurrence of the subject, object, and causative object tagmemes. The causative object may be first, second, or third person; the object is always third person. nimicneltokaltia notahcin tewal 'I'll make you obey my father' (CPtr = nimicneltokaltia, ni- 'I', mic- 'you', neltoka 'obey', -lti, 'causative', -a 'present tense', O = notahcin 'my-father', cO = tewal 'you'). For other examples, see previous paragraph.

3.12  The causative clause B is expressed by the formula:  Ctr B = +(+CPi +S +cO) +Peri, i.e., the causative, transitive clause B consists of an obligatory causative predicate tagmeme, manifested by a causative base with intransitive verb stem, optional subject and causative object, and optional periphery. tihčoktia 'you make me cry' (CPi = tihčoktia, ti- 'you', -h-[7] 'me', -čok 'cry', -ti 'causative', -a 'present tense'); tiklakentik in šolul 'you dressed the baby' (CPi = tiklakentik, ti- 'you', k- '3rd sg obj', laken 'blanket', -ti 'causative', -k 'preterite', cO = in šolul 'the baby'); kicopelialtik kuřkopia in kafe 'Curcopia sweetened the coffee' (CPi = kicopelialtik, ki- '3rd sg obj', copelia 'is sweet', -lti 'causative', -k 'preterite', S = kuřkopia 'Curcopia, proper name', cO = in kafe 'the coffee'). The base CPi differs from the base CPtr only in that the former is manifested by intransitive verb stems, the latter by transitive verb stems.

CPi, causative predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot is manifested by causative verb bases with intransitive verb stems. A causative verb base with intransitive verb stem has two dramatis personae implicit in its bound subjects and objects; they may optionally be made explicit by the occurrence of the subject and causative object tagmemes. The causative object may be any of the three persons. kikočiltik maria in šolul 'Mary put the baby to sleep' (CPi = kikočiltik, ki- '3rd sg obj', koči 'sleep', -lti 'causative', -k 'preterite', S = maria 'Mary', cO = in šolul 'the baby'); ya tiolaktia 'it is afternoon' (CPi = ya tiolaktia, ya 'already', tiolak 'is afternoon', -ti 'causative', -a 'present tense'); kiweyiltia in kali 'he enlarges the house' (CPi = kiweyiltia, ki- '3rd sg obj', weyi 'is large', -lti 'causative', -a 'present tense', cO = in kali 'the house').

3.21  The causative-reciprocal clause A is expressed by the formula:  Cr A = +(+CPrtr +S +O) +Peri, i.e., the causative-reciprocal clause A consists of an obligatory causative-reciprocal predicate tagmeme, manifested by a causative-reciprocal base with a transitive verb stem, optional subject and object, and an optional periphery. The causative object and the subject are the same dramatis persona; hence, if an object is expressed, it is the direct object of the verb action. wahcinco nimoaniltik miak šušiyo 'in the morning I daubed myself with the honeycomb' (L = wahcinco 'in the morning', CPrtr = nimoaniltik, ni- 'I', mo- 'myself', ani- 'smear with', -lti 'causative', -k 'preterite', O = miak šušiyo 'much honeycomb'); newal nimomamiltik in masal 'I carried the deer on my back' (S = newal 'I', CPrtr = nimomamiltik, ni- 'I', mo- 'myself', mami 'carry-on-the-back', -lti 'causative', -k 'preterite', O = in masal 'the deer').

CPrtr, causative-reciprocal predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot is manifested by causative verb bases with transitive verb stems and mo- reciprocal. The causative-reciprocal verb base with transitive verb stem has two dramatis personae implicit in its bound subject and object; they may optionally be made explicit by the occurrence of the subject and object tagmemes  The causative object implicit in the verb is the same dramatis persona as the

subject. The object tagmeme for this clause refers only to third person. In ihado momamiltik pa ilomo 'she loaded the godchild on her back' (O = in ihado 'the godchild', CPrtr = momamiltik, mo- 'herself', mami- 'carry-on-back', -lti 'causative', -k 'preterite', L = pa ilomo 'on her-back'); da sierto kinektila monamiktia nošol 'if for sure he's wanting to marry my daughter' (da 'if', M = sierto 'for sure', CPrtr = kinektila monamiktia, mo- 'himself', namik- 'meet', -ti 'causative', -a 'present tense', O = nošol 'my-daughter'); kinami tiyawiluaya timomačiltilu pwes len anmicpanuk 'how would we come to know then what happened to you' ( kinami 'how', CPrtr = timomačiltilu, ti-. . . -lu 'we', mo- 'ourselves', mači- 'learn', -lti 'causative', i.e., 'we cause ourselves to learn', pwes 'then', O = len anmicpanuk, len 'what', anmicpanuk 'happened-to-you').

3.22 The causative-reciprocal clause B is expressed by the formula: Cr B = +(+CPri +S) +Peri, i.e., the causative-reciprocal clause B consists of an obligatory causative-reciprocal predicate tagmeme, manifested by a causative-reciprocal base with an intransitive verb stem, optional subject, and optional periphery. The causative object and the subject are the same dramatis persona. rikarda mokočiltik čokatika pa ikočian 'Dickie put herself to sleep crying on her bed' (S = rikarda 'Dickie', CPri = mokočiltik, mo- 'herself', koči 'sleep', -lti 'causative', -k 'preterite', čokatika 'is-crying', L = pa ikočian 'on her-sleeping-place'); molakentia kwaltičin 'she dresses herself beautifully' (CPri = molakentia, mo- 'herself', laken 'blanket', -ti 'causative', -a 'present tense', M = kwaltičin 'beautifully'); moweyiltia in koyamil 'the pig gets fat' (CPri = moweyiltia, mo- 'itself', weyi 'is big', -lti 'causative', -a 'present tense'); molehkultitinemiluaya kwawimes se wan okse 'they were going around climbing trees one with another' (CPrtr = molehkultitinemiluaya, mo- 'themselves', lehku- 'go up', -lti 'causative', -ti 'conjoiner', nemi- 'go about', -lu 'pl sbj', -aya 'imperfect tense', O = kwawimes 'trees', S = se wan okse 'one with another').

CPri, causative-reciprocal predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot is manifested by causative-reciprocal verb bases with intransitive verb stems and mo- 'reciprocal'. The causative-reciprocal verb base with intransitive verb stem has only one dramatis persona, the subject, which may be made explicit on the clause level. The causative object is the same dramatis persona as the subject. šimokalaktikan pin kalihtik ka umpek 'enter yourselves in the house over there' (CPri = šimokalaktikan, ši- 'imperative', mo- 'yourselves', kalaki- 'enter',[8] -ti 'causative', -kan 'pl sbj', L = pin 'in', kal- 'house', -ihtik 'inside', L = ka umpek 'over there'); ka umpek mokištitiwalak pin seriatilan 'from there he came leaving the forest' (L = ka umpek 'from there', CPri = mokištitiwalak, mo- 'himself', kisa-[9] 'go out', -ti 'causative', i.e., 'he caused himself to go out', -ti 'conjoiner', -wala 'come', -k 'preterite', L = pin 'in', seriatilan 'forest').

3.3 The causative-semi-transitive clause is expressed by the formula: Cst = +(+CPst +S) +Peri, i.e., the causative-semi-transitive clause consists of an obligatory causative-semi-transitive predicate tagmeme, manifested by a causative-semi-transitive base with transitive or intransitive verb stems, an optional subject, and an optional periphery. There is an obligatory absence of both object and causative object; there is an obligatory presence of the indefinite object -la prefixed to the verb base. lačoktia 'he makes someone cry' (CPst = lačoktia, la- 'indefinite obj', čok- 'cry', -ti 'causative', -a 'present tense'); nilačiwaltitika lakwalispan 'I

cause things to be done at noon' (CPst = nilačiwaltitika, ni- 'I', la- 'indefinite obj', čiwa- 'do', -lti 'causative', -tika 'progressive tense', L = lakwalispan 'at-noon'); nilatekipanultitinemi r̃esio 'I go around making them work hard' (CPst = nilatekipa-nultitinemi, ni- 'I', la- 'indefinite obj', tekipanu 'work', -lti 'causative', -ti 'con-joiner', nemi 'go around', M = r̃esio 'hard').

CPst, causative-semi-transitive predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot is manifested by causative verb bases with transitive or intransitive stems and the indefinite object prefix la-. No other bound objects are possible; there are no object tagmemes possible on the clause level. lalakentia 'he dresses people' (CPst = lalekentia, la- 'indefinite obj', laken 'clothing', -ti 'causative', -a 'present tense'); laweyiltia 'he makes things big' (CPst = laweyiltia, la- 'indefinite obj', weyi 'is big', -lti 'causative', -a 'present tense'); lapahahtia mohmosta 'he puts sashes on people every day' (CPst = lapahah-tia, la- 'indefinite obj', pahah- 'put-on-sash', -ti 'causative', -a 'present tense', L = mohmosta 'every day').

4. The nuclei of the referential clause system involve a maximum of three dra-matis personae, a subject, an object, and a referential object (rO), i.e., an object which is the recipient or beneficiary of the action of the verb. The predicate slot of the clause is manifested by referential verb bases, i.e., a base which consists of transitive or intransitive verb stems plus the referential morpheme -li. All referen-tial bases are mono-transitive; some are di-transitive. Referential base with in-transitive stem involves a maximum of two dramatis personae, a subject and a refe-rential object. Referential base with transitive stem involves a maximum of three dramatis personae, a subject, an object, and a referential object. The indicative intransitive clause is transformed to the referential clause by the suffixation of the referential morpheme and the addition of the substantive which manifests the referen-tial object. There are five kernel clauses within the referential system: two transi-tives, two reciprocals, and one semi-transitive.

4.11 The referential clause A is expressed by the formula: Rtr A = +(+RPtr +S +S +rO +O) +Peri, i.e., the referential clause A consists of an obligatory refe-rential predicate tagmeme, manifested by a referential base with transitive verb stem, optional subject, referential object, and object, and optional periphery. ničtemuwilik newal in biga 'he lowered the beam for me' (RPtr = ničtemuwilik, nič- 'me', temuwi 'lower', -li 'referential', -k 'preterite', rO = newal 'for me', O = in biga 'the beam'); tikinmahokilia yewanten in costales pan bur̃o 'you lifted up the corn for them onto the donkey' (RPtr = tikinmahokilia, ti- 'you', kinm- '3rd pl obj', ahoki 'lift up', -li 'referential', -a 'present tense', rO = yewanten 'for them', O = in costales 'bags-of-corn', L = pan bur̃o 'onto donkey').

RPtr, referential predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot is manifested by referential verb bases with transitive verb stems. A referential base with transitive stem has three dramatis personae implicit in its bound subjects and objects; they may optionally be made explicit by the occur-rence of subject, object, and referential object tagmemes. The referential object may be first, second, or third person; the object is always third person. quinami ničlakecilini nel nonancin in kwento 'as my mother told me the story' (quinami 'as', RPtr = ničlakecilini, nič- 'to me', lakeci 'converse', -li 'referential', -ni 'remote

preterite', rO = nel 'to me', S = nonancin 'my-mother', O = in kwento 'the story');
pos yalu nícitililu in tamali nikan 'well they aren't going to find the tamali for me
here' (pos 'well', RPtr = amo 'not', yalu 'they-go', nícitililu, níč- 'for me', iti-
'find', -li 'referential', -lu 'pl sbj', O = in tamali 'the tamale', L = nikan 'here');
toantigüedad tečkawilihi tewanten toawelohmes 'our forefathers left for us our an-
cient ways' (O = toantigüedad 'our-ancient-ways', RPtr = tečkawilihi, teč- 'for us',
kawi- 'leave', -li 'referential', -hi 'preterite pl', rO = tewante 'for us', S =
toawelohmes 'our-forefathers').

4.12 The referential clause B is expressed by the formula: Rtr B = +(+RPi +S
+rO) +Peri, i.e., the referential clause B consists of an obligatory referential pre-
dicate tagmeme, manifested by a referential base with intransitive verb stem, optional
subject and referential object, and optional periphery. yiwal nehčokilik newal 'he
cried for me' (S = yiwal 'he', RPi = nehčokilik, neh- 'for me', čoki- 'cry', -li 're-
ferential', -k 'preterite', rO = newal 'for me'); nikcahcilik yiwal 'I yelled at him'
(RPi = ni, 'I', k- 'at him', cahci- 'yell', -li 'referential', -k 'preterite', rO =
yiwal 'at him'); kinkwalanilia in totolen iparačitos 'the hen defends her chicks'
(RPi = kinkwalanilia, kin- 'for them', kwalani 'be angry, stirred up', -li 'referen-
tial', -a 'present tense', S = in totolen 'the hen', rO = iparačitos 'for her chickens').

RPi, referential predicate tagmeme, is manifested by a verb phrase, simple or
expanded; the head slot is manifested by referential verb bases with intransitive
verb stems. A referential base with intransitive stem has two dramatis personae im-
plicit in its bound subjects and object; they may optionally be made explicit by the
occurrence of subject and referential object tagmemes. nimickwahmiluilis tewal 'I
will clear-the-field for you' (RPi = nimickwahmiluilia, ni- 'I', mic- 'for you',
kwahmilui- 'clear-field', -li 'referential', -s 'fut', rO = tewal 'for you');
annickukulihtataya newal amwanten 'you were angrily criticizing me' (RPi =
annickululihtataya, an- 'you-pl', níč- 'with me', kuku- 'be piquant', -li 'referen-
tial', -tata 'continuative', -ya 'imperfect', rO = newal 'with me', S = amwanten
'you-pl'); tiktekipanuilihtika yiwal 'you are working for him' (RPi = tiktekipanuilih-
tika, ti- 'you', k- 'for him', tekipanui 'work', -li 'referential', -h 'conjoiner',
-tika 'continuative', rO = yiwal 'for him').

4.21 The referential-reciprocal clause A is expressed by the formula: Rr A
= +(+RPrtr +S +O) +Peri, i.e., the referential-reciprocal clause A consists of an
obligatory referential-reciprocal predicate tagmeme, manifested by a referential-
reciprocal base with transitive verb stem, optional subject and object, and optional
periphery. There is an obligatory absence of the referential object tagmeme; the
subject and referential object are the same dramatis persona. It is signaled by mo-
prefixed to the referential verb base. Some occurrences of mo- are translated with
reflexive rather than referential meaning. mosta nimokuwilis se kwařačes 'tomorrow
I'll buy sandals for myself' (L = mosta 'tomorrow', RPrtr = nimokuwilis, ni- 'I', mo-
'for myself', kuwi- 'buy', -li 'referential', -s 'future', O = se kwařačes 'one-pair-
of-sandals'); hasta mokickilik in kušpa 'until he grabbed the iguana' (hasta 'until',
RPrtr = mokickilik, mo- 'for himself', kicki- 'grab', -li 'referential', -k 'preterite',
O = in kušpa 'the iguana').

RPrtr, referential-reciprocal predicate tagmeme, is manifested by a verb phrase,
simple or expanded; the head slot is manifested by referential-reciprocal verb base
with transitive verb stem. A referential-reciprocal verb base with transitive verb

stem has two dramatis personae implicit in its bound subjects and objects; they may optionally be made explicit by the occurrence of the subject and object tagmemes. nimokowilia se cocomahli 'I buy for myself some clothes' (RPrtr = nimokowilia, ni- 'I', mol 'for myself', kowi- 'buy', -li 'referential', -a 'present', O = se cocomahli 'some clothes'); tewanten timočiwilihmi tokwi 'we make clothes for ourselves' (S = tewanten 'we', RPrtr = timočiwilihmi, ti- 'we', mo- 'for ourselves', čiwi- 'make', -li 'referential', -hmi 'pl sbj', O = tokwi 'our-clothes').

4.22 The referential-reciprocal clause B is expressed by the formula: Rr B = +(+RPri +S) +Peri, i.e., the referential-reciprocal clause B consists of an obligatory referential-reciprocal predicate tagmeme, manifested by a referential-reciprocal base with intransitive verb stem, an optional subject, and an optional periphery. There is an obligatory absence of both referential object and object tagmemes. The subject and referential object are the same dramatis persona. mokukulihtikate se wan okse 'they are angrily criticizing' (RPri = mokukulihtikate, mo- 'themselves', kuku- 'be piquant', -li 'referential', -h 'conjoiner', -tika 'continuative', -te 'pl sbj', S = se wan okse 'one-and-another/they'); mokwahmiluililu yiwanten inwian 'they clean land only for themselves' (RPri = mokwahmiluililu, mo- 'for themselves', kwahmilui- 'clear-land', -li 'referential', -lu 'pl sbj', S = yiwanten 'they', M = inwian 'they-only').

RPri, referential-reciprocal predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot is manifested by referential-reciprocal verb base with intransitive verb stem. A referential-reciprocal verb base with intransitive verb stem has but one dramatis persona, the subject. The referential prefix mo- signals the dramatis persona which is at once subject, reflexive object, and referential object. yiwal močokilia 'he cries for himself' (S = yiwal 'he', RPri = močokilia, mo- 'for himself', čoki- 'cry', -li 'referential', -a 'present'); mokwalanilia in buřo 'the donkey got (himself) angry' (RPri = mokwalanilia, mo- 'himself', kwalani 'become angry', -li 'referential', -a 'present', S = in buřo 'the donkey').

4.3 The referential-semi-transitive clause is expressed by the formula: Rst = +(+RPst +S) +Peri, i.e., the referential-semi-transitive clause consists of an obligatory referential-semi-transitive predicate, manifested by a referential-semi-transitive base with transitive or intransitive verb stems, an optional subject, and an optional periphery. There is an obligatory absence of both referential object and object tagmemes; there is an obligatory presence of the indefinite object -la prefixed to the verb base. The referents of the indefinite object and the referential object are the same dramatis persona; it is never made explicit on the clause level. lačiwilihtinemilu 'they go about doing things-for-people' (RPst = lačiwilihtinemilu, la- 'things-for-people', 'indefinite obj', čiwi- 'do', -li 'referential, -h 'conjoiner', -ti 'conjoiner', -nemi- 'go around', -lu 'pl sbj'); lakukulihtinemi siempre 'he always goes around angrily criticizing people' (RPst = lakukulihtinemi, la- 'people', 'indefinite obj', kuku- 'be piquant', -li 'referential', -h, 'conjoiner', -ti 'conjoiner', -meni 'go around', M = siempre 'always').

RPst, referential-semi-transitive predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot is manifested by referential-semi-transitive verb base with either transitive or intransitive verb stems and the indefinite object prefix la-. No other bound objects are possible; there are no object tagmemes on the clause level. lakwalanilia siempre in lakal 'that man is always angry at people'

(RPst = lakwalanilia, la- 'people, indefinite obj', kwalani 'be angry', -li 'referential', -a 'present', M = siempre 'always', S = in lakal 'that man'); mosta lakuwilis 'tomorrow', RPst = lakuwilis, la- 'things-for-people', 'indefinite obj', kuwi- 'buy', -li 'referential', -s 'future').

5. The nuclei of the causative-referential clause system involve a maximum of four dramatis personae, a subject, object, referential object, and causative object. The predicate slot of the clause is manifested by causative-referential verb bases, i.e., a base which consists of a transitive or intransitive verb stem plus both the causative and referential markers, -ti/-lti + -li (-tili occurs following consonants; -ltili occurs following vowels). All causative-referential bases are di-transitive; some are tri-transitive. The causative-referential base with intransitive stem involves a maximum of three dramatis personae, i.e., a subject, referential object, and causative object. The causative-referential base with transitive stem involves a maximum of four dramatis personae, i.e., subject, object, referential object and causative object. The indicative intransitive clause is transformed to the causative-referential clause by the suffixation of the causative-referential morpheme and the addition of the substantitives which manifest the various objects. There are five kernel clauses within the causative-referential system: two transitive, two reciprocals, and one semi-transitive.

5.11 The causative-referential clause A is expressed by the formula: CRtr A = +(+CRPtr $\pm$S $\pm$cO $\pm$rO $\pm$O) +Peri, i.e., the causative-referential clause A consists of an obligatory causative-referential predicate tagmeme, manifested by a causative-referential base with transitive verb stem, optional subject, causative object, referential object, and object, and an optional periphery. nimicnamakiltilis tewal in kali prahedes 'I'll make you sell the house for Praxedes' (CRPtr = nimicnamakiltilis, ni- 'I', mic- 'you', namaki- 'sell', -lti 'causative', -li 'referential', -s 'future', cO = tewal 'you', O = in kali 'the house', rO = prahades 'for Praxedes'); tihcayaniltilik newal in koton rikardo 'you made me rip Dick's shirt for him' (CRPtr = tihcayaniltilik, ti- 'you', h- 'me', cayani 'rip', -lti 'causative' -li 'referential', -k 'preterite', cO = newal 'me', O = in koton 'the shirt', rO = rikardo 'for Dick').

CRPtr, causative-referential predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot is manifested by causative-referential verb base with transitive verb stem. A causative-referential verb base with transitive stem has four dramatis personae implicit in its bound subject and object affixes; they may optionally be made explicit by the occurrence of the subject, causative object, referential object, and object tagmemes. Both the referential and causative objects may refer to any of the three persons but the object is always third person. nimickapunaltilis tewal in pačulimes in lakal 'I'll make you pull up the plants for the man' (CRPtr = nimickapunaltilis, ni- 'I', mic- 'you', kapuna 'pluck-up', -lti 'causative', -li 'referential', -s 'future', cO = tewal 'you', O = in pačulimes 'the plants', rO = in lakal 'the man'); nikmamiltiluilik hwan in burro tewal 'I made John load the donkey for you' (CRPtr =nikmamiltiluilik, ni- 'I', k- 'obj 3rd sg', mami 'load-on-back', -lti 'causative', -luili 'referential', [10] -k 'preterite', cO = hwan 'John', O = in burro 'the donkey', rO = tewal 'you').

5.12 The causative-referential clause B is expressed by the formula: CRtr B = +(+CRPi $\pm$S $\pm$cO $\pm$ rO) $\pm$Peri, i.e., the causative-referential clause B consists of

an obligatory causative-referential predicate tagmeme, manifested by a causative-referential base with intransitive verb stem, optional subject, causative object, and referential object, and optional periphery.  niklakentilik in šolul inancin 'I dressed the baby for its mother' (CRPi = niklakentilik, ni- 'I', k- 'obj 3rd sg', laken-'blanket', -ti 'causative', -li 'referential', -k 'preterite', cO = in šolul 'the baby', rO = inancin 'his-mother');  newal nikweyiltilik notahcin in kali 'I enlarged the house for my father' (S = newal 'I', CRPi = nikweyiltilik, ni- 'I', k- 'obj 3rd sg', weyi 'is big', -lti 'causative', -li 'referential', -k 'preterite', rO = notahcin 'my-father', cO = in kali 'the house').

CRPi, causative-referential predicate tagmeme, is manifested by a verb phrase, simple or complex;  the head slot of the verb phrase is manifested by causative-referential verb base with intransitive verb stem.  A causative-referential verb base with intransitive stem has three dramatis personae implicit in its bound subject and object affixes;  they may optionally be made explicit by the occurrence of the subject, causative object, and referential object tagmemes.  Both the causative and referential objects may refer to any of the three persons but the object is always third person. tičyukšiltilia nel nolakwali 'you prepare my food for me' (CRPi = tičyukšiltilia, tič-'you-for-me', yukši- 'it cooks', -lti 'causative', -li 'referential', -a 'present', rO = nel 'for me', cO = nolakwali 'my-food');  in tonali kišukuyaltilik Federico ilarahas 'the sun soured Frederick's oranges' (S = in tonali 'the sun', CRPi = kišukuyaltilik, ki- 'obj 3rd sg', šukuya 'it sours', -lti 'causative', -li 'referential', -k 'preterite', rO = federiko 'for Frederick', cO = ilarahas 'his-oranges').

5.21  The causative-referential-reciprocal clause A is expressed by the formula:  CRr A = +(+CRPrtr +S +O) +Peri, i.e., the causative-referential-reciprocal clause A consists of an obligatory causative-referential-reciprocal predicate tagmeme, manifested by a causative-referential-reciprocal base with transitive verb stem, optional subject and object, and optional periphery.  There is an obligatory absence of both referential and causative objects.  The subject, referential and causative objects are the same dramatis persona. nimomamiltilik yalwa in kostales 'I caused myself to carry for myself the bags yesterday (CRPr = nimomamiltilik, ni-'I', mo- 'for myself', mami- 'carry-on-back', -lti 'causative', -li 'referential', -k 'preterite', L = yalwa 'yesterday', O = in kostales 'the bags');  anmolakwaltilis anmolaškali pa kwalkan 'you'll feed yourselves the tortillas before dawn' (CRPrtr = anmolakwaltilis, an- 'you pl', mo- 'for yourselves', lakwa 'eat', -lti 'causative', -li 'referential', -s 'future', anmolaškali 'your-tortillas', L = pa kwalkan 'before dawn').

CRPrtr, causative-referential-reciprocal predicate tagmeme, is manifested by a verb phrase, simple or complex;  the head slot of the verb phrase is manifested by a causative-referential-reciprocal verb base with a transitive verb stem.  A causative-referential-reciprocal verb base with transitive stem has two dramatis personae implicit in its bound subject and object affixes;  they may optionally be made explicit by the occurrence of the subject and object tagmemes.  The subject, referential and causative objects are the same dramatis persona;  they are marked in the base by the reciprocal prefix mo-.  The subject causes the causative object to effect the action of the verb for the sake of the referential object.  leka timočikawaltilik lapešli 'why did you make the bed hard for yourself?' (leka 'why', CRPrtr = timočikawaltilik, ti-'you', mo- 'for yourself', čikawa 'is strong', -lti 'causative', li 'referential', -k

'preterite', O = lapešli 'bed'); timopicaltilik ihyekal tewal 'you made a breeze for yourself, i.e., you fanned yourself' (CRPrtr = timopicaltilik, ti- 'you', mo- 'for yourself', pica- 'it blows', -lti 'causative', -li 'referential', -k 'preterite', O = ihyekal 'breeze', S = tewal 'you').

5.22  The causative-referential reciprocal clause B is expressed by the formula: CRr B = +(+CRPri +S) +Peri, i.e., the causative-referential-reciprocal clause B consists of an obligatory causative-referential-reciprocal predicate tagmeme, manifested by a causative-referential-reciprocal base with intransitive verb stem, optional subject and optional periphery. There is an obligatory absence of all types of object tagmemes. The subject, referential and causative objects are the same dramatis persona, i.e., the subject makes itself (causative object) effect the action of the verb for itself (referential object). mokwahkwawiltilihtinemi 'he goes around wood-cutting for himself' (CRPri = mokwahkwawiltilihtinemi, mo- 'for himself', kwahkwawi- 'cut-wood', lti 'causative', -li 'referential', -h 'conjoiner', -ti 'conjoiner', nemi 'go about'); motemiltilia yiwal ka layoli 'he fills it for himself with corn' (CRPri = motemiltilia, mo- 'for himself', temi- 'it fills', -lti 'causative', -li 'referential', -a 'present', S = yiwal 'he', M = ka layoli 'with corn').

CRPri, causative-referential reciprocal predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot of the verb phrase is manifested by a causative-referential-reciprocal verb base with intransitive verb stem. A causative-referential-reciprocal verb base with intransitive stem has only one dramatis persona implicit in its bound prefixes; it is optionally made explicit by the occurrence of the subject tagmeme. The subject, referential object, and causative object are the same dramatis persona; they are marked in the base by the reciprocal marker mo-. močoktilia in šolul pa kwalkan 'the baby cries before dawn' (CRPri = močoktilia, mo- 'for himself', čok- 'cry', -lti 'causative', -li 'referential', -a 'present', S = in šolul 'the baby', L = pa kwalkan 'before dawn'); moweyiltilik in lakal 'the man felt very proud' (CRPri = moweyiltilik, mo- 'for himself', weyi 'is big', -lti 'causative', -li 'referential', -k 'preterite', i.e., 'the man caused himself to feel very great for his own benefit', S = in lakal 'the man').

5.3  The causative-referential semi-transitive clause is expressed by the formula: CRst = +(+CRPst +S) +Peri, i.e., the causative-referential semi-transitive clause consists of an obligatory causative-referential semi-transitive predicate, manifested by a causative-referential semi-transitive base with transitive or intransitive verb stems, an optional subject, and an optional periphery. There is an absence of all object tagmemes; there is the obligatory occurrence of the indefinite object marker la-. The referents of the indefinite object, the causative object, and the referential object are the same dramatis persona; it is never made explicit on the clause level. tilamačiltililu tewanten 'we make known things-for-them' (CRPst = tilamačiltililu, ti- 'we', la- 'things-for-them', mači- 'know', -lti 'causative', -li 'referential', -lu 'pl sbj', S = tewanten 'we'); lakwalantilini siempre 'he had always angered them-for-something' (CRPst = lakwalantilini, la- 'them-for-something', kwalan- 'be angry', -ti 'causative', -li 'referential', -ni 'remote preterite', M = siempre 'always').

CRPst, causative-referential semi-transitive predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot of the verb phrase is manifested by a causative-referential semi-transitive verb base with either transitive or intran-

sitive verb stems and the indefinite object prefix la-. No other bound objects occur; no object tagmemes occur on the clause level. lakuwiltilia mohmosta pa tianguis 'he causes them to buy things-for-them every day in the market' (CRPst = lakuwiltilia, la- 'indefinite obj', kuwi- 'buy', -lti 'causative', -li 'referential', -a 'present', L = mohmosta 'daily', L = pa tianguis 'in the market'); laweyiltilik itahcin 'his father enlarged it-for-them' (CRPst = laweyiltilik, la- 'it-for-them', weyi 'is big', -lti 'causative', -li 'referential', -k 'preterite', S = itahcin 'his-father').

6. Derived clause types for each of the nineteen kernel clauses, defined in sections one through five, are imperative and permissive. Sub-section 6.1 and 6.2 are used to delineate the structure of these two derived verbal clauses.

6.1 Any kernel clause is transformed to an imperative clause by the affixation of imperative markers to the verb stem or base. To mark singular imperative, the morpheme ši- is prefixed to the verb; to mark plural imperative, the morpheme ši- is prefixed to the verb and the morpheme -kan is suffixed to the verb. The prefix ši- is mutually exclusive with the second order prefixes which mark subject. All tense suffixes are dropped when either singular or plural imperative markers are affixed to a verb. For the imperative clause, the verb base is obligatorily clause-initial. The manifestants of the nuclear and peripheral tagmemes are the same for kernel and derived clauses. The following examples demonstrate the nineteen kernel clauses in the derived imperative form. tr = šikwika pwes noihado 'take away my godson then!' (Ptr = šikwika, ši- 'imperative', kwika 'take away', pwes 'then', O = noihado 'my-godson'); r = šimolali 'sit down!' (Pr = šimolali, ši- 'imperative', mo- 'yourself', lali 'put sown'); st = šia šilašawa pa mila 'go plow in the cornfield!' (Pst = šia 'go!!' šilašawa, ši- 'imperative', la- 'indefinite object', šawa 'plow', L = pa mila 'in the cornfield'); i = šiwala ka nik 'come here!' (Pi = šiwala, ši- 'imperative', wala 'come', L = ka nik 'here'); Ctr A = amo šiklakwalti maik laškali noihado 'don't feed my godson many tortillas (CPtr = amo šiklakwalti, amo 'no', ši- 'imperative', k- 'obj 3rd sg', lakwa 'eat', -lti 'causative', O = miak laškali 'many tortillas', cO = noihado 'my-godson'); Ctr B = šiklakenti mošolul 'dress your child!' (CPi = šiklakenti, ši- 'imperative', k- 'obj 3rd sg', laken- 'blanket', -ti 'causative', cO = mošolul 'your-child'); Cr A = šimomaštitia 'go on learning!' (CPrtr = šimomaštitia, ši- 'imperative', mo- 'yourself', maš- 'teach', -ti 'causative', -ti 'directional', -a 'present'); Cr B = šimolakenti pa kwahli 'get dressed in the woods!' (CPri = šimolakenti, ši- 'imperative', mo- 'yourself', laken- 'blanket', -ti 'causative', L = pa kwahli 'in woods'); Cst = šilamaštitinemi 'go about teaching people!' (CPst = šilamaštitinemi, ši- 'imperative', la- 'indefinite obj, people', maš- 'learn', -ti 'causative', -ti 'conjoiner', nemi 'go about'); Rtr A = šiknamakili hwan in kostal 'sell the bag to John!' (RPtr = šiknamakili, ši- 'imperative', k- 'obj 3rd sg', namaki- 'sell', -li 'referential', rO = hwan 'to John', O = in kostal 'the bag'); Rtr B = šiccahcili pa kwalkan 'call for me early!' (RPi = šiccahcili, ši- 'imperative', č- 'for me', cahci 'yell', -li 'referential', L = pa kwalkan 'early'); Rst = šilalalpačulihtinemikan 'go about burying people-for-others' (RPst = šilalalpačulihtinemikan, ši- 'imperative', la- 'people-for-others', lalpaču- 'bury', -li 'referential', -hti 'conjoiner', nemi 'go about', -kan 'pl sbj'); CRtr A = šiknamakiltili yiwal in kali margarito 'make him sell the house to Margarito' (CRPtr = šiknamakiltili, ši- 'imperative', k- '3rd sg obj', namaki- 'sell', -lti 'causative',

-li 'referential', cO = yiwal 'him', O = in kali 'the house', rO = margarito 'Mar-
garito'); CRtr B = šikweyiltili in kwahmili motahcin 'enlarge the cornfield for your
father!' (CRPi = šikweyiltili, ši- 'imperative', k- 'obj 3rd sg', weyi 'is big', -lti
'causative', -li 'referential', cO = in kwahmili 'cornfield', rO = motahcin 'your-
father'); CRr A = šimočikawaltili tewal molapešli 'make the bed hard for yourself'
(CRPrtr = šimočikawaltili, ši- 'imperative', mo- 'for yourself', čikawa- 'harden',
-lti 'causative', -li 'referential', S = tewal 'you', O = molapešli 'your-bed'); CRr
B = šimokwalantili 'get angry with yourself' (CRPri = šimokwalantili, ši- 'impera-
tive', mo- 'with yourself', kwalani 'is angry', -ti 'causative', -li 'referential');
CRst = šilaweyiltili mohmosta 'every day enlarge it-for-them!' (CRPst = šilaweyil-
tili, ši- 'imperative', la- 'it-for-them', weyi 'is big', -lti 'causative', -li 'referen-
tial', L = mohmosta 'every day').

6.2 Any kernel clause is transformed to a derived permissive clause by the pre-
posing of the free form ma 'permissive' to the verb phrase. Any person and object
prefix may occur with the verb base except the imperative ši-. When the permissive
morpheme occurs, all tense suffixation is dropped. When the permissive ma- refers
to plural subject, it is marked by the suffix -kan. For the permissive clause the pre-
dicate tagmeme is obligatorily clause-initial. The manifestants of the nuclear and
peripheral tagmemes are the same for the kernel and permissive clauses. The per-
missive morpheme has two areas of meaning: (1) a mild imperative, especially used
when giving orders to members of the older generation; (2) asking permission to do
something. The following examples demonstrate the nineteen kernel clauses in the
derived permissive form. tr = ma tihkwakan in nakal 'let's eat the meat' (Pt = ma
tihkwakan, ma 'permissive', ti- 'we', h- 'obj 3rd sg', kwa 'eat', -kan 'pl sbj', O
= in nakal 'the meat'); r = ma timolalikan 'let's sit down' (Pr = ma timolalikan, ti-
'we', mo- 'reciprocal', lali 'place', -kan 'pl sbj'); st = ma nilatokatia pin kwah-
mili 'let me go sowing in the cornfield' (Pst = ma nilatokatia, ni- 'I', la- 'indefinite
obj', toka- 'sow', -ti 'directional', -a 'present', L = pin kwahmili 'in the corn-
field'); i = ma lehkukan pa punta 'let them climb to the top' (Pi = ma lehkukan,
lehku- 'ascend', -kan 'pl sbj', L = pa punta 'to the top'); Ctr A = ma kimačilti in
šolomes 'let him teach the children' (CPtr = ma kimačilti, ki- 'obj 3rd sg', mači-
'learn', -lti 'causative', O = in šolomes 'the children'); Ctr B = ma nečkišti pin
nikan 'let her take me out here' (CPi = ma nečkišti, neč- 'me', kiš- 'come out', -ti
'causative', L = pin nikan 'here'); Cr A = ma molakwalti 'let him feed himself'
(CRrtr = ma molakwalti, mo- 'himself', lakwa- 'eat', -lti 'causative'); Cr B = ma
molakenti 'let him dress himself' (CPri = ma molakenti, mo- 'himself', laken 'blan-
ket', -ti 'causative'); Cst = ma nilamaštitia kahkapa 'let me go teaching people
everywhere' (CPst = ma nilamaštitia, ni- 'I', la- 'indefinite obj', maš- 'learn', -ti
'causative', -ti 'directional', -a 'present', L = kahkapa 'all over'); Rtr A = ma
nimickawili moihado 'let me leave for you your godson' (RPtr A = ma nimickawili, ni-
'I', mic- 'for you', kawi- 'leave', -li 'referential', O = moihado 'your-godson');
Rtr B = ma tečkwalanili 'let him defend us' (RPi = ma tečkwalanili, teč- 'us',
kwalani 'be angry', -li 'referential'); Rr A = ma nimokwepili okse plato 'let me
bring myself another plate' (RPrtr = ma nimokwepili, ni- 'I', mo- 'for myself',
kwepi 'bring back', -li 'referential', O = okse plato 'another plate'); Rr B = ma
mokwalanili 'let him defend himself' (RPri = ma mokwalanili, mo- 'for himself',

kwalani 'is angry', -li 'referential'); Rst = ma lalalpačulikan in lakames 'let the
men bury them-for-others' (RPst = ma lalalpačulikan, la- 'them-for-others',
lalpaču- 'bury', -li 'referential', -kan 'pl sbj', S = in lakames 'the men'); Crtr A
= ma tehčikawaltilwili tewanten itapon in boteya 'let him tighten the top on the bottle
for us' (CRPtr = ma tehčikawaltilwili, teh- 'for us', čikawa- 'tighten', -lti 'causa-
tive', -lwili 'referential', rO = tewanten 'for us', O = itapon in boteya 'the bottle-
top'); CRtr B = ma niklakentili in šolul inancin 'let me dress the baby for his mother'
(CRPi = ma niklakentili, ni- 'I', k- 'obj 3rd sg', laken 'blanket', -ti 'causative',
-li 'referential', cO = in šolul 'the baby', rO = inancin 'his-mother'); CRr A = ma
nimočikawaltili in lapešli 'let me make the bed hard for myself' (CRPrtr = ma
nimočikawaltili, ni- 'I', mo- 'for myself', čikawa 'hard', -lti 'causative', li- 're-
ferential', O = in lapešli 'the bed'); CRr B = ma mokwahkwawiltilihtia 'let him go
wood-cutting for himself' (CRPri = ma mokwahkwawiltilihtia, mo- 'for himself',
kwahkwawi- 'wood-cut', -lti 'causative', -li 'referential', -h 'conjoiner', -ti 'di-
rectional', -a 'present'); CRst = ma tilamačiltilikan 'let's announce it-to-people'
(CRPst = ma tilamačiltilikan, ti- 'we', la- 'it-to-people', mač- 'learn', -lti 'causa-
tive', -li 'referential', -kan 'pl sbj').

7. Kernel clauses of the nominal system are descriptive and existential. The
predicates of these clauses are manifested by nominal elements or a form of the verb
'to be'. No objects are manifested within the nuclei. Peripheral tagmemes are the
same as in the four major clause systems.

7.11 The descriptive (d) clause is expressed by the formula: d = +(+Pd +S)
+Peri, i.e., the descriptive clause consists of an obligatory descriptive predicate
tagmeme manifested by nouns, an optional subject and an optional periphery. newal
nilakal 'I am a man' (S = newal 'I', Pd = nilakal, ni- 'I', lakal 'man'); huan tel
tibravo 'and you are a very mean person' (huan 'and', M = tel 'very', Pd = tibravo,
ti- 'you', bravo 'mean person'); porque tiamigos miak ka amhuanten entero anomen-
ten 'because we are great friends with you, very much with you' (porque 'because',
Pd = tiamigos, ti- 'we', amigos 'friends', M = miak 'great', M = ka amhuanten
'with you-pl', M = entero anomenten 'completely with-you-pl').

Pd, descriptive predicate tagmeme, is manifested by a noun phrase, simple or
expanded; the head slot of the noun phrase is manifested by nouns. The noun is ob-
ligatorily marked for person by the same set of person prefixes that mark verbs, see
section 2.1. The meaning of the descriptive predicate tagmeme is that of the subject's
being characterized by or equated with the meaning of the noun which manifests the
predicate tagmeme. tewal tilapahtini 'you are a doctor' (S = tewal 'you', Pd = tila-
pahtini, ti- 'you', lapahtini 'healer'); newal nisiwal 'I am a woman' (S = newal 'I',
Pd = nisiwal, ni- 'I', siwal 'woman').

7.12 The descriptive-possessive (dp) clause is expressed by the formula: dp
= +(+Pdp +S) +Peri, i.e., the descriptive-possessive clause consists of an obliga-
tory descriptive-possessive predicate tagmeme, manifested by possessed nouns, an
optional subject, and an optional periphery. newal nimosiwal 'I am your wife' (S =
newal 'I', Pdp = nimosiwal, ni- 'I', mo- 'your', siwal 'woman'); tewal tinolakal
'you are my husband' (S = tewal 'you', Pdp = tinolakal, ti- 'you', no- 'my', lakal
'man'); yewanten nopelomes 'they are my dogs' (S = yewanten 'they', Pdp = nope-
lomes, no- 'my', pelo- 'dog', -mes 'pl').

Pdp, descriptive-possessive predicate tagmeme, is manifested by a noun phrase, simple or expanded; the head slot of the noun phrase is manifested by nouns. The noun is obligatorily marked for person by the set of verbal person markers and by the set of nominal possessive markers. The possessor of the possessed noun is optionally made explicit in the noun phrase.

The nominal person markers are: no- 'lat sg', nošolul 'my-baby'; mo- '2nd sg', mošolul 'your baby', i- '3rd sg', išolul 'his/her baby'; to- 'lst pl', tošolul 'our baby'; anmo- '2nd pl', anmošolul 'your baby', in- '3rd sg', inšolul 'their baby'.

The noun filler of the head slot of the noun phrase is optionally marked for plural by the suffix -mes 'plural'. The nominal person markers with plural noun are: nopelomes 'my dogs', mopelomes 'your dogs', ipelomes 'his/her dogs', topelomes 'our dogs', anmopelomes 'your dogs', inpelomes 'their dogs'.
Examples of a simple noun phrase manifesting the head slot of the predicate tagmeme: tewal tiilakal 'you are her husband' (S = tewal 'you', Pdp = tiilakal, ti- 'you', i- 'her', lakal 'man'); yewanten noiknimes 'they are my children' (S = yewanten 'they', Pdp = noiknimes, ∅ '3rd pl sbj', no- 'my', ikni 'child', -mes 'pl').
Examples of an expanded noun phrase in which the head slot is manifested by a possessed noun and the other slot is manifested by the possessor of the possessed noun: tewal tiilakal maria 'you are Maria's husband' (S = tewal 'you', Pdp = tiilakal maria, ti- 'you', i- 'her', lakal 'husband', maria 'possessor of husband'); iyolo ičkal 'it is the heart of the cotton' (Pdp = iyolo ičkal, i- 'its', yolo 'heart', ičkal 'cotton, possessor of heart'); iikni cikal 'it is the brother of the ant' (Pdp = iikni cikal, i- 'his', ikni 'brother', cikal 'ant, possessor of the brother'). The possessor slot may precede the possessed noun: in kostal ikamak 'it is the mouth of the sack' (Pdp = in kostal ikamak, in 'the', kostal 'bag, possessor of the mouth', i- 'its', kamak 'mouth').

7.2  The existential (e) clause is expressed by the formula:  e = +(+Pe +S) +Peri, i.e., the existential clause consists of an obligatory existential predicate, manifested by the verb meaning 'existence', or 'to be in a place', an optional subject and an optional periphery. There is an obligatory absence of object tagmemes in the nucleus. ha he sora kataya 'there was just one fox' (M = ha 'just', S = he sora, 'one fox', Pe = kataya 'was'); porque amo nikataya newal 'because I was not there' (porque 'because', Pe = amo nikataya, amo 'no', ni- 'I', kataya 'be there', S = newal 'I'); he sakacindi unka 'there is one weed' (S = he sakacindi 'one weed', Pe = unka 'there is').

Pe, existential predicate tagmeme, is manifested by a verb phrase, simple or expanded; the head slot of the verb phrase is manifested by the verb unka 'existence', or the verb kataya 'existence or location'. de punta kata siempre 'he was always on top' (L = de punta 'up on top', Pe = kata 'was', M = siempre 'always'); ni se pelo amo kataya 'there wasn't even one dog' (ni 'not', S = se pelo 'one dog', Pe = amo kataya, amo 'not', kataya 'was').

The existential predicate tagmeme is also manifested by an expanded verb phrase which consists of the verb 'to be' plus Spanish loan words, either adjectives or nouns. unka bwen kargo ka nel nopersona nikan 'it is a good responsibility with my person here, i.e., you have a very responsible person here, namely me' (Pe = unka bwen kargo, unka 'is', bwen kargo 'good responsibility', M = ka nel 'with me', nopersona

'my-person', L = nikan 'here'); tikate reunidos nikan pan lugar pin husgado 'we are
assembled here in this place in the courthouse' (Pe = tikate reunidos, tikate 'we are',
reunidos 'assembled', L = nikan 'here', L = pan lugar 'in this place', L = pin
husgado 'in the courthouse').

    7.3  Derived clauses of the nominal system are imperative and permissive.  They
are defined in the same way as derived clauses of the verbal system;  see section 6.1
for definition.  The following examples demonstrate the derived forms of the descrip-
tive, descriptive-possessive, and existential clauses:

    For descriptive clauses, only the derived permissive clause occurs:  d = ma
tiamigos siempre 'let us always be friends' (Pd = ma tiamigos, ma 'let', ti- 'we',
amigos 'friends'); d = ma tilapahtini 'may you be a doctor' (Pd = ma tilapahtini, ti-
'you', lapahtini 'doctor').

    For descriptive-possessive clauses, only the derived permissive clause occurs:
dp = ma nimolakal 'let me be your husband' (Pdp = ma nimolakal, ni- 'I', mo- 'your',
lakal 'man'); dp = ma tewal tiilakal maria 'that you be Maria's husband' (Pdp = ma
tiilakal, ti- 'you', i- 'her', lakal 'man', S = tewal 'you', Maria 'possessor of
husband').

    For existential clauses, both the imperative and permissive types occur:  e =
amo šiye tonto 'don't be a fool' (Pe = amo šiye, amo 'no', ši- 'imperative', -ye
'existence', tonto 'stupid'); e = šikaya nikan lakwalispan 'be here at noon!' (Pe =
šikaya, ši- 'imperative', -kaya 'be-location', L = nikan 'here', L = lakwalispan
'noon'); e = yohi ma ye 'let it be thus' (M = yohi 'thus', Pe = ma ye, ye 'existence');
e = ma kayakan nikan pa tiolak 'let them be here by evening' (Pe = ma kayakan, kaya
'be-location', -kan ' pl sbj', L = nikan 'here', L = pa tiolak 'at evening').


<div align="center">FOOTNOTES</div>

1  Michoacán Nahual is spoken by about a thousand persons located in four villages
near the Pacific Coast of the State of Michoacán, México.  In two of these villages
Pómaro and San Pedro, Nahual is the language preferred by old and young alike,
though all are more or less bilingual in Spanish.  In the other two villages, Coire and
Ostula, the Nahual language has been replaced by Spanish.  Data were gathered by
William R. Sischo on field trips from 1960-64 under the auspices of the Summer In-
stitute of Linguistics, Mexico Branch.  Principal informants were Zenaido de Aquino
y Chavez, Nicholas de Papas, Gabriel Flores y Calixto.  Mr. Sischo is responsible
for the gathering of the texts and conversation materials used in the body of the paper
as illustrations;  Mr. Robinson helped in the organization and writing of the paper.
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this article.  The final draft was prepared at a similar workshop in 1966.

    While Michoacán Nahual is structurally similar to other Nahuatl dialects, it is

nevertheless lexically divergent from them, having displaced many Nahual words with Spanish equivalents, as well as having different meanings for Nahual words which occur in other dialects.  This dialect, for want of a better term, is tentatively clas- sified as an 'l' dialect because of the occurrence of 'l' where 'tl' or 't' would occur in other dialects.  See the recent publication on the phonology of another 'l' dialect near Toluca, Otto Shuman, México.

Michoacán Nahual phonemes are voiceless stops /p, t, k, kw/, voiced stops /b, d, g/, affricates /c, č/, fricatives /s, š, h/, glottal stop, nasals /m, n/, liquids /l, r/, semi-vowels /w, y/, high vowels /i, u/, mid vowels /e, o/, low vowel /a/, /w/ has two allophones f, b.  Low vowel has a higher allophone in unstressed final syllables.
   Selected morphophonemic rules for Michocán Nahual:
1.  č  $\longrightarrow$  š /  ___t
2.  c  $\longrightarrow$  s /  ___t
3.  s  $\longrightarrow$  š /  ___i, t
4.  e  $\longrightarrow$  i / no stress
5.  u  $\longrightarrow$  o / stress
6.  W  $\longrightarrow$  h / coda slot of syllable, but not word final
7.  k  $\longrightarrow$  h /  ___k
8.  c, č  $\longrightarrow$  h /  ___c, č, s, š
9.  p  $\longrightarrow$  k /  ___t
The full phonology will be dealt with in succeeding articles.

2                          GLOSSARY  OF  SYMBOLS

| | | | | | |
|---|---|---|---|---|---|
| i | = | intransitive | C | = | causative |
| r | = | reciprocal | I | = | Indicative |
| tr | = | transitive | O | = | object |
| st | = | semi-transitive | P | = | predicate |
| d | = | descriptive | S | = | subject |
| e | = | existential | p | = | possessive |
| Ctr | = | causative-transitive | | | |
| Cr | = | causative-reciprocal | | | |
| Cst | = | causative-semi-transitive | | | |
| Rtr | = | referential-transitive | | | |
| Rr | = | referential-reciprocal | | | |
| Rst | = | referential-semi-transitive | | | |
| Crtr | = | causative-referential-transitive | | | |
| CRr | = | causative-referential-reciprocal | | | |
| CRst | = | causative-referential semi-transitive | | | |
| rO | = | referential object | | | |
| cO | = | causative object | | | |

| CLAUSE SYMBOLS | PREDICATE SYMBOLS | DRAMATIS PERSONAE SYMBOLS |
|---|---|---|
| Indicative system: | | |
| tr | Ptr | S O |
| r | Pr | S |
| st | Pst | S |
| i | Pi | S |
| Causative system: | | |
| Ctr A | CPtr | ScO O |
| Ctr B | CPi | ScO |
| Cr A | CPrtr | S O |
| Cr B | CPri | S |
| Cst | CPst | S |
| Referential system: | | |
| Rtr A | RPtr | SrO O |
| Rtr B | RPi | SrO |
| Rr A | RPrtr | SOO |
| Rr B | RPri | S |
| Rst | RPst | S |
| Causative-referential system. | | |
| CRtr A | CRPtr | ScOrO O |
| CRtr B | CRPi | ScOrO |
| CRr A | CRPrtr | S O |
| CRr B | CRPri | S |
| CRst | CRPst | S |