STUDIES IN PERUVIAN INDIAN LANGUAGES: I

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INDIAN LANGUAGES: I

Editor's Note

The seven articles which comprise this volume describe, in part, the structures of some of the languages spoken in eastern Peru. The data were gathered and the articles written as part of the Summer Institute of Linguistics field program in that country. The Institute currently has 31 languages under investigation in eastern Peru, so additional studies of these languages will be forthcoming.

Five of the articles are syntactic studies cast in the tagmemic format developed by Kenneth L. Pike; indeed, his influence is apparent in all of the articles. The last two articles deal with the phonology of the languages under attention.

Mary Ruth Wise served as consultant on many of the articles. Viola Waterhouse has served as Assistant Editor for the volume, and Lucille Schneider gave valuable assistance in preparing the manuscripts for printing.

For convenience of composing the book the symbol ʌ has been used where the authors of the manuscripts used ɨ.

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THE STRUCTURE AND CONTEXTS
OF WITOTO PREDICATES
IN NARRATIVE SPEECH

by
Eugene E. Minor and Eugene E. Loos

0. Introduction

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0. Introduction. The description of the contexts of Witoto[1] predicates begins at the topic level in 1. The topic is the largest structural segment within a narrative. The

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[1] The Witoto number about 80 families in Peru and live along the tributary rivers north of the Amazon from Iquitos, Peru, to the Colombian border. This description of the predicates in the Muinana dialect of Witoto is based on data gathered by Eugene Minor during the years 1952-1954 and 1956-1960, and was organized through the combined work of

sentence level is described in 2. Sentence components in-
cluding clauses which are the immediate contexts of predi-
cates, are described in 3. In 4.1 the structure of predi-
cates is described, and in 4.2-8 the structures of other
clause components are described. 5 gives other examples
of these components in context.

1. Topics. A topic in Witoto is a structural unit
larger than a sentence and smaller than the complete legend
or narrative in which it occurs. Topics occur distributed
throughout a narrative. Nontopical portions of a narrative
may be more extensive than the topical portions, but lack

Eugene Loos and Eugene Minor. The data were gathered from various
informants, and were checked by Ramón Zeballo Díaz, a Witoto man of
about 38 years of age, who lives by the Ampiyaco River.

The phonemes of Muinanʌ Witoto are: a, b, ʔb, č, d, ʔd, ɛ, g, h,
i, ʃ, k, m, n, ñ, ŋ, ɔ, ɓ, p, r, t, u, and ʌ (Minor, 1956). Orthographic
symbols e, o, and v are used hereafter for ɛ, ɔ, and ɓ, respectively.
A ligature indicates a diphthong, e.g. apemeĵ 'then'.

The following symbols and abbreviations are used in the paper:
A agent, Adj adjective, Av adverb, B bitransitive, CO causative-
object, c.prt connective particle, DS different subject, H head, I Instru-
ment, In intransitive, IO indirect object, L locative, Loc location, M
modifier, Ma manner, N noun, O object, P predicate, Prt particle,
R root, S subject, SS same subject, st state, T temporal, Tm time,
t.prt temporal particle, Tr transitive, U unitransitive, V verb, x
expression (as in Nx noun expression), + obligatory occurrence, ± op-
tional occurrence, ~ phonologically defined alternate, ∞ morphologically
defined alternate, [ ] complex unit filling a single slot, : in formulas
equals 'filled by', / indicates 'or', < > a representative member of a
class of substitutable items.

Throughout the paper, the same symbol is used for slot and tag-
meme unless there is a particular reason to indicate both the slot and
filler. Thus, in the examples in 3.21, T is used for the temporal slot
and the temporal tagmeme, but the contrastive predicate tagmeme is
symbolized as InP:InV, to be read "intransitive predicate slot filled by
intransitive verb."

the distinctive verb root repetitions that characterize the development of a topic.

A topic includes the repetition of a verb root and is developed by making a statement, then amplifying in succeeding sentences or clauses the thought of the first statement. One or more repetitions of the verb root of the first statement signal the occurrence of such a thought development. The repetition of the verb root may occur preceding or following the amplification of the idea. Topics may occasionally also be identified by the occurrence of certain particles that serve as topic markers, e.g. hira 'therefore', apemei 'then'.

The following discussion presents some of the different kinds of relationships that may occur in a topic between such a repeated verb root and the clauses or sentences to which it is related.

(a) Quotation. In the following example, the speech quoted is bounded by the two verbs 'he said'. The repetition of 'he said' indicates that all included quotation is by the same individual: onódʌmamo daʌde. "haẹ nʌbaʌ kuẹ hi?do nʌpóde rʌa. nʌbaʌ hʌko rʌga o bu paga." daʌde. 'To-wise-man he-said. "Now why my son what eat? Perhaps by-tiger was-eaten or who killed?" he said.'

(b) Plot: prediction-execution. In the following example, the repetition of bi- 'to come' signals fulfillment of the prediction, and introduces the amplifying comment 'his son now truly he is': o hi?dódʌ uíre mongiñe hi?dʌ bii?de. benó o hopo gʌĵʌmo bii?deta. haẹ bi?de iadʌ da hi?dó haẹ ua i?de. 'Your son later not-skying dark will-come. Here your house yard-at will-come-now. Now he-comes but his son now truly he-is.' (Your son will come later at night. He will come to the yard or your house. Now he comes, and it is truly his son.)

(c) Observation: basis-comment. In the example, the

repetition of hiĵó 'to get well' marks a comment that is made regarding the first occurrence of hiĵó: hạẹ apémadʌ pʌa hiĵode. ?daíno ĵoñéde. ua kụẹ hi?dodʌ ua hiĵoi?de, dạʌde apémadʌ hạẹ. 'Now he slowly gets-well. Lie he-did-not-tell. "Truly my son truly will-get-well," said he now.'

(d) Assertion: statement and verification, or statement and denial. In the example, the repetition of merîka 'was stolen' marks the verification of a preceding statement: nokʌ ana hiʌta ?dạʌpe merʌka . . . ua pia ?dạʌpe merîka. 'The-rain under a-child by-a-demon was-stolen . . . Truly just by-demon had-been-stolen.'

(e) Interrogation: question-answer. In the example, the repetition of pa- 'to kill' answers a question: nʌbạʌ hʌko rʌga o bu paga, daʌde. onódʌmadʌ pañéga daʌde. '"Perhaps by-a-tiger was-eaten, or who killed?" he-said. Wise-man "He-is-not-killed," he-said.'

(f) Detail. In the example, the repetition of ĵʌʌno- 'to take hold' in the succeeding sentences gives more details about the idea expressed in the first sentence: rạʌre o ĵʌʌnori, dạʌde. ĵʌʌnoi?dʌo, iadʌ ʌere ona ạʌni?deta. ñue o ĵʌʌnori, dạʌde. ĵʌʌnoi?dʌomo uíre monạĵ haîkʌri ia bii?dʌkụẹta, dạʌde. '"Quickly you take-hold," he-said. "You-will-take-hold but very you he-will-bite-now. Well you will-take-hold." he-said. "When-you-take-hold, later at-noon I will come." he-said.'

(g) Progression. In the example, the repetition of bi- 'to come' and ñi?dá?da- 'cause to sniff' indicate a progression of events: hạẹ onódʌmadʌ bi?dá apéma ñue manóde. hạẹ biĵáno hipitạʌ ĵʌkîkana da ñʌ?dá?dade. ñʌ?dá?dano dạʌde, hạẹ - - hạẹ ñue kụẹ manókata. 'Now wise-man having-come him well he-healed. Now having-come pepper cooked him he-caused-to-sniff. Having-caused-to-sniff, he-said, "Now now well by-me has-been-healed."'

(h) Commanded activity: command and compliance. In

the example, the repetition of eróí- 'to see' marks the
compliance to the previously given command: maj baʔdʌ
omaʌ eróį. hae eróįdʌkaʌmo biʔde. 'Now you-all look
there. Now when-we-looked, it-came.'

(i) Reciprocal activity. In the example the repetitions
of buʔdá- 'to hit' mark the reciprocation of the same ac-
tivity between the opponents: bǎga dǎga hǎáʌma buʔdádeʌoʌ.
meíne ʌbána buʔdáde. meíne ʌbána buʔdáde. 'Club with
another-man they-hit. Again in-return he-hit. Again in-
return he-(the first man)-hit.'

(j) Apposition: equational statements. In the example
the repetition of bi- 'to come' marks the restatement of the
original and introduces an apposition in the vocative:
ñeñajte ñʌgo mei biʔdío. pʌgo enajtitoma pʌgo o bija.
'Nephew well then came-you. Well nephew-sun well you
came.'

(k) Emphasis. In the first example the repetition of
bi- 'to come' and henuaj- 'to go look for' emphasizes the
duration and the intensity of the activity respectively. In
the second example the repetition of jo- 'to tell' emphasizes
by negative antithesis the quality of the first statement: hae
darui amani biñéna, biñéna. hira hae da moodʌ onódʌma
henuajde, henuajde. 'Now three days doesn't-come, doesn't-
come. Therefore now his father a-wise-man goes-to-find,
goes-to-find.' uápue joʔde. ʔdaʌno joñéde. 'Truth he-
told. Lie he-didn't-tell.'

2. Sentence types. Witoto sentences comprise three
mood types (see 2.1) which crosscut the independent-
dependent division (see 2.2). Sentences are distributed
within topics or within nontopical portions of narrative.

2.1. Mood types. The sentences related to the
repeated verb root in a topic may be in predominant mood,

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subsidiary mood, or imperative mood. Predominant mood sentences, including those in nontopical portions, are used for the narration of the principal theme of the story. Subsidiary mood sentences are usually used for giving supplementary background or descriptive information. In narratives, imperative mood sentences are used only in quotations.

Differences in the terminal suffixes of the predicate slot fillers constitute one of the distinguishing features of the clauses in each of the three moods (see 4.13). The verb structures of primary clauses in predominant mood sentences include a Class 1000 suffix as terminal. In such primary clauses the independent subject tagmeme is an optional clause component; the Class 1000 suffixes manifest an obligatory subject tagmeme within the verb structure. The verb structures of the predicate in subsidiary mood sentences contain a Class 2000 (except 2007) nonpersonal terminal suffix. No subject tagmeme is included in the predicate; an independent subject tagmeme occurs as an obligatory clause component. If the subsidiary mood sentence is dependent, however, the occurrence of the subject tagmeme is optional. The verb structures of the predicate in imperative mood sentences include terminal suffix 2001, for polite commands, or 2007. A subject tagmeme rarely occurs in imperative mood clauses, but mai 'now', manifesting the time tagmeme, almost always occurs.

2.2. Independent and dependent types. The distribution and composition of the sentence determine whether a sentence is independent or dependent.

2.21. Independent sentences. An independent sentence is not grammatically dependent on the occurrence of another sentence. Its structure may be simple, complex, or compound. A simple sentence is composed of a single primary

clause (distinguished from subordinate clauses by the form
of the predicate (see 3.22). An example is: onódʌma bi?de
'wise-man came'. A complex sentence is composed of a
primary clause plus one or more subordinate clauses, for
example, meníṯʌ pakódʌkạʌmo, haíde abiódʌ 'Turtles
when-we-were-catching, went the-plane'. A compound
sentence is composed of two primary clauses with or without
subordinate clauses, joined by a connector such as iadʌ
'and, but', as in the example: hạẹ bi?da, iadʌ da hi?dó
hae ua i?de. 'Now he-came, and his son now truly was-
there.'

Both independent and dependent sentences include
declarative and interrogative types. Interrogative sen-
tences differ from other types of sentences in the composi-
tion of the primary clause. They include two subtypes.
In the first subtype, which is interrogative of information-
content, the primary clause must include interrogative word
followed by a predicate in either predominant or subsidiary
mood. Examples are: nʌpóde okódʌo 'What are-you-
eating?' bu bij̃a 'Who is-coming?' In the second subtype,
which elicits a 'yes' or 'no' answer, a predicate in the
predominant mood may compose the minimal form. An
example is: biñei?dʌkṵẹ 'shall-I-not-come?' Interroga-
tive sentences occur in narration only as quotations and
are not further discussed in this paper.

2.22. Dependent sentences. Dependent sentences are
grammatically incomplete utterances which need information
from their context to identify implied, but omitted, compo-
nents. They may consist of (1) a response without a
predicate tagmeme, (2) a subsidiary mood sentence con-
taining no subject tagmeme, (3) a transitive clause with
omitted object tagmemes, or (4) a closure phrase for ter-
minating stories and activities. In the following examples,

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the dependent sentences are shown in brackets: (1) ʌere
kųedʌ haįaį aįǰo duikodaįdʌkųę mʌʌ.　[ñee nʌnó?]
[putumáio abʌmo.]　'A-long-time-ago I very severely
was-ill, brother. [Well, where?] [The-Putumayo-River
near]' (2) nokʌ ana hiʌta ?daʌpe meríka. [hąę darui amani
biñéna, biñéna.] 'The-rain during a-child by-the-demon
was-stolen.　[Already three days did-not-come, did-not-
come.]' (3) o hi?dódʌ uʌre monaiñe hí?dʌ bíi?de . . .
[raʌre o ǰʌʌnori.] 'Your son early tomorrow while-it-is-
dark will-come. [You quickly take!]' (4) pueto aturomo
haíde lača. [hąę nʌʌę.] 'To Puerto Arturo goes the launch.
[Now that (is all).]'

3. Sentence components. Extra-clause structures
and clauses are included components within a sentence. A
clause is the obligatory component in independent sentences.

3.1. Extra-clause structures. Extra-clause compo-
nents of the sentence include clause connectors, interjec-
tions, and vocatives.

3.11. Clause connectors. A clause connector occurs
in a compound sentence between consecutive independent
clauses, and serves to relate the two clauses to one another.
In the following example, iadʌ 'but' is the connector. It is
distinguished for the reader by underline: ǰʌʌnoį?dʌo,
iadʌ ʌere ona aʌni?deta. 'You-will-take, BUT very you
he-will-bite-now.'
　Connectors also occur in simple sentences preceding
the independent clause, to relate the clause to the inde-
pendent clause of a preceding but noncontiguous sentence.
An example is: maį ba?dʌ omaʌerói . . . hąę eróidʌkaʌmo
bi?de. 'Now there you-all-look! . . . NOW when-we-
looked it-came.'

In addition to connective particles, illustrated above, there are also connective phrases. These are constructed according to the following formula: [t.prt + c.prt] / [c.prt + t.prt], i.e. temporal particle plus connective particle: mei iadʌ 'then but', or connective particle plus temporal particle: hira haꬴ 'so now'.

3.12. <u>Interjections</u>. Interjections usually occur sentence initial and are represented by the form hʌʌʌʌʌ 'yes, of course'.

3.13. <u>Vocatives</u>. Vocatives may precede or follow a clause, and consist of vocative words which are usually abbreviated forms of nouns expressing kinship terms. Examples are: mʌʌ 'brother (of a man)' mirʌ 'sister (of a man)', ebuj̦ 'sister (of a woman)'.

3.2. <u>Clauses</u>. A predicate tagmeme is obligatory in all clauses. The following additional tagmemes occur in one or more of the clause types: (O) object, (CO) causative-object, (S) subject, (A) agent, (L) locative, (IO) indirect object, (I) instrument, (Ma) manner, and (T) temporal.

A primary clause is the obligatory component of an independent sentence (see 3.21). A subordinate clause is an optional component of the sentence. Subordinate clauses differ from primary clauses in the distinctive terminal suffixes of the predicate (see 3.22).

3.21. <u>Primary clauses</u>. Primary clauses differ from one another in the fillers of the predicate slot and in the occurrence of object tagmemes. These differences distinguish three basic types of primary clauses: intransitive, unitransitive, and bitransitive. Their minimum forms, with

the normal sequence of components, are shown in formulas below. Note, however, that in the primary clause of an independent subsidiary mood sentence, the subject tagmeme is obligatory also, and that the object and causative-object tagmemes are optional in dependent sentences.

Type I, intransitive clause, is symbolized by the formula + InP:InV.

Intransitive clauses differ from unitransitive clauses by having a predicate slot filled by one of five intransitive verb structures (see 4.12), and by the obligatory absence of an object tagmeme. There are two subtypes of intransitive clause: (a) intransitive action clause and (b) intransitive state clause. The intransitive action clause has intransitive active verbs (see formulas 1, 4, and 5 of intransitive verbs in 4.12), while the intransitive state clause has intransitive state verbs (see formulas 2 and 3 or intransitive verbs in 4.12), as filler of the predicate slot. The following examples show these two verb types in minimum and expanded form. The symbol in brackets preceding each tagmeme identifies the tagmeme.

(a) Intransitive action clause: [InP:InV] aịtʌkụe 'I-run'; [T] birụj [L] benómena [L] hopómo [Ma] raʌre [InP] aịtʌ́dʌkụe. 'Today from-here to-your-house quickly I-run.'

(b) Intransitive state clause: [InstP:InstV] utírede 'It-is-hot'; [T] naụj [S] kụe aịjokaedʌ [Ma] ʌere [InP:InstV] mokorede. 'Formerly my big-canoe very was-green.'

Type II, unitransitive clause, is symbolized by the formula + O + UP:UV.

Unitransitive clauses have, as distinctive features, an obligatory predicate slot filled by one of six unitransitive verb structures (see 4.12) and an obligatory object slot filled by a noun or noun expression optionally suffixed

by the object indicator -na. An example is: [T] uíre
monąi hakári ia [O] ąiʃue ooggęna [L] daaąemona [L] omo
[I] nokąedo [Ma] rąąre [UP:UV] aˀdʌiˀdʌkųę. 'Tomorrow
at-noon quickly I-will-bring from-him to-you a-large head-
of-bananas by-canoe.'

Type III, bitransitive clause, is symbolized by the
formula + CO + O + BP:BV.

Bitransitive clauses (causative) have a predicate slot
filled by one of five bitransitive verb structures (see 4.12),
and an obligatory causative-object tagmeme expressing
'object of causation', as well as an obligatory object tag-
meme expressing 'object of action' as in clause type II.
Examples are: [CO] kųę hitana [O] kųę gʌʃʌ [BP:BV]
kurúˀdaˀdʌkųę. 'My daughter my yard I-caused-to-
cultivate'; [T] naųįri [CO] kųę hiˀdóna [O] ąiʃue aména
[IO] ori [I] čovémado [BP:BV] iʌˀda ˀdadʌkųę. 'Yester-
day my son the-big-tree for-you with-an-axe I-caused-
to cut-down.'

3.22. Subordinate clauses. Subordinate clause types
parallel the primary clause types described above, but
differ from primary clauses in the following ways: (1) The
verbs manifesting subordinate predicate slots include Class
3000 terminal suffixes. (2) The instrument tagmeme does
not occur in subordinate clauses. (3) If in the same sen-
tence the subjects of a subordinate clause predicate and a
primary clause predicate have the same referent, the sub-
ject normally is manifested only in the primary clause.
(4) In the eight texts checked, subordinate clauses tend to
be shorter than primary clauses, usually having only one
or two tagmemes in addition to the predicate. The following
are subordinate clauses taken from texts: hąę biʃáno . . .
'Now having-come'; menítąʌ pakódʌkaąmo . . . 'turtles

when-we-were-catching'; da tapénaɪʔdaɟena . . . 'for to-
dry'.

Subordinate clauses normally precede the primary
clause, with the following exceptions: (1) Negative result
clauses with a predicate filler terminating in -idaʌi 'there-
fore-does-not--' follow the primary clause, and (2) pur-
pose clauses with a predicate filler terminating in -ɟena 'in
order to' may precede or follow the primary clause. The
maximum number of permitted subordinate clauses in a
single sentence is not definitely established. Two, and
sometimes three, are most common. Limitations, if any,
on the types of subordinate clauses that may be used in the
same sentence are not yet defined.

4. Clause components. A predicate tagmeme (see 4.1)
is the obligatory component of all Witoto clauses. Other
components are object (see 4.2), causative-object (see
4.2), subject (see 4.3), agent (see 4.4), locative (see 4.5),
indirect object (see 4.5), instrument (see 4.6), manner
(see 4.7), and temporal (see 4.8) tagmemes. Some of these
have occurrence limitations depending on verb mood (see
2.1), transitivity (see 2.22 and 3.21), and voice (see 4.4).

4.1. Predicate. The predicate slot is filled by a verb[2]
which, in general, is composed of a verb root with optional
and/or obligatory thematic suffixes of the century class,

[2] The predicate slot may be filled by other than verb words in two
rather infrequent types of utterances: (a) The equational type which has
a predicate filled by a noun or noun expression akʌ dʌnó mʌ tikʌpeko.
nʌnó imáčʌ nate? 'Hark, here brother corner-of-the-house. Where
these-people's door?' (b) The descriptive type which has a predicate
filled by an adjective kuę hopódʌ aiɟuę. 'My house big'. In the texts
gathered and studied to date these two types of utterances are very in-
frequent. Some informants seem never to use them.

and obligatory terminal suffixes of one of the millenium classes. There are three basic types of verbs: intransitive, unitransitive, and bitransitive. These verb types are distinguished by the types of clauses in which they occur (see 3.21), and by internal structural differences. The structural differences are found in the specific combinations of the different classes of verb roots with thematic suffixes. (See formulas in 4.11.) For this reason, in this section, thematic suffixes are presented in detail first (see 4.11), then the formulas and discussion of the verb types (see 4.12), and finally, the various classes of terminal suffixes (see 4.13).

4.11. Thematic suffixes. The century number indicates that the morpheme belongs to the thematic class of suffixes. Decade numbers indicate, in general, order of occurrence beginning at the root. Digit numbers distinguish mutually exclusive members of the same order class. Order has been established by testing both from the root toward the terminal suffixes, and vice versa.

101 –do 'causative, augmentative'.

111 –ri 'repetitive'.

112 –pʌ 'habitual'.

113 –ti 'passive causative'.

114 –rui 'transitivizer, full of'.

121 –re 'positive, potential, and possession'.

122 –rii 'quantity of time or distance'.

123 –ni 'negative'.

131 –no ~ –ño 'diminutive'. –ño occurs following stems ending in the vowel i, –no occurs elsewhere. Examples are: okóno?de 'he-eats-a-little', aʌniño?dʌku̯e 'I-bit-a-little'.

141 –koʌ 'plural objects', 'large size objects'.

142 –bi 'passivizer'.

151 -tʌ 'plural participants'. In intransitive verbs and preceding 161 -ʔda in unitransitive or bitransitive verbs, -tʌ indicates plural actors. Following 161 -ʔda in unitransitive and bitransitive verbs -tʌ indicates plural objects or plural causative-objects. Following 111 -ri in transitive verbs, -tʌ indicates plural objects or plural causative-objects.

161 -ʔda 'causative'.

171 -o ~ -oi 'continual, habitual'. The distribution of the allomorphs of this suffix is not fully defined. -o may occur following a stem or suffix terminating in any vowel, and -oi occurs only following the vowels ʌ and u. Examples are: itiode 'he-always-hurts (someone)', bʌíode 'it-always-rains', kokʌ́oide 'it-always-falls', hiúoʃakadʌkue 'I-always-want-to-chase'. ·

172 -kai 'intensive, reflexive'.

173 -nai 'reflexive, passive'.

181 -aka 'desiderative'.

191 -ñe 'negative'.

201 -i 'future tense'.

4.12. Verb types. In the verb formulas below, the thematic suffixes 181 -aka 'desiderative', 191 -ñe 'negative', and 201 -i 'future' have been omitted since they do not affect the type of structure in which they occur and since, in general, they may occur in any of the structures shown by the formulas. Because of the uncertainty of their meanings and of the clause types in which they may occur, suffixes 101 -do 'causative', 172 -kai 'intensive, reflexive', and 173 -nai 'reflexive, passive'[3] are not shown in the formulas.[4]

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[3] This assignment of order and meaning to 101 -do, 172 -kai, and 173 -nai is tentative, pending further data.

[4] Two other thematic suffixes are not dealt with in the text of this

Terminal suffixes are indicated by 0000 which includes any terminal suffix and by 2005 when it is obligatory. Thus, details of the verb structures are given only for the themes since they are contrastive in different types of predicate slot fillers (see 3.21); details with reference to mood (see 2.1) are not given.

4.121. Intransitive verbs. Intransitive verbs (InV) are symbolized by the following formulas:

1. + InR ± 111 (-ri) ± 112 (-pʌ) ± 121 (-re) ± [123 (-ni) / 191 (-ne)] ± 131 (-no) ± 151 (-tʌ) + 0000: makáripʌrenotʌde 'Many-people-habitually-really-walk-about-a-little'.

2. + stR + 121 (-re) ± 112 (-pʌ) ± 121 (-re) ± 131 (-no) ± 151 (-tʌ) ± 171 (-o) + 0000: itírepʌrenotʌode 'Every-day-many-people-habitually-hurt-(ache)-a-little'.

3. + stR + 113 (-ti) ± 141 (-koʌ) ± 151 (-tʌ) + 0000: mokotikoʌtʌde 'Many-big-things-have-been-caused-to-be-green'.

4. + TrR ± 111 (-ri) ± 131 (-no) + 142 (-bi) ± 151 (-tʌ) ± 161 (-ʔda) + 0000: íriñobitʌde 'Many-have-been-repeatedly-cut-a-little'.

5. + TrR ± 111 (-ri) ± 131 (-no) ± 151 (-tʌ) ± 161 (-ʔda) + 2005 (-ga): íriñotʌga 'Many-have-repeatedly-been-cut-a-little'.

The differences of the intransitive verb structures as formularized above are now presented in detail.

An intransitive verb structure may have, as in

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paper due to lack of data on the complex verb structures which they form: 301 aʌbi 'motion toward speaker', i.e. 'come to do', and 302 -ahi 'motion away from speaker', i.e. 'go to do'. Their order of occurrence is generally after suffix 161 -ʔda 'causative' and before suffix 181 -aka 'desiderative'. However, after the occurrence of either of these, some of the thematics may occur. This may indicate that they are a class of stem formatives of orders closer to the root.

formula 1, an intransitive action root (IrR): aitÁde 'he-
runs'; or as in formulas 2 and 3, an intransitive state root
(StR) mokorede 'it- is-green'; or as in formulas 4 and 5,
a transitive root (TrR) iÁde 'he-chopped'. Apart from
what seem to be semantic restrictions, any root may be
reduplicated to signal intensification or prolongation of
action or both.[5]

Structures formed with intransitive action roots have
no obligatory thematic suffixes, but those formed with in-
transitive state roots must have either suffix 121 -re
'positive, potential' (formula 2), or suffix 113 -ti 'passive
causative' (formula 3) following the root. Structures formed
with transitive roots must be passivized either by 142 -bi
'passivizer' (formula 4), or by terminal suffix 2005 -ga
'passive completive' (formula 5). Of the optional thematic
suffixes only 151 -tᴧ 'plural participants' may occur with
all five formulas. 131 -no 'diminutive' has been found in
all except formula 3.

Restrictions and additions to InV formulas:

Formula 3: 113 -ti 'passive causative' does not occur
when the terminal suffix 2005 -ga 'passive completive'
occurs.

Formula 4: 161 -?da 'causative' is mutually obligatory

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[5] Reduplication consists of the doubling of the first two syllables of
the verb structure. Since verb roots rarely if ever exceed two syllables,
reduplication involves the entire root, and when the root is monosyllabic,
contiguous monosyllabic thematic suffixes are included in the reduplication.
If, however, the contiguous thematic suffix is bisyllabic, only the first
syllable is included with the root in the reduplication. If there are no
thematic suffixes following a monosyllabic root, only the single root syl-
lable is reduplicated. When the root consists of two identical contiguous
vowels there is a further variation not yet analyzed. Examples of re-
duplication are as follows: da nokae pᴧnópᴧnode 'He-kept-building his
canoe'. kofkoiakadᴧkue 'I-keep-getting-ants'. rorodᴧkue 'I-keep-
singing-every-day'.

with either of the terminal suffixes 2003 -ǰʌ 'future passive'
or 2005 -ga 'passive completive'.

4.122. Unitransitive verbs. Unitransitive verbs (UV)
are symbolized by the following formulas:

1. + TrR ± 111 (-ri) ± 131 (-no) ± 151 (-tʌ)
± 171 (-o) + 0000: iʌ́riñotʌode 'Many-people-cut-many-
times-in-a-small-field-every-day'.

2. + InR ± 122 (-rii) ± 131 (-no) ± 141 (-koʌ)
± 151 (-tʌ) + 161 (-ʔda) + 0000: ajtʌ́riiñokoʌtʌʔdade
'They-caused-many-to-run-a-little-repeatedly'.

3. + stR + 113 (-ti) ± 151 (-tʌ) + 161 (-ʔda)
± 151 (-tʌ) + 0000: mokotitʌʔdatʌde 'They-caused-many-
to-become-green'.

4. + stR + 121 (-re) ± 123 (-ni) ± 112 (-pʌ)
± 121 (-re) ± 151 (-tʌ) + 161 (-ʔda) + 0000: itírepʌre-
tʌʔdade 'Many-people-caused-to-really-hurt-habitually'.

5. + stR + 114 (-rui) ± 131 (-no) ± 151 (-tʌ)
± 171 (-o) + 0000: itíruiñotʌode 'They-continually-love-
a-little'.

6. + TrR ± 111 (-ri) + 112 (-pʌ) ± 121 (-re)
+ 131 (-no) ± 151 (-tʌ) + 0000: iʌ́ripʌrenotʌde 'They-
habitually-really-cut-a-little-repeatedly'.

Unitransitive verb structures also may be formed with
intransitive action, intransitive state, or transitive roots.
Those formed with intransitive action roots must occur with
either suffix 161 -ʔda 'causative' as in formulas 2, 3, and
4, or suffix 114 -rui 'transitivizer' as in formula 5.
Structures formed with intransitive state roots (stR) must
occur with suffix 161 -ʔda 'causative' (see formulas 3 and
4), and either suffix 113 -ti 'passive causative' (formula 3),
or suffix 121 -re 'positive, potential' (formula 4) following
the root. Whether suffix 151 -tʌ indicates actors or ob-
jects is generally determined by its occurrence before or

after the causative suffix 161 -ʔda in unitransitive and bi-
transitive verb structures. If -tʌ occurs before -ʔda,
plural actors are indicated; if -tʌ follows -ʔda, plural
objects are indicated. Suffix 131 -no 'diminutive' has
been observed only with formulas 1, 2, 5, and 6.

Restrictions and additions to UV formulas:

Formula 1: 141 -koʌ 'plural or large objects' should
be expected to follow 131 -no 'diminutive' in certain situa-
tions, but data confirming its occurrence here are not
available. 111 -ri 'repetitive' does not occur when the
structure is closed by terminal suffix 2002 -ĵe 'remote
future'.

Formula 2: 131 -no 'diminutive' is not authenticated
by some informants in this slot; terminal suffix 2004 -na
'present or past progressive' does not occur in this struc-
ture.

Formula 4: With terminal suffix 2004 -na 'present or
past progressive', either 121 -re 'positive, potential' or
123 -ni 'negative' is obligatory.

Formula 6: There is an obligatory -i preceding ter-
minal suffix 2001 -ri 'future' when it immediately follows
thematics 112 -pʌ 'habitual' and 121 -re 'positive'. Since
it seems to have no meaning, it may be only an allomorphic
variant.

4.123. Bitransitive verbs. Bitransitive verbs (BV)
are symbolized by the following formulas:

1. + InR ± 131 (-no) ± 141 (-koʌ) ± 151 (-tʌ)
+ 161 (-ʔda) ± 151 (-tʌ) + 161 (-ʔda) + 0000: hirénokoʌ-
tʌʔdatʌʔdade 'They-cause-many-to-cause-to-loosen-....
a-little'.

2. + stR + 121 (-re) ± 131 (-no) ± 151 (-tʌ)
+ 161 (-ʔda) ± 151 (-tʌ) + 161 (-ʔda) + 0000: mokoreno-

tʌʔdaʔdade 'They-cause-him-to-make ... to-become-slightly-green'.

3. + stR + 113 (-ti) ± 151 (-tʌ) + 161 (-ʔda) ± 151 (-tʌ) + 161 (-ʔda) + 0000: da kakaʌna da mokoti-ʔdaʔdade 'He (1st participant) made him (2nd participant) to make his (2nd participant) cheek to be green'.

4. + TrR ± 111 (-ri) ± 131 (-no) ± 151 (-tʌ) + 161 (-ʔda) ± 151 (-tʌ) + 0000: kurúriñotʌʔdatʌde 'They-caused-many-to-repeatedly-cultivate ... a-little'.

5. + TrR ± 111 (-ri) ± 131 (-no) ± 141 (-koʌ) ± 151 (-tʌ) + 161 (-ʔda) ± 151 (-tʌ) + 161 (-ʔda) + 0000: iʌriñokoʌtʌʔdatʌʔdade 'They-caused-many-to-have-repeatedly-cut-many ....'.

Bitransitive verb structures, like intransitive and unitransitive verbs, may be formed with any one of the three root classes InR, stR, or TrR. With the exception of formula 4, however, all BV formulas require the double occurrence of suffix 161 -ʔda 'causative'. Formula 4 is formed from a transitive root, so needs only the single occurrence of suffix 161 -ʔda 'causative' for simple bitransitive structures. For more complex expressions such as caused causation from a transitive root, the double occurrence of suffix 161 -ʔda 'causative' is necessary, as in formula 5. Suffix 151 -tʌ 'plural participants' may occur twice: once preceding and once following 161 -ʔda 'causative', in any of the BV formulas. Suffix 131 -no 'diminutive' does not occur in formula 3. This exactly parallels its occurrence with the InV formulas, and closely parallels its occurrence with UV formulas.

Further restrictions and additions to BV formulas:

Formula 1: There is an optional order of the last three thematic suffixes which is as follows: 161 -ʔda 'causative', 161 -ʔda 'causative', 151 -tʌ 'plural participants'; terminal suffix 2004 -na 'past or present progressive' does

not occur in a verb construction in which this optional order of thematics occurs.

Formula 4: Terminal suffix 2004 -na 'present or past progressive' does not occur in this structure.

Formula 5: Terminal suffix 2004 -na 'present or past progressive' does not occur in this structure. Data have not been found to authenticate the occurrence of 151 -tʌ between the two occurrences of 161 -ʔda. The following sequences, however, do occur in related and parallel structures: -ʔdaʔdatʌ, -tʌʔdaʔda, and -tʌʔdatʌ.

4.13. Terminal suffixes. We now consider terminal suffixes, of which all except Class 1010 and Class 3020 can occur immediately following roots or thematic suffixes. Suffixes of each decade in each millenium are mutually exclusive.

Terminals for verbs filling the predicate slot of a primary clause in the predominant mood are the following Class 1000 suffixes.

1001 (-dʌ ~ -ʔdʌ) ∞ (-de ~ -ʔde) 'connective' occurs preceding one of the Class 1010 subject suffixes. -de and -ʔde occur preceding third person suffixes 1017, 1018, and 1019. -dʌ and -ʔdʌ occur preceding all other 1010 suffixes. Examples are: biiʔdʌkue 'I will come', biiʔde 'he will come', okódʌkue 'I am eating', okóde 'he is eating'.

1011 -kue 'first person singular': okódʌ-kue 'I-am-eating'.

1012 -koko 'first person dual': okódʌ-koko 'We-two-are-eating'.

1013 -kaʌ 'first person plural': okódʌ-kaʌ 'We-three-or-more-are-eating'.

1014 -o 'second person singular': okódʌ-o 'You-are-eating'.

1015 –omaʌko 'second person dual': okódʌ-omaʌko 'You-two-are-eating'.

1016 –omaʌ 'second person plural': okódʌ-omaʌ 'You-three-or-more-are-eating'.

1017 -# 'third person singular': okóde 'He-is-eating'.

1018 -ɟʌnoʌ 'third person dual': okóde-ɟʌnoʌ 'They-two-are-eating'.

1019 -ʌǫʌ 'third person plural': okóde-ʌǫʌ 'They-three-or-more-are-eating'.

Terminals for verbs filling predicate slots of primary clauses in subsidiary mood and some imperative mood clauses are the following Class 2000 suffixes.

2001 -ri 'future tense indefinite': kuę okó-ri 'I will-eat'.

2002 -ɟe 'future tense remote': kuę okó-ɟe 'I will-eat [much later]'.

2003 -ɟʌ 'future tense passive': o paa kuę okó-ɟʌ 'Your bread will-be-eaten by-me'.

2004 -ɟa ~ -a ~ -na 'present or past progressive'. -ɟa occurs following the vowel i; -na occurs following the vowel a and following the suffix 191 -ñe; -a occurs elsewhere. When -a follows a stem ending in o or e, o is usually replaced by u and e by i. A few nonpredictable occurrences of -na following the vowel ʌ have also been found. Examples are: kuę hakʌrui-ɟa 'I am-fearing', hakʌrui-ɟa 'he-is-fearing', kuę okúaka-na 'I was-wanting-to-eat', kʌóñe-na 'it-does-not-appear', kuę kui-a 'I was-writing', kuę hiru-a 'I was-drinking', naui kuę hiu-a 'formerly I was-chasing', dukʌ-a 'was-spearing', dukʌ-na 'was-arriving'.

2005 -ka ∞ -ga 'passive completive'. -ga occurs following roots and thematics of Class 1, and -ka occurs following those of Class 2. Apart from the classification of

a construction with any verb root and thematic suffixes which include the suffix 191 -ñe 'negative' as Class 1, the composition of the two classes is still indeterminate. Examples are: riñé-ga 'has not-been-planted', ǰu-ga 'has-been-distributed', ʔdamé-ka 'has-been-mixed', hiú-ka 'has-been-chased'.

2006 -adʌ ~ -iadʌ 'optative or potential action'.[6] -iadʌ occurs following monosyllabic stems ending in any vowel except i; -adʌ occurs elsewhere: kụẹ ni-adʌ 'I am-about-to-weave', kụẹ teí-adʌ 'I am-about-to-cook', kụẹ aʌní-adʌ 'I am-about-to-bite', kụẹ hone-adʌ 'I am-about-to-place', kụẹ hʌká-adʌ 'I am about-to-ask', kụẹ okó-adʌ 'I am-about-to-eat'.

2007 -# 'positive imperative': maị oko 'Now eat'.

The terminals for verbs filling predicate slots of subordinate clauses are Class 3000 suffixes. (SS indicates same subject referent in subordinate clause as in primary clause; DS indicates different subject.)

3010 suffixes occur following roots or thematic suffixes (century class) and marks subordinate clauses in subsidiary mood.

3011 -ǰena 'purposive, in order to'; SS or DS: tapénaịʔda-ǰena 'in-order-to-dry'.

3012 -a 'conditional (future)'; SS or DS: da bi-a 'if he comes'.

3013 -idaʌi 'negative result'; SS or DS:[+ ʔda 'causative'] okó-nidaʌi 'so-as-to-be-inedible'.

3014 -ano 'antecedent action'; SS: oku-ano 'having-eaten'.

3015 -kana 'concurrent continuous action'; SS: aitʌ́-kana haíde 'running he-went-away'.

[6] 2006 -adʌ here is a tentative assignment. It may prove to be a subordinate clause predicate marker in certain juxtaposed situations.

3016 –dʌma 'nominalizer, the one who'; SS: (see 4.2
Class 2 nouns). okó-dʌma 'the-one-who-is-eating'.

3020 suffixes occur following Class 2000 or 1000
suffixes and mark subordinate clauses in predominant mood.

3021 –mo 'simultaneous action'; SS or DS: pakódʌcaʌ-
mo 'while-we-were-fishing'.

3022 –mona 'source of action' (locative); DS: duíko-
ʔdaidʌkaʌ-mona 'from-our-being-sick'.

Class 4000 terminal suffixes are residue, analysis
pending a greater variety of data. They have been observed
to occur terminally on verbs, but 4001 and 4003 also occur
as thematic suffixes 121 and 161.

4001 –re 'positive or potential': ití-re 'rather-
painful, very-intense'.

4002 –nia 'negative conditional': okóñe-nia 'if-not-
eating'.

4003 –ʔda 'past causative': bi-ʔda 'having-caused-
to-come'.

4.2. Object and causative-object. Clauses that have
a predicate slot filled by a transitive verb (UV and BV for-
mulas) contain an object tagmeme obligatory in independent
sentences and optional in dependent sentences. BV clauses
also contain a second object, the causative-object, which
functions as the object of the causation expressed by the
predicate.

The object tagmeme normally precedes the predicate
tagmeme, and usually is separated from it only by the sub-
ject or agent tagmeme. Occasionally, the object tagmeme
has been found to occur following the predicate, especially
in imperative sentence types.

The object slot may be filled by any one of the four
following noun expressions optionally followed by the object
indicator suffix -na:

I. $+ H: N_{1-7}$ Read, "A head slot filled by a noun of any class 1 through 7." Examples are: ʌíma 'man'; kaʌ 'we'; biʔdʌ́ma 'he-who-comes'.

II. $[\pm M_2: Adj_1 \quad + H: N_4]$ Read, "An optional modifier slot 2 filled by adjective of Class 1, with an obligatory head slot filled by a noun of Class 4." An example is: kue modoredʌno 'my green-spot'.

III. $[\pm M_1: Adj_4 \quad \pm M_2: Adj_1 \quad + H: N_{1-3}]$ Read, "An optional modifier slot 1 filled by an adjective of Class 4, an optional modifier slot 2 filled by an adjective of Class 1, and an obligatory head slot filled by a noun of Classes 1, 2, or 3. An example is: hubéba aiǰue hopo 'five big houses'.

IV. $+ H: Adj_1$ Read, "An obligatory head slot filled by an adjective of Class 1." An example is: aiǰo 'big (quantity)'.

The four classes of adjectives that occur in the above noun expressions are:

Adj_1: <aiǰo> 'big (quantity)' <aiǰue> 'big (size)'.

Adj_2: <mokorede> [+ stV moko 'green' + 121 (-re) 'possession' + 1001 (-de) 'connective'] 'green'.

Adj_3: <ñuera> [+ Adv₃ + (-ra) 'nominalizer'] 'good'.

Adj_4: <hubéba> 'five'.

Seven classes of nouns comprise the filler classes of the head slot of the noun expressions:

Class 1 nouns. <kue> 'I', <hiʔdó> 'son', <nʌpóde> 'what'.

Class 2 nouns (derived). V root plus nominalizer. The nominalizers are as follows: -dʌma, 'personal actor singular', onódʌma 'wise-man'; -dʌno, 'personal actors plural', okódʌno 'eating-people'; -raʌma, 'continual personal actor', manórıraʌma 'doctor'; -ra, 'neuter actor', okora 'spoon (eating-thing)'; -ǰe, 'activity', daʌhʌǰe 'work'.

Class 3 nouns (derived). (a) Relative particle plus

noun fragment:[7] ape 'which' plus ʌíma 'man' > apéma
'he, that man'; ape 'which' plus kʌrʌ́gaʌ 'basket' >
apégaʌ 'that basket'. (b) Adj$_1$ fragment plus noun fragment:
aijue 'big' plus kʌrʌ́gaʌ 'basket' > aijogaʌ 'big-basket'.
(c) Noun fragment plus noun fragment: ʌíma 'man' plus
aʔdava 'chicken' > ʌíʔdava 'rooster'. (d) Adj$_2$ fragment
plus noun fragment: hiʔdʌrede 'black' plus hʌko 'tiger' >
hiʔdʌko 'black-tiger'.

Class 4 nouns. + stR + 121 (-re) + 1001 (-dʌ) + -no
'locational': mokoredʌno 'green-spot'.

Class 5 nouns. + InR + [+ 111 (-ri) + 2004 (-ja)]
+ -ne 'nominalizer': makárijane 'manner of walking',
uurijane 'speech'.

Class 6 nouns. + VR + 2005 (-ga) + noun fragment:
kueñéga 'not-having-been-written' plus rabe 'leaf' >
kueñégabe 'unwritten-piece-of-paper'; paga 'having-been-
hit' plus ʌíma 'man' > pagáma 'the hit-man'.

Class 7 nouns. + N$_1$ + Loc. (Class 1 location words)
hopo-ana 'house-below' (cf. Loc$_3$ 4.5).

Some of these stems may take a gender suffix or a size-
denoting suffix immediately following the stem. These suf-
fixes are: (1) -ma 'masculine', (2) -ŋo ∞ -ño ∞ -gʌ
'feminine' (the distribution of the variants of 2 are not yet
defined), (3) -ju 'augmentative', (4) -ʔdiru 'diminutive'.
Examples are: kʌnʌma 'boy' vs. kʌnʌño 'girl'; ijáʌma
'man-chief' vs. ijáʌŋo 'woman-chief'; eíroma 'old-man'
vs. eírogʌ 'old-woman'; monoʌ 'a-breast', monoju 'a-
large-breast'; mero 'pig', meroʔdiru 'a-small-pig'.

In general, all nouns may be inflected as to number.
Number suffixes are of second order, i.e. they follow
gender and size suffixes.

[7] Noun and adjective fragments are portions of nouns and adjectives
used in composition, consisting of the first or last syllables of the root.

Dual number with nouns is indicated by the suffix 11
-ĵʌɳoʌ for masculine nouns (hiʔdóĵʌɳoʌ 'two-sons'), and
the suffix 12 -ʌɳuaʌ for feminine and other nouns (kʌní-
ñoʌɳuaʌ 'two girls; abʌniɳuaʌ 'two shields'; nokáeɳuaʌ
'two-canoes'; okóraʌɳuaʌ 'two-spoons').

Plurality is indicated by one of the following suffixes:
13 -aʌ ~ -ĵaʌ ~ -ʌ 'some, many'. -ĵaʌ occurs fol-
lowing i-final stems, -ʌ occurs following a-final stems,
and -aʌ occurs elsewhere. When -aʌ occurs, a stem-
final vowel e is replaced by i, and stem-final o by u.
imániĵaʌ 'many-rivers', rabiaʌ 'many leaves', kʌnʌñuaʌ
'many-girls', meroʔdiruaʌ 'many-little-pigs', ʌímaʌ
'many-men'. Plurality may be emphasized by reduplication
of -aʌ. An example is: imédaʌaʌ [imé-daʌ-aʌ] 'many-
cocoons'.

14 -nʌaʌ ~ -ñʌaʌ 'many, not a few'. -nʌaʌ alternates
nonpredictably with -ñʌaʌ after stems ending in the vowel i;
-nʌaʌ occurs elsewhere. This suffix is mutually exclusive
with suffixes of both order 1 and order 2. ʌʌñʌaʌ/ʌʌnʌaʌ
'many men'.

15 (-e ~ -ʌe) 'many, all'. -e occurs suffixed to
nouns of Class A, -ʌe occurs suffixed to Class B. ítie
'all-teeth', raaʌe 'many-things'.

Brief illustrations of the object and the remaining
clause tagmemes in context are given in 5.

4.3. Subject. The subject tagmeme of clauses in
predominant mood is obligatorily manifested within the verb
by the Class 1000 terminal suffixes (see 4.13). For clari-
fication, or emphasis ('I myself'), the independent subject
tagmeme may also occur preceding the predicate. This in-
dependent subject tagmeme[8] in clauses of the predominant

[8] The suffix -dʌ 'subject indicator' occurs frequently with the
manifestation of the independent subject, but not obligatorily in all cases.

mood is optional and, in general, is manifested by the noun expressions described in 4.2.

When the clause predicate is manifested by a subsidiary mood verb, i.e. those with Class 2000 terminal suffixes, the independent subject tagmeme occurs obligatorily and is manifested by one of the noun expressions that occur optionally in predominant mood clauses. It occurs immediately preceding the predicate or separated from the predicate by the agent tagmeme. The subject tagmeme normally follows the object tagmeme in subsidiary mood clauses.

4.4. Agent. The agent tagmeme occurs only in clauses that have a predicate which includes suffix 2005 -ka 'passive completive'. The agent tagmeme usually occurs immediately preceding the predicate and is composed of any noun expression described in 4.2. Examples are: hiʌta ʔdạịpe merʌ́ka 'a-child by-a-demon has-been-stolen'; ua hʌko rʌ́ñéga 'truly by-a-tiger it-was-not-eaten'.

4.5. Locative and indirect object. There appears to be no distinction between most of the locative and indirect object fillers indicated below, unless both occur in the same sentence. In that case the indirect object is identified by the occurrence of the suffix -mo 'to'. The locative precedes the indirect object. An example is: da hopó damo itáhi 'his house to-him go-give' (go give it to him at his house).

Locative and indirect object slots are filled by the following classes of words or phrases:

Loc$_1$ Location words, Class 1: <hopo> 'inside'.
Loc$_2$ Location words, Class 2: <baʔdʌ> 'there'.
Loc$_3$ [+ Noun$_{1-6}$ + Loc$_1$]: hopo-ana[9] 'house-below'.

[9]hopo of L$_1$ and L$_3$ are homophonous morphemes.

Loc$_4$ [+ Loc$_2$ $\pm$ -no 'place, position']: ba?dᴧno 'there (away)' or [+ Prt + -no]: apeno 'there (closely)'.

Loc$_5$ [+ N$_{1-6}$ + -mo 'to, toward']: iĵémo 'creek-to'.

Loc$_6$ [+ N$_{1-6}$ or Loc$_1$ or Loc$_3$ or Subsidiary V or stVR or Prt + -ri 'for, to, in']: nokáeri 'canoe-in'.

Loc$_7$ [+ NxIII + -mona 'source']: ku̧e puemona 'my mouth-from'.

4.6. Instrument. The instrument tagmeme occurs in any clause preceding the predicate. Its fillers are composed of a noun expression (see 4.2) plus -do 'instrumental'. An example is: čovégᴧdo aménana iᴧdᴧku̧e 'with-a-machete the-tree I-cut-down'.

4.7. Manner. The manner tagmeme occurs most often preceding the predicate tagmeme, and relates to the predicate. The manner slot may be filled by one or more of the following classes of adverbs. Filler Class 5a may serve as sentence introducer (connective).

Av$_1$. <ai̧ĵo> 'big': ai̧ĵo okóde 'a-lot-(greatly) he-eats'.

Av$_2$. <rᴀᴧre> 'fast': rᴀᴧre aitᴧde 'rapidly he-runs'.

Av$_3$. <ñue> 'well': ñue pᴧnóde 'well he-does-(makes)'.

Av$_4$. <hᴧᴧdᴧe> 'not even, little': hᴧᴧdᴧe ĵiróñede 'even-a-little he-doesn't-drink'.

Av$_5$. <itíre> 'painfully, intensely': itíre ᴧnᴧde 'intensely-(soundly) he-sleeps'.

Av$_{5a}$. <ua> 'truly': ua ku̧e hi?dó biĵa 'truly my son came'.

Av$_6$. <nokᴧ ana> 'in or under rain' (N$_{1-6}$ with post-posed particle): nokᴧ ana makáde 'the-rain under he-walks'.

Av$_7$. <ᴧere> 'very': ᴧere ona aᴧni?deta 'hard you he-will-bite'.

4.8. Temporal. The temporal tagmeme usually precedes the predicate and occurs preferably in clause-initial position. More rarely it occurs following the predicate, as in the final sentence of a story. The temporal may be composed of simple or complex time words or phrases.

Tm$_1$: Simple time words are a class of particles represented by the forms <hae> 'now' and <uíre> 'later'.

Tm$_2$: Complex time words consist of a demonstrative particle joined to a noun fragment, or of an interrogative particle joined to a noun fragment. (At present no way has been found to predict which part of a noun may be utilized as a noun fragment in the composition of a time word.) Examples are: ape- 'he' plus pʌmóna 'year' > apémona 'that-year'; nʌ- 'what?' plus pʌmona 'year' > nʌmona 'what-year?'.

Tm$_3$: Class 3 time words consist of Class 2 time words with suffix -do 'on'. An example is: apéruị-do 'on-that-day'.

Time phrases occur according to the following formulas:

Tm$_1$ plus InR; e.g. uíre monaị 'later sky-ing' (tomorrow).

Relative or demonstrative particle plus InV root, e.g. ape monaị 'that sky-ing' (day after tomorrow).

$[+ \text{Tm}_1 \pm M(\pm M:\text{Adj}_4 + H:N_1)]$ e.g. haẹ daruị amani 'now three days'.

$[+ H:t.\text{prt} \pm M:(+ \text{InR} \pm -\text{ñe}) \pm \text{stR}]$ which is read, "Head slot filled by a time particle plus optional modifier slot filled by an intransitive verb root plus optional -ñe negative, plus optional state verb root," e.g. uíre monaịñe hi?dʌ 'tomorrow before daylight'.

5. Examples of tagmemes in context. In the following sentences, the tagmemes which occur are numbered at the beginning of the word or phrase which manifests them. The

numbers in the translation at the end match those in the vernacular.

(1) $\pm$ T: Tx [+ Tm$_1$ + InR + Loc$_6$: (+ stR + -ri) + (+ InR + 3012)] ufre monai haʌ́kʌ- ri i-a (2) + O: Nx [$\pm$ M$_2$: Adj$_1$ + (H: N$_1$ $\pm$ na)] aiǰue oogue- na (3) $\pm$ L: Loc$_7$ [+ N$_1$ + -mona] daaʌe- mona (4) $\pm$ IO: Loc$_5$ [+ N$_1$ + -mo] o- mo (5) $\pm$ I: [+N$_1$ + -do] nokä́ẹ- do (6) $\pm$ Ma: Av$_2$ raʌre (7) + P: UV [+ TrVR $\pm$ 201 + 1001 + 1011] aʔdʌ- i- ʔdʌ- kẹ. '(1) Later skying straight- up- at- being- when (2) large head- of- bananas (3) him/his- from (4) you- to (5) canoe- by (6) quickly (7) bring- will- connector- I. ' (Tomorrow at noon I will bring a large head of bananas to you from him by canoe.)

(1) + S: N$_1$ daa (2) $\pm$ A: Nx [$\pm$ M$_2$: Adj$_1$ + H: N$_1$] kẹ año (3) $\pm$ IO: Loc$_5$ [+ N$_1$ + -mo] kẹ- mo (4) + P: InV [+ TrVR + 2005] ǰo- ga. '(1) One- (story) (2) my mother (3) me- to (4) told- was. ' (A story was told to me by my mother.)