STUDIES IN

PERUVIAN INDIAN LANGUAGES: I

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SUMMER INSTITUTE OF LINGUISTICS PUBLICATIONS
IN
LINGUISTICS AND RELATED FIELDS

PUBLICATION NUMBER 9

STUDIES IN PERUVIAN INDIAN LANGUAGES: I

A Publication of the
SUMMER INSTITUTE OF LINGUISTICS
OF THE
UNIVERSITY OF OKLAHOMA

Norman

noviembre, 1963 primera edición

Esta edición consta de 1,000 ejemplares

1M20522. 3-038

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 ï.

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EMIC CLASSES WHICH MANIFEST THE OBLIGATORY TAGMEMES IN MAJOR INDEPENDENT CLAUSE TYPES OF AGUARUNA (JIVARO)

by
Mildred L. Larsen

0. Introduction. Aguaruna, a dialect of Jivaro, is spoken by some 8,000 Indians living in the jungle of northern

Peru on the upper Marañon River and its many tributaries.[1]

This presentation is concerned with the emic classes which manifest the obligatory tagmemes of major independent clause types in Aguaruna. Each major independent clause type has an obligatory predicate tagmeme manifested by a different class of verbs. For this reason the focus of attention is on the internal structure of independent verbs. Etic variants and restrictions of distribution are not described in this paper. The advantage of this approach is that in dealing first with the emic contrasts a clear picture of the patterns can be seen while the details and indeterminancies are relegated to descriptions of the variants.

In presenting the contrastive materials which determine emic classes in a hierarchical sequence, this presentation begins with the smaller unit and works up to the larger units. Specifically, verb root classes and verb affix classes are discussed first, next the verb base classes and the verb stem classes in which roots occur with derivational affixes. Verb margins, which consist of inflectional affixes in sequence are discussed and then verbs which consist of verb stem or verb base plus verb margin. Finally the independent clauses are discussed in which independent verbs occur manifesting the obligatory predicate tagmemes.

Charts are given to show the emic classes and sub-

[1] For a description of the phonemic system see Pike and Larson (n.d.).

The symbols used here to represent the phonemes of Aguaruna are as follows: a, i, ʌ, and u for the vowels; p, t, k, ʔ, b, d, ǵ, č, s, š, h, n, m, g, w, and y for the consonants, accent mark for phonemic stress; and a hook under the vowel for nasalization.

For descriptions of the phonemics and grammar of other dialects of Jívaro see Beasley and Pike (1957) and Turner (1957). Also for additional vocabulary see Larson (1957).

I am indebted to Kenneth L. Pike for many helpful suggestions during the preparation of this paper.

classes. Although the labels on the charts are drawn from meaning components, they are based on the contrasts in formal structure paralleling these semantic labels. Minimal contrastive features of form and meaning which determine emic classes of verb roots, verb affixes, verb bases, verb stems, independent verb margins, independent verbs, and independent clauses are described.

In the charts, the major classes are those in the vertical column at the left. If subclasses of these major classes occur they are labelled in succeeding vertical columns. The classes named horizontally across the top are minor subclasses. Note for example in Charts I and IV (pages 4 and 15) transitive-intransitive contrast sets up major classes of roots and stems. However in Charts VI and VII (pages 24 and 29) this contrast sets up only minor subclasses of verbs and clauses.[2] At verb and clause level the greater contrasts reflect the verb margin classes and therefore the four major verb margin classes--imperative, stative, active, and equative--are shown as parallel in the major classes of verbs and of clauses. Compare Charts V, VI, and VII (pages 20, 24 and 29).

In the following sections a summary of the emic classes is given first and these classes are shown on a chart. Contrastive formulas are given for all classes if some of the classes on the chart have complex internal structure. Finally a description of the contrasts which determine the emic classes is given with illustrations. Illustrations have been chosen to show contrast rather than variety.

1. Emic verb root classes. The two major classes of

[2] This differs considerably from other Peruvian languages such as Cashibo where transitive-intransitive contrast sets up major verb classes. See Shell (1957).

verb roots, transitive and intransitive, are divided into minor subclasses singular, plural, and neutral as shown on Chart I.

	Singular	Plural	Neutral
Transitive	SgTVR	PlTVR	NeTVR
Intransitive	SgItVR	PlItVR	NeItVR

CHART I: EMIC VERB ROOT CLASSES

Transitive singular roots indicate singular object whereas intransitive singular roots indicate singular subject. Transitive plural roots indicate plural object whereas intransitive plural roots indicate plural subject. Note the following illustrations of contrast between the class SgTVR (singular transitive verb roots) and the class PlTVR (plural transitive verb roots) in which the singular-plural contrast is in the object: ʌgkʌáta 'put it in!' (ʌgkʌá- 'put in singular object', -ø 'third person referent', -ta 'second person imperative'), čimpiáta 'put them in!' (čimpiá- 'put in plural object', -ø 'third person referent', -ta 'second person imperative'); ahápata 'throw it out!' (ahápa- 'throw out singular object', -ø 'third person referent', -ta 'second person imperative'), uɸą́ta 'throw them out!' (uɸą- 'throw out plural object', -ø 'third person referent', -ta 'second person imperative'); ʌkámsata 'put yourself down!' (ʌká- 'put down singular object', -m 'reflexive', -sa 'personal action', -ta 'second person imperative'), pʌkámsata 'put yourselves down!' (pʌká- 'put down plural object', -m 'reflexive', -sa 'personal action', -ta 'second person imperative').

Note also the following illustrations of contrast between the class SgItVR (singular intransitive verb roots) and the class PlItVR (plural intransitive verb roots) in which the

singular-plural contrast is in the subject: puháwai 'he is staying' (puhá- 'singular subject stays', -wa 'third person', -i 'declarative'), baɸátui 'they stay' (baɸát- 'plural subject stays', -u 'third person', -i 'declarative'); taáwai 'he is arriving' (taá- 'singular subject arrives', -wa 'third person', -i 'declarative'), kaunáwai 'they are arriving' (kauná- 'plural subject arrives', -wa 'third person', -i 'declarative'); šináwai 'it's making noise' (šiná- 'singular subject makes noise', -wa 'third person', -i 'declarative'), pampáwai 'they are making noise' (pampá- 'plural subject makes noise', -wa 'third person', -i 'declarative').

Neutral transitive verb roots have one root for both singular and plural objects. If the object is plural this is indicated in the noun phrase manifesting the clause-level object tagmeme rather than by the verb root. Note the following illustrations: dapín wainkábiahai 'I saw a snake' and kuášat dapín wainkábiahai 'I saw many snakes' (kuášat 'many', dapí- 'snake', -n 'objective case', wain- 'see', -ø 'third person referent', -ka 'unit action', -bia 'distant past', -ha 'first person', -i 'declarative'); makíčik itáta 'bring one!' (makíčik 'one', itá- 'bring', -ø 'third person referent', -ta 'second person imperative'), kuášat itáta 'bring many!' (kuášat 'many', itá- 'bring', -ø 'third person referent', -ta 'second person imperative').

Neutral intransitive verb roots do not indicate number. In a verb construction with these roots plural subject is indicated by a plural subject manifesting the clause-level subject tagmeme and/or by a pluralizing suffix in the verb margin construction. The following are illustrations of the class NeItVR (neutral intransitive verb roots): čičastá 'talk!' (čiča- 'talk', -s 'personal action', -ta 'second person imperative'), čičastáhụm 'you all talk!' (čiča- 'talk', -s 'personal action', -ta 'second person imperative', -hụ 'plural', -m 'second person'); nĩ kanágmaka

'did he sleep?' (nĺi 'he', kaná- 'sleep', -g 'segmented action', -ma 'recent past', -ka 'interrogative', -ø 'third person'), dĺta kanágmaka 'did they sleep?' (dĺta 'they', kaná- 'sleep', -g 'segmented action', -ma 'recent past', -ka 'interrogative', -ø 'third person').

Transitive roots manifest the core tagmeme (the obligatory tagmeme in all verb base constructions) in transitive verb bases. Intransitive roots manifest the core tagmeme in intransitive verb bases (see 3).

2. Emic independent verb affix classes. Major independent verb affix classes, as indicated in Chart II, are derivational and inflectional.[3] The derivational class has subclasses verbalizing, voice, and aspect. Voice has further subclasses causative, referent plural, referent, and referent person. The inflectional class has subclasses negative, imperative, stative, equative, tense, plural, person, and mode. Mode has subclasses declarative, interrogative, and subjunctive.

In Chart II each class is given a class number as well as a class name. Classes are identified by number in the formulas in later sections. Decade numbers, as given on the chart, indicate emic classes and are somewhat related to the order in which the tagmemes they manifest occur in relation to one another in verb constructions. Since affixes do not have the same order in all constructions a higher number may sometimes precede a lower number in a given construction. In the list of morphemes in the following paragraphs digit numbers are assigned the members of each class.

[3] Only the inflectional classes which manifest tagmemes of the margins of independent verbs are given here. There are other classes which manifest the tagmemes of the margins of dependent verbs.

Derivational	Verbalizing		VerDeVAf	10
	Voice	Causative	CaVoDeVAf	20
		Ref. Plural	RefPlVoDeVAf	30
		Referent	RefVoDeVAf	40
		Ref. Person	RefPerVoDeVAf	50
	Aspect		AsDeVAf	60
Inflectional	Negative		NegIfVAf	70
	Imperative		ImpIfVAf	80
	Stative		StIfVAf	90
	Equative		EqIfVAf	100
	Tense		TenIfVAf	110
	Plural		PlIfVAf	120
	Person		PerIfVAf	130
	Mode	Declarative	DMoIfVAf	140
		Interrogative	InMoIfVAf	150
		Subjunctive	SjMoIfVAf	160

CHART II: EMIC INDEPENDENT VERB AFFIX CLASSES

Derivational affixes occur with verb and noun roots to form verb bases and verb stems. Inflectional suffixes manifest the tagmemes of the verb margin constructions.

Since each of the affix classes has a very limited membership all of the members found in the data are given below with an example showing their occurrence in a verb construction. Etic variants are listed for ease of identification in other illustrations; however the distribution of the allomorphs is not given since the focus of attention is on emic contrasts.

Class 10, verbalizing suffixes, occurs with certain noun roots to form verb bases as described in 3: 11 -ma ~ -m 'to do' as in tʌmašmágta 'comb it!' (tʌmáš 'comb', -ma, -g 'segmented action', -ta 'second person imperative'); 12 -mʌa ~ -baga 'to become' as in učimʌ́ahai 'I'm becoming a child' (uči 'child', -mʌa, -ha 'first person', -i 'declarative'); 13 -na ~ -n 'to make' as in nuwʌ́nau 'he married' (núwʌ 'his woman', -na, -u 'past stative').

Class 20, causative affix, manifests the causative tagmeme in causative verb stems as described in 4: 21 V- (in which V is a reduplication of the initial vowel of the root in most instances but of a quality only morphologically predictable in others) ∞ (-mti ~ -mit) as in ʌhʌ́ata 'cause him to arrive!' (ʌ-, hʌa- 'arrive', -Ø 'third person referent', -ta 'second person imperative'); dušímtihąta 'make him laugh!' (duši- 'laugh', -mti, -Ø 'third person referent', -hą 'segmented action', -ta 'second person imperative').

Classes 30, 40, and 50--referent plural, referent, and referent person suffixes[4]--manifest the referent plural, referent, and referent person tagmemes respectively in verb stems as described in 4: 31 -ka 'plural referent' as in sukágtusta 'give to us!' (su- 'give', -ka, -g 'referent', -tu 'first person referent', -s 'personal action', -ta 'second person imperative'); 41 (-g ~ -hu) ∞ (-t ~ -tu ~ -ta) 'referent' as in dukúg suhutsáta 'give it to my mother!' (dukúg 'my mother', su- 'give', -hu, -t 'first person referent', -sa 'personal action', -ta 'second person imperative'); 51 (-t ~ -ta ~ -tu ~ -ti) ∞ (-g ~ -hu ~ -hą) 'first person referent' as in ʌgą́tui 'he is looking for me' (ʌgą́- 'look for', -t, -u 'third person', -i 'declarative'); 52

[4]Morphemes of class 50 have a meaning of person. However, whether the person indicated is the referent-object or the direct-object depends on the construction as a whole (see 4).

-pa ∞ (-tam ~ -tpa) ∞ (-ham ~ -gpa) 'second person referent' as in ʌgą́pawai 'he is looking for you' (ʌgą́- 'look for', -pa, -wa 'third person', -i 'declarative'); 53 -Ø 'third person referent' as in ʌgą́wai 'he is looking for him' (ʌgą́- 'look for', -Ø, -wa 'third person', -i 'declarative'); 54 -mam ~ -maa ~ -m 'reflexive' as in takágmamhai 'I'm working for myself' (taka- 'work', -g 'referent', -mam, -ha 'first person', -i 'declarative'); 55 -dai ~ -ni 'reciprocal' as in takagdáisata 'work for each other!' (taka- 'work', -g 'referent', -dai, -sa 'personal action', -ta 'second person imperative').

Class 60, aspect suffixes, manifests the aspect tagmeme in completive verb stems as described in 4: 61 -sa ~ -s 'personal action' as in aúsabiahai 'I read it' (au- 'read', -Ø 'third person referent', -sa, -bia 'distant past', -ha 'first person', -i 'declarative'); 62 -ma ~ -m 'augmented action' as in puhúmata 'stay staying!' (puhu- 'stay', -ma, -ta 'second person imperative'); 63 -ka ~ -k 'unit action' as in sumákta 'buy it!' (sumá- 'buy', -Ø 'third person referent', -k, -ta 'second person imperative'); 64 -hą́ ~ -g 'segmented action' (action made up of several smaller actions) as in inágmaka 'did he hang them up?' (iná- 'hang up plural object', -g, -ma 'recent past', -ka 'interrogative', -Ø 'third person'); 65 -ki ~ -k 'action away from or over a large area' as in tupikákiu 'he ran' (tupiká- 'run', -ki, -u 'past stative').

Inflectional subclasses have the following contrastive distribution within the verb margin tagmemes discussed in 5.

Class 70, negative suffix, manifests the negative tagmeme in all verb margins: 71 (-čᵘ ~ -ča ~ -čaa ~ -č ~ -ɸu ~ -ɸa ~ -š) ∞ (-i ~ -ig) 'negative' as in wʌ́čattahai 'I'll not go' (wʌ- 'go', -ča, -tta 'future', -ha 'first person', -i 'declarative').

Class 80, imperative suffixes,[5] manifests the imperative tagmeme in imperative verb margins: 81 (-ta ~ -ata) ∞ -pa 'second person imperative' as in wʌtá 'go!' (wʌ- 'go', -ta); 82 -tị ∞ -ka 'third person imperative' as in wʌtị́ 'that he go!' (wʌ- 'go', -tị); 83 -mi 'plural inclusive imperative' as in wʌmí 'let's go!' (wʌ- 'go', -mi).

Class 90, stative suffixes, manifests the stative tagmeme in stative verb margins: 91 -u 'past stative' and 'narrative past' as in wʌ́u 'he went' (wʌ- 'go', -u); 92 -ʌ 'past perfect stative' as in wʌ́ʌ 'he has gone' (wʌ- 'go', -ʌ); 93 -tin ~ -tnu 'future stative' as in wʌ́tin 'he will go' (wʌ- 'go', -tin).

Class 100, equative suffixes,[6] manifests the equative tagmeme in equative verb margins: 101 -i ~ -it ~ -ai ~ -ait ~ -aita ~ -ita ~ -wait ~ -waita ~ -yai 'to be' as in takáuwaithai 'I'm a worker' (taka- 'work', -u 'habitual

[5] Note that 115 -ta ∞ -tị 'desirable future' has the same phonemic shape as morphemes 81 and 82. An alternate analysis might consider 115 as two morphemes and thus the same morphemes as 81 and 82, especially since the allomorphs of 115 are morphological alternates, -ta occurring with 'second person' morphemes and -tị occurring with 'third person' morphemes. Then morphemes 81 and 82 would be members of both imperative and tense affix classes with the meaning of 'second person desirable future' and 'third person desirable future'. Note, however, that the forms -ta and -t of 115 also occur with first person morphemes.

Similarly morpheme 71, listed above, has a morphological alternate (-i ~ -ig) which has the same phonemic shape as 116 'undesirable future' and which occurs manifest. ɡ the negative tagmeme in imperative margin constructions only, but also manifests the tense tagmeme in other constructions. I have arbitrarily chosen to consider these different morphemes with slightly different meanings in spite of the similarity in phonemic shape and some overlap in meaning.

See Turner (1957) for an alternate analysis.

[6] Class 100, equative suffixes, are listed here as inflectional. However an alternate analysis might consider them derivational. This would change the formulas of item verb bases in 3 to include an addi-

doer', -wait, -ha 'first person', -i 'declarative'); 102 -ʌ 'to have been' as in yáʌ 'who was it?' (ya 'who', -ʌ).

Class 110, tense suffixes, manifests the tense tagmeme in active verb margins: 111 -ma ~ -m 'recent past' as in wámaka 'did he go?' (wʌ- 'go', -ma, -ka 'interrogative', -ø 'third person'); 112 -yi ~ -ya 'remote past' as in wáyi 'he went long ago' (wʌ- 'go', -yi); 113 -mayi[7] ~ -bia ~ -mia ~ -bi ~ -may 'distant past' as in wʌ́agmayi 'they went some while ago' (wʌ- 'go', -ag 'plural person', -mayi, -ø 'third person'); 114 -tat ~ -tta 'future' as in wʌ́tatmʌk 'will you go?' (wʌ- 'go', -tat, -mʌ 'second person', -k 'interrogative'); 115 -t ~ -ta ∞ -ti 'desirable future' as in takastáhaš 'I might work (wanting to)' (taka- 'work', -s 'personal action', -ta, -ha 'first person', -š 'dubitative'); 116 -in 'undesirable future' as in takasáinhaš 'I might work (not wanting to)' (taka- 'work', -sa 'personal action', -in, -ha 'first person', -š 'dubitative').

Class 120, plural suffix, manifests the plural tagmeme in imperative, stative, and active verb margin constructions: 121 (-ag ~ -hu ~ -h ~ -ug) ∞ (-ina ~ -na) ∞ -mʌ 'plural person' as in wʌ́agmaka 'did they go?' (wʌ- 'go', -ag,

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tional obligatory tagmeme, verbalizer, manifested by class 100 suffixes. In 5 equative verb margins would no longer have an obligatory equative tagmeme.

I have here chosen to consider class 100 as manifesting a margin tagmeme because no other stem forming affixes occur after the negative tagmeme which is the first margin tagmeme. Also in all other verb constructions there is a clear break between nucleus and margin which is also preserved for equation verbs by considering class 100 inflectional rather than derivational.

[7] I consider -mayi a morpheme idiom made up of -ma 'recent past' and -yi 'remote past'. The meaning of the idiom is then 'distant past' a time between the other two. The term morpheme idiom is a suggestion of Lorrie Anderson. For additional discussion of complex morpheme idioms see Pike (1961).

-ma 'recent past', -ka 'interrogative', -Ø 'third person').

Class 130, person suffixes, manifests the person tagmeme in imperative, active, and equative verb margins: 131 -ha ~ -g 'first person' as in wʌ́mahai 'I went' (wʌ- 'go', -ma 'recent past', -ha, -i 'declarative'); 132 -mʌ́ ~ -m ~ -umʌ́ 'second person' as in wʌ́maumʌ́ 'you went' (wʌ- 'go', -ma 'recent past', -umʌ́); 133 (-wa ~ -u) ∞ -ʌ ∞ -Ø 'third person' as in wʌ́mʌ 'he went' (wʌ- 'go', -m 'recent past', -ʌ); 134 -hi 'first person plural inclusive' as in wʌ́mahi 'we went' (wʌ- 'go', -ma 'recent past', -hi); 135 -hamʌ́ ~ -ham 'first person to second person singular'[8] as in uhaktáhamʌ́ 'I'll tell you' (uha- 'tell', -k 'unit action', -ta 'desirable future', -hamʌ́); 136 -himʌ́ ~ -him 'first person to second person plural' as in uhaktáhimʌ́ 'I'll tell you all' (uha- 'tell', -k 'unit action', -ta 'desirable future', -himʌ́).

Class 140, declarative mode suffix, manifests the mode tagmeme in declarative active verb margins and in declarative equative verb margins: 141 -i 'declarative' as in takástathai 'I will work' (taka- 'work', -s 'personal action', -tat 'future', -ha 'first person', -i).

Class 150, interrogative mode suffixes, manifests the mode tagmeme in interrogative 1 active verb margins and in interrogative 1 equative verb margins: 151 -ka ~ -k 'interrogative' as in takástathak 'shall I work?' (taka- 'work', -s 'personal action', -tat 'future', -ha 'first person', -k); 152 -pi ~ -pita ~ -api ~ -p 'hypothetical interrogative' as

[8] First person subject to second person object is the only object relation shown in the margin. In 135 the morphemes break down easily into -ha 'first person', 131, and -mʌ́ 'second person', 132. However, in 136 -hi 'first person plural inclusive', 134, plus -mʌ́ 'second person', 132, does not result in 'first person plural inclusive to second person' but rather means 'first person singular to second person plural'. Therefore they are treated as a unit or morpheme idiom.

in takástathapi 'I'll work, won't I?' (taka- 'work', -s 'personal action', -tat 'future', -ha 'first person', -pi).

Class 160, subjunctive mode suffixes, manifests the mode tagmeme in subjunctive active verb margins: 161 -stai 'optative' as in takastáhastai 'I'll probably work' (taka- 'work', -s 'personal action', -ta 'desirable future', -ha 'first person', -stai); 162 -š ~ -ša ~ -aš 'dubitative' as in takasáinhaš 'I might work (not wanting to)' (taka- 'work', -sa 'personal action', -in 'undesirable future', -ha 'first person', -š).

3. Emic verb base classes. There are two major classes of verb bases, activity and item. Activity bases have subclasses transitive and intransitive. Both major classes have minor subclasses verbal and nominal. These classes are indicated on Chart III.

		Verbal	Nominal
Activity	Transitive	VeTAyVB	NomTAyVB
	Intransitive	VeItAyVB	NomItAyVB
Item		VeImVB	NomImVB

CHART III: EMIC VERB BASE CLASSES

Verb base classes are symbolized by the formulas given below. Manifesting classes indicated by abbreviations are found on Charts I and II. Noun classes are not described in this paper and are given here by name without further definition. An equal sign is to be read 'consists of', a colon 'manifested by', a plus sign indicates an obligatory tagmeme, and a bar indicates that a tagmeme may be manifested by one or another emic class and is to be read 'or'. For example the first formula reads 'Verbal transitive activity verb bases consist of an obligatory core tagmeme manifested by transitive verb roots'.

VeTAyVB = + Core: TVR

NomTAyVB = + Core: Noun Root Class x + Verbalizing: 10

VeItAyVB = + Core: ItVR

NomItAyVB = + Core: Noun Root Class z + Verbalizing: 10

VeImVB = + Core: VR + Nominalizing: Nominalizers

NomImVB = + Core: Subject Nouns/Locative Nouns/Subject Pronouns/Adjectives

Activity bases consist of either a verb root or a noun root plus a verbalizer. They manifest the base tagmemes in verb stems: maíčabiahai 'I didn't kill' (maí- 'kill', -ča 'negative', -bia 'distant past', -ha 'first person', -i 'declarative'); tʌmašmágta 'comb it!' (tʌmáš 'comb', -ma 'to do', -g 'segmented action', -ta 'second person imperative').

Item bases consist of either a verb root plus a nominalizer or of certain classes of nouns, pronouns and adjectives. They manifest the nucleus tagmeme in nominative equative verbs: takatáigkai 'is it used for working?' (taka- 'work', -ta 'abstract', -ig 'agent', -ka 'interrogative', -i 'to be'); atáškai 'is it a chicken?' (atáš 'chicken', -ka 'interrogative', -i 'to be').

Subclass transitive of activity bases consists of either transitive verb roots or noun root class x plus a verbalizing suffix. They manifest the base tagmeme in transitive verb stems: huuktá 'take it!' (huu- 'take singular object', -ø 'third person referent', -k 'unit action', -ta 'second person imperative'); pamáu tagkumáhai 'I'm taming a tapir' (pamáu 'tapir', tágku 'domesticated animal', -ma 'to do', -ha 'first person', -i 'declarative').

Subclass intransitive consists of either intransitive verb roots or noun root class z plus a verbalizing suffix.

They manifest the base tagmemes in intransitive verb stems: kanágtathai 'I'll sleep' (kaná- 'sleep', -g 'segmented action', -tat 'future', -ha 'first person', -i 'declarative'); suntagmʌ́awai 'he's becoming a soldier' (suntág 'soldier', -mʌa 'to become', -wa 'third person', -i 'declarative').

Minor subclass verbal bases have the obligatory core tagmeme manifested by a verb root: hʌgáčaabi 'he didn't arrive' (hʌga- 'arrive', -čaa 'negative', -bi 'distant past', -ø 'third person'); takáuwaithai 'I'm a worker' (taka- 'work', -u 'habitual doer', -wait 'to be', -ha 'first person', -i 'declarative').

Minor subclass nominal bases have the obligatory core tagmeme manifested by a noun root or by certain classes of nouns, pronouns, or adjectives: tanĩ́smagmi 'let's build a fence' (tanĩ́ 'fence', -ma 'to do', -g 'segmented action', -mi 'plural inclusive imperative'); pʌ́gkʌhaitmʌ́ 'you are good' (pʌ́gkʌh- 'good', -ait 'to be', -mʌ́ 'second person').

4. Emic verb stem classes. There are two major classes of verb stems--transitive and intransitive. Both major classes have subclasses simple and causative and minor subclasses completive and continuative. These classes are indicated on Chart IV.

		Completive	Continuative
Transitive	Simple	CmSiTVSm	CnSiTVSm
	Causative	CmCaTVSm	CnCaTVSm
Intransitive	Simple	CmSiItVSm	CnSiItVSm
	Causative	CmCaItVSm	CnCaItVSm

CHART IV: EMIC VERB STEM CLASSES

Verb stem classes are symbolized by the formulas given below. The minor subclass contrast of completive-continuative is not shown in the formulas. However, a plus

choice of the aspect tagmeme constitutes a completive stem whereas a minus choice of the aspect tagmeme constitutes a continuative stem. Manifesting classes indicated by abbreviations are found on Charts II and III.

SiTVSm = + Base:TVB ± (± Plural:30 ± Referent:40 + Person:50) ± Aspect:60

CaTVSm = + Causative:20 + Base:TVB ± (± Plural:30 ± Referent:40 + Person:50) ± Aspect:60

SiItVSm = + Base:ItVB ± (± Plural:30 + Referent:40 + Person:50) ± Aspect:60

CaItVSm = + Causative:20 + Base:ItVB ± (± Plural:30 + Referent:40 + Person:50) ± Aspect:60

Transitive verb stems have an obligatory base tagmeme manifested by transitive verb bases. Transitive stems manifest the nucleus tagmeme of transitive verbs: yąi̯gtá 'help him!' (yąi̯- 'help', -ø 'third person referent', -g 'segmented action', -ta 'second person imperative'); waínkašta 'don't see it!' (wain- 'see', -ø 'third person referent', -ka 'unit action', -š 'negative', -ta 'second person imperative').

Intransitive verb stems have an obligatory base tagmeme manifested by intransitive verb bases. Simple intransitive stems manifest the nucleus tagmeme of intransitive verbs: puhúyi 'he stayed' (puhú- 'singular subject stays', -yi 'remote past', -ø 'third person'); maíthastai 'I'll probably bathe' (mai- 'bathe', -t 'desirable future', -ha 'first person', -stai 'optative').

In an intransitive verb stem the referent precedes the

referent person tagmeme and they are mutually obligatory and refer either to the possessor of the clause-level subject tagmeme filler as in atáš puhúgtawai 'I have a chicken' or 'a chicken is in reference to me' (atáš 'chicken', puhú- 'singular subject is', -g 'referent', -ta 'first person referent', -wa 'third person', -i 'declarative'), or it may refer to the person of the filler of the clause-level referent-object tagmeme as in kantamhu̯tuata mína 'sing for me!' (kantam- 'sing', -hu̯ 'referent', -tu 'first person referent', -ata 'second person imperative', mína 'for me').

In a transitive verb stem the referent and referent person tagmemes are not mutually obligatory, and with certain roots the referent person tagmeme may precede the referent tagmeme. If only referent person tagmeme occurs the person indicated is the direct-object: ʌgá̯tui 'he is looking for me' (ʌgá̯- 'look for', -t 'first person referent', -u 'third person', -i 'declarative'); ikantúkta 'take me across!' (i- 'causative', kan- 'go across', -tu 'first person referent', -k 'unit action', -ta 'second person imperative'). However, if the referent tagmeme also occurs, the person indicated is either the owner of the direct-object or the referent-object person: ʌga̯thu̯katatui 'he will look for mine' or 'he will look for me (on my behalf)' (ʌgá̯- 'look for', -t 'first person referent', -hu̯ 'referent', -ka 'unit action', -tat 'future', -u 'third person', -i 'declarative'); ikantúgkata 'take mine across!' or 'take it across for me (on my behalf)!' (i- 'causative', kan- 'go across', -tu 'first person referent', -g 'referent', -ka 'unit action', -ta 'second person imperative').

Causative stems contrast with simple stems in that they have an additional obligatory causative tagmeme which, with some bases, precedes the base tagmeme, and with others, follows the base tagmeme: ʌmʌgkákmahai 'I caused it to become lost' (ʌ- 'causative', mʌgka- 'lose', -ø 'third

person referent', -k 'action away from', -ma 'recent past', -ha 'first person', -i 'declarative'); kánumtikhai 'I caused him to sleep' (kanu- 'sleep', -mti 'causative', -k 'unit action', -ha 'first person', -i 'declarative').

As stated above, transitive stems manifest the nucleus tagmeme of transitive verbs and simple intransitive stems the nucleus tagmeme of intransitive verbs. However, causative intransitive stems manifest the nucleus tagmeme of transitive verbs. A verb with a causative intransitive stem manifesting the nucleus has only one direct-object; a transitive verb with a causative transitive stem manifesting the nucleus may have two direct-objects. Note the following clauses in which the first has a causative transitive stem in the verb and the last has a causative intransitive stem in the verb. wi učín ʌgą́mtikmahai papín 'I caused the child to look for the paper' (wi 'I', učí 'child', -n 'objective case', ʌgą́- 'look for', -mti 'causative', -Ø 'third person referent', -k 'unit action', -ma 'recent past', -ha 'first person', -i 'declarative', papí 'paper', -n 'objective case'); wi učín puhúmtikmahai 'I caused the child to stay' (wi 'I', učí 'child', -n 'objective case', puhú- 'stay', -mti 'causative', -k 'unit action', -ma 'recent past', -ha 'first person', -i 'declarative').

Both transitive and intransitive stems have minor subclasses completive and continuative. If the aspect tagmeme is manifested the resulting stem is a completive stem, if not, it is a continuative stem: takásmahai 'I worked' (taka- 'work', -s 'personal action', -ma 'recent past', -ha 'first person', -i 'declarative'), takámhai 'I was working' (taka- 'work', -m 'recent past', -ha 'first person', -i 'declarative'); wainkáttahai 'I'll see it' (wain- 'see', -Ø 'third person referent', -ka 'unit action', -tta 'future', -ha 'first person', -i 'declarative'), wáintathai 'I'll be seeing

it' (wáin- 'see', -Ø 'third person referent', -tat 'future', -ha 'first person', -i 'declarative').

There are some verb roots which are never followed by an aspect suffix but have different root forms for completive and continuative stems: támahai 'I was saying' (ta- 'say', -ma 'recent past', -ha 'first person', -i 'declarative'); tímahai 'I said' (ti- 'say', -ma 'recent past', -ha 'first person', -i 'declarative'). There are a very few stems which have homophonous forms for completive and continuative stems since they never take an aspect suffix following and do not have a different root form for continuative and completive stems: mábiahai 'I killed' or 'I was killing' (ma- 'kill', -bia 'distant past', -ha 'first person', -i 'declarative').

Completive and continuative stems also contrast as to external distribution. Only completive stems manifest the nucleus tagmeme of imperative verbs (see 6). takastá 'work!' (taka- 'work', -s 'personal action', -ta 'second person imperative'). Completive stems manifest the nucleus tagmeme of stative verb with all members of class 90; continuative stems manifest the nucleus tagmeme of stative verbs only when the stative tagmeme is manifested by suffix 91: takástin 'will work' (taka- 'work', -s 'personal action', -tin 'future stative'); takasú 'worked' (taka- 'work', -s 'personal action', -u 'past stative'); takáu 'was working' (taka- 'work', -u 'past stative').

Both completive and continuative stems manifest the nucleus tagmeme of active verbs: takásmahai 'I worked' (taka- 'work', -s 'personal action', -ma 'recent past', -ha 'first person', -i 'declarative'); takámhai 'I was working' (taka- 'work', -m 'recent past', -ha 'first person', -i 'declarative'). If the tense tagmeme is not manifested in the margin (see 4), the nucleus tagmeme is manifested by a continuative stem and the verb is in the

present tense: takáhai 'I am working' (taka- 'work', -ha 'first person', -i 'declarative').

5. Emic independent verb margin classes. There are four major classes of independent verb margins--imperative, stative, active, and equative. Active margins have subclasses declarative, interrogative 1, interrogative 2, and subjunctive. Equative margins have subclasses declarative, interrogative 1, and interrogative 2. Verb margin classes are indicated on Chart V.

Imperative		ImpVM
Stative		StVM
Active	Declarative	DAVM
	Interrogative 1	In_1AVM
	Interrogative 2	In_2AVM
	Subjunctive	SjAVM
Equative	Declarative	DEVM
	Interrogative 1	In_1EVM
	Interrogative 2	In_2EVM

CHART V: EMIC INDEPENDENT VERB MARGIN CLASSES

The independent verb margin classes may be symbolized by the formulas given below. The order of margin tagmemes is not completely fixed, for imperative and tense may sometimes follow plural. For simplicity, this fact is not indicated in the formulas. Classes manifesting the margin tagmemes are found on Chart II.

ImpVM = ± Negative:70 + Imperative:80 ± Plural:120
± Person:130

StVM = ± Negative:70 ± Plural:120 + Stative:90
± Mode:152

DAVM = ± Negative:70 + Tense:110[9] ± Plural:120
+ Person:130 + Mode:140

In_1AVM = ± Negative:70 + Tense:110 ± Plural:120
+ Person:130 + Mode:150

In_2AVM = ± Negative:70 + Tense:110 ± Plural:120
+ Person:130

SjAVM = ± Negative:70 + Tense:115/116 ± Plural:120
+ Person:130 + Mode:160

DEVM = ± Negative:70 + Equative:100 + Person:130
+ Mode:140

In_1EVM = ± Negative:70 + Mode:151 + Equative:100
+ Person:130

In_2EVM = ± Negative:70 + Equative:100 + Person:130

Imperative margins have an obligatory imperative tagmeme manifested by a class 80 verb affix. They manifest the margin tagmeme in imperative verbs: diistá 'look!'

[9]When the tense tagmeme is not manifested by a member of class 110 the resulting construction is in the present tense. Since a zero manifestation of the tense tagmeme (combined with the occurrence of the continuative form of the stem--see 4) carries the meaning of 'present tense', I consider the tagmeme as obligatory.

(dii- 'look', -s 'personal action', -ta 'second person imperative'); takasáigpa 'don't you all work!' (taka- 'work', -sa 'personal action', -i 'negative', -g 'plural', -pa 'second person imperative').

Stative margins have an obligatory stative tagmeme manifested by a class 90 verb affix. They manifest the margin tagmeme in stative verbs: tíu 'he said' (ti- 'say', -u 'past stative'); tuínau 'they said' (tu- 'say', -ina 'plural', -u 'past stative'); tíčau 'he didn't say' (ti- 'say', -ča 'negative', -u 'past stative'); takasʌ́api 'he has worked, surely?' (taka- 'work', -s 'personal action', -ʌ 'past perfect stative', -api 'hypothetical interrogative').

Active margins have obligatory tense and person tagmemes manifested by class 110 and class 130 respectively. Active margins manifest the margin tagmemes in active verbs: wakítkimhai 'I returned' (wakít- 'return', -ki 'action away from', -m 'recent past', -ha 'first person', -i 'declarative'); wakítkičmaugmᵩk 'did you all not return?' (wakít- 'return', -ki 'action away from', -č 'negative', -ma 'recent past', -ug 'plural', -mᵩ 'second person', -k 'interrogative').

Equative margins have obligatory equative and person tagmemes manifested by classes 100 and 130 respectively. They manifest the margin tagmemes of equative verbs: účiithai 'I am a child' (úči 'child', -it 'to be', -ha 'first person', -i 'declarative'); učúčuithai 'I'm not a child' (učú- 'child', -ču 'negative', -it 'to be', -ha 'first person', -i 'declarative').

The class of active independent verb margins is subdivided into declarative, interrogative 1, interrogative 2 and subjunctive by contrast of the mode tagmeme which is obligatory in declarative,[10] interrogative 1, and subjunctive

[10] The mode tagmeme is indicated as obligatory. However, it is obligatory only when 'first person' suffixes manifest the person tagmeme,

margins but never occurs in interrogative 2 margins. In declarative margins it is manifested by class 140 suffix, in interrogative 1 by class 150 suffixes, and in subjunctive by class 160 suffixes. Declarative active margins manifest the margin tagmeme of declarative active verbs, interrogative 1 active margins the margin tagmeme of interrogative 1 active verbs, interrogative 2 active margins the margin tagmeme of interrogative 2 active verbs, and subjunctive active margins the margin tagmeme of subjunctive active verbs. Note the following illustrations. DAVM: takástathai 'I will work' (taka- 'work', -s 'personal action', -tat 'future', -ha 'first person', -i 'declarative'); In_1AVM: takástathak 'shall I work?' (taka- 'work', -s 'personal action', -tat 'future', -ha 'first person', -k 'interrogative'); In_2AVM: tuʃ takástatha 'where shall I work?' (tuʃ 'where', taka- 'work', -s 'personal action', -tat 'future', -ha 'first person'); SjAVM: takastáhastai 'maybe I'll work' (taka- 'work', -s 'personal action', -ta 'desirable future', -ha 'first person', -stai 'optative').

The class of equative independent verb margins is subdivided into declarative, interrogative 1, and interrogative 2 by contrast of the mode tagmeme, which is manifested by class 140 and occurs margin final in declarative margins, is manifested by morpheme 151 and precedes the equative and person tagmemes in interrogative 1 margins, and never occurs in interrogative 2 margins. Declarative equative margins manifest the margin tagmeme of declarative equative verbs, interrogative 1 equative margins the margin tagmeme of interrogative 1 equative verbs, and interrogative 2 equative margins the margin tagmeme of interrogative 2 equative verbs. Note the following illustrations. DEVM: taka-

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and with 'third person' except when 'third person' is manifested by the -∅ allomorph. It never occurs with 'second person'.

máinaithai 'I am able to work' (taka- 'work', -main 'potential doer', -ait 'to be', -ha 'first person', -i 'declarative'); In_1 EVM: takamáinčukaitam 'are you not able to work?' (taka- 'work', -main 'potential doer', -ču 'negative', -ka 'interrogative', -ita 'to be', -m 'second person'); In_2 EVM: wahína takáuwaita 'what does he work?' (wahí 'what', -na 'objective case', taka- 'work', -u 'habitual doer', -waita 'to be', -ø 'third person').

6. Emic independent verb classes. There are four major classes of independent verbs--imperative, stative, active, and equative. Active verbs have subclasses declarative, interrogative 1, interrogative 2, and subjunctive. Equative verbs have subclasses declarative, interrogative 1, and interrogative 2. All major classes have minor subclasses transitive and intransitive. Equative verbs have an additional minor subclass called nominative. Independent verb classes are shown on Chart VI.

		Transitive	Intransitive	Nominative
Imperative		TImpCl	ItImpCl	
Stative		TStCl	ItStCl	
Active	Declarative	TDACl	ItDACl	
	Inter. of Pred.	TInPACl	ItInPACl	
	Inter. of Item	TInIACl	ItInIACl	
	Subjunctive	TSjACl	ItSjACl	
Equative	Declarative	TDECl	ItDECl	NoDECl
	Inter. of Pred.	TInPECl	ItInPECl	NoInECl
	Inter. of Item	TInIECl	ItInIECl	

CHART VI: EMIC INDEPENDENT VERB CLASSES

Emic independent verb classes may be symbolized by the following formulas. Minor subclasses are not formularized since the only internal difference is in the base or stem class manifesting the nucleus tagmeme (see 4). The classes manifesting the tagmemes of verb stems are found in Charts III, IV, and V.

ImpV = + Nucleus: CmVSm + Margin: ImpVM

StV = + Nucleus: VSm + Margin: StVM

DAV = + Nucleus: VSm + Margin: DAVM

In_1AV = + Nucleus: VSm + Margin: In_1AVM

In_2AV = + Nucleus: VSm + Margin: In_2AVM

SjAV = + Nucleus: VSm + Margin: SjAVM

DEV = + Nucleus: NomVB + Margin: DEVM

In_1EV = + Nucleus: NomVB + Margin: In_1EVM

In_2EV = + Nucleus: NomAyVB + Margin: In_2EVM

Imperative verbs contrast with all other major emic verb classes in that the nucleus tagmeme is manifested by a completive verb stem and the margin tagmeme by an imperative verb margin. Imperative verbs manifest the predicate tagmeme in imperative clauses: takastáhum 'you all work!' (taka- 'work', -s 'personal action', -ta 'second person imperative', -hu 'plural', -m 'second person'); anʌntáimhati 'may he think!' (anʌntái 'heart', -m 'to do', -ha 'segmented action', -ti 'third person imperative').

Stative verbs contrast with all other major emic verb classes in that the margin is manifested by stative verb margins. Stative verbs manifest the predicate tagmeme in stative clauses: díta pʌmpʌáhu 'they wrapped it' (díta 'they', pʌmpʌá- 'wrap singular object', -Ø 'third person

referent', -h 'plural', -u 'past stative'); wi wáčau 'I didn't go' (wi 'I', wA- 'go', -ča 'negative', -u 'past stative').

Active verbs contrast with all other major emic verb classes in that the margin is manifested by active verb margins. Active verbs manifest the predicate tagmeme in active clauses. Active verbs are divided into subclasses declarative, interrogative 1, interrogative 2, and subjunctive. The margin tagmemes of these verbs are manifested by declarative, interrogative 1, interrogative 2, and subjunctive margins respectively. Declarative active verbs manifest the predicate tagmeme in declarative active clauses, interrogative 1 verbs the predicate tagmeme in interrogative of predicate clauses, interrogative 2 verbs the predicate tagmeme in interrogative of item clauses, and subjunctive verbs the predicate tagmeme in subjunctive clauses.

DAV: súsačabiahai 'I didn't give it' (su- 'give', -Ø 'third person referent', -sa 'personal action', -ča 'negative', -bia 'distant past', -ha 'first person', -i 'declarative'); unuímawai 'he is learning' (unuíma- 'learn', -wa 'third person', -i 'declarative').

In_1AV: wákʌthik 'are we going back?' (wakʌt- 'go back', -hi 'plural inclusive', -k 'interrogative'); puhústathapi 'I'll stay, won't I?' (puhu- 'singular subject stays', -s 'personal action', -tat 'future', -ha 'first person', -pi 'hypothetical interrogative').

In_2AV: yanák ikankáyawa 'whom did he take across?' (ya 'who', -na 'objective case', -k 'definite', i- 'causative', kan- 'go across', -Ø 'third person referent', -ka 'unit action', -ya 'remote past', -wa 'third person'); tuí takastáha 'where shall I work?' (tuí 'where', taka- 'work', -s 'personal action', -ta 'desirable future', -ha 'first person').

SjAV: dakumkáthastai 'I'll probably imitate him'

(dakum- 'imitate', -ø 'third person referent', -ka 'unit action', -t 'desirable future', -ha 'first person', -stai 'optative'); antúktahaš 'I might listen' (antú- 'listen', -k 'unit action', -ta 'desirable future', -ha 'first person', -š 'dubitative').

Equative verbs contrast with all other major emic verb classes in that the margin is manifested by equative verb margins and the nucleus tagmeme is manifested by nominal verb bases. Equative verbs manifest the predicate tagmeme in equative clauses. Subclasses declarative, interrogative 1, and interrogative 2 contrast in that the margin tagmeme is manifested by declarative, interrogative 1, and interrogative 2 margins respectively and in that they manifest the predicate tagmeme of declarative clauses, interrogative of predicate clauses, and interrogative of item clauses respectively.

DEV: namákiačui 'it's not from the river' (namák 'river', -ia 'from', -ču 'negative', -i 'to be', -ø 'third person'); agkuántai hiínai 'he comes out in the afternoon' (agkuántai 'afternoon', hii- 'singular subject comes out', -n 'habitual doer', -ai 'to be', -ø 'third person').

In_1 EV: pʌ́gkʌgkai 'is it good?' (pʌ́gkʌg 'good', -ka 'interrogative', -i 'to be', -ø 'third person'); ikám áinkai 'does it exist in the jungle?' (ikám 'jungle', a- 'singular subject exists', -in 'habitual doer', -ka 'interrogative', -i 'to be', -ø 'third person').

In_2 EV: ukukuí wahínma puhúwaita 'in what does an eagle live?' (ukukuí 'eagle', wahí 'what', -nma 'locative case', puhú- 'singular subject stays', -w 'doer', -aita 'to be', -ø 'third person'); tu imá pʌ́gkʌhaita 'which is best?' (tu 'which', imá 'more', pʌ́gkʌh- 'good', -aita 'to be', -ø 'third person').

All classes have minor subclasses transitive and intransitive. The nucleus tagmeme of transitive verbs is

manifested by transitive stems or by causative intransitive stems. Transitive verbs manifest the predicate tagmeme of transitive clauses: ya wakáhawa papín 'who wants paper?' (ya 'who', wakáha- 'want', -ø 'third person referent', -wa 'third person', papí 'paper', -n 'objective case'); wi ayúhabiahai ɸʌásan yawą́n 'I caused the dog to eat poison' (wi 'I', a- 'causative', yu- 'eat', -ø 'third person referent', -ha 'segmented action', -bia 'distant past', -ha 'first person', -i 'declarative', ɸʌásа- 'poison', -n 'objective case', yawą́ 'dog', -n 'objective case'); wi učín ʌháamhai 'I caused the child to arrive' (wi 'I', účі 'child', -n 'objective case', ʌ- 'causative', háa- 'arrive', -m 'recent past', -ha 'first person', -i 'declarative').

The nucleus tagmeme of intransitive verbs is manifested by simple intransitive stems. Intransitive verbs manifest the predicate tagmeme of intransitive clauses: wʌmí 'let's go!' (wʌ- 'go', -mi 'plural inclusive imperative'); antú-kagmaka 'did they listen?' (antu- 'listen', -k 'unit action', -ag 'plural', -ma 'recent past', -ka 'interrogative', -ø 'third person').

Minor subclass nominative consists of a nucleus tagmeme manifested by item verb bases and a margin tagmeme manifested by declarative and interrogative equative margins. They manifest the predicate tagmeme of nominative clauses: tagkúkai 'is it tame?' (tágku 'domesticated animal', -ka 'interrogative', -i 'to be', -ø 'third person'); patąyíyai 'he is his relative' (patą- 'relative', -yį 'third possessive', -yai 'to be', -ø 'third person').

7. Emic independent clause classes. Emic independent clause classes are shown on Chart VII. All major independent clause classes have an obligatory predicate tagmeme manifested by a class of verbs. Since each clause class has a different verb class manifesting the obligatory predicate

		Transitive	Intransitive	Nominative
Imperative		TImpV	ItImpV	
Stative		TStV	ItStV	
Active	Declarative	TDAV	ItDAV	
	Interrogative$_1$	TIn$_1$AV	ItIn$_1$AV	
	Interrogative$_2$	TIn$_2$AV	ItIn$_2$AV	
	Subjunctive	TSjAV	ItSjAV	
Equative	Declarative	TDEV	ItDEV	NoDEV
	Interrogative$_1$	TIn$_1$EV	ItIn$_1$EV	NoInEV
	Interrogative$_2$	TIn$_2$EV	ItIn$_2$EV	

CHART VII: EMIC INDEPENDENT CLAUSE CLASSES

tagmeme, Charts VI and VII are identical except for the symbol V (Verb) substituted for by the symbol Cl (Clause), Interrogative 1 replaced by Interrogative of Predicate, and Interrogative 2 replaced by Interrogative of Item.

Since the focus of this paper is the obligatory tagmeme, or predicate, formulas of clause expansions are not given. The minimum formula for each clause class is the predicate tagmeme manifested by a different class of verbs.

Interrogative-of-item clauses have an additional obligatory tagmeme called interrogative. It is manifested by a class called interrogatives and always precedes the predicate tagmeme. The interrogative tagmeme is always portmanteau with some other clause-level tagmeme, i.e. it has a double function[11] of indicating question and of functioning in the place of some clause-level tagmeme such as

[11] The suggestion of treating clause-level interrogative tagmemes as tagmemes having a "double function of indicating question and functioning in the place of some clause-level tagmeme" comes from Pickett (1960, page 78).

subject, object, time, location, or manner. Note the following minimum interrogative of item clauses: ya puháwa 'who is there?' [ya 'who' (Interrogative-Subject), puháwa 'he is, stays' (Predicate)]; tuí áwa 'where is it?' [tuí 'where' (Interrogative-Location), áwa 'it is, stays' (Predicate)]; wahína yúamʌ 'what are you eating?' [wahína 'what' (Interrogative-Direct-Object), yúamʌ 'you are eating' (Predicate)].

Clause classes further contrast as to optional satellite tagmemes. These include time (T), subject (S), accompaniment (Acc), direct-object (DO), referent-object (RO), manner (Ma), location (L), and agent (Ag). Satellite tagmemes may precede or follow the predicate (P) tagmeme but tend to keep the same relative order from the predicate tagmeme. Time is usually farthest from the predicate whether preceding or following. Manner is more often the satellite closest to the predicate. Note the satellite tagmemes in the following expanded transitive declarative clause: yáu santús učihíhai dapín šíig maámʌ mína hʌgahuíyan numí 'yesterday Santus and his son completely killed a snake in my house with a stick' [yáu 'yesterday' (T), santús 'Santús' (S), učihíhai 'with his son' (Acc), dapín 'snake' (DO), šíig 'well' (Ma), maámʌ 'he killed it' (P), mína 'my', hʌgahuíyan 'in my house' (L), numí 'by means of a stick' (Ag)].

Equative clauses have an additional optional subject tagmeme which may precede the first subject tagmeme and is in equational relationship to the rest of the clause. Note, for example, the clause púmpuk makíčik čígki wʌkáʌnai káši 'the owl is a bird that walks at night' in which púmpuk 'owl' is in equational relation to the rest of the clause [makíčik 'one', čígki 'bird' (S), wʌkáʌnai 'is a habitual walker' (P), káši 'night' (T)].

Although all satellite tagmemes may occur in imperative

clauses only two or three occur in any one clause: sáⁿčⁱ takastá 'work hard!' [sáⁿčⁱ 'hard' (Ma), takastá 'work' (P)]; kašín wainiámi 'let's see each other tomorrow!' [kašín 'tomorrow' (T), wainiámi 'let's see each other' (P)].

Nominative clauses have only subject and manner satellite tagmemes: kúši makíčik kúntin ikámiąyai 'the anteater is an animal of the jungle' [kúši 'anteater' (S_2), makíčik 'one', kúntin 'animal' (S_1), ikámiąyai 'it is from the jungle' (P)]; íkamyawą máčikiš tágkučui 'a tiger isn't a little bit tame' [íkamyawą 'tiger' (S), máčikiš 'little bit' (Ma), tágkučui 'he is not tame' (P)].

All satellite tagmemes occur in transitive clauses. Intransitive clauses never have a direct-object tagmeme but may have a referent-object tagmeme and any other satellite tagmemes. Contrast the following maximum expansions of a transitive clause and of an intransitive clause.

TDACl: kašín wi yaɸúghąi wámak akíkmaktathai diwímaun dukuhún níi hʌʌn atašuí 'tomorrow I with my brother will quickly pay the debt to my mother with a chicken at her house' [kašín 'tomorrow' (T), wi 'I' (S), yaɸúghąi 'with my brother' (Acc), wámak 'quickly' (Ma), akíkmaktathai 'I will pay it to her' (P), diwímaun 'debt' (DO), dukuhún 'to my mother' (RO), níi 'her', hʌʌn 'at her house' (L), atašuí 'by means of a chicken' (Ag)].

ItDACl: yąų yúu yačihąi šíig mína nampʌgtímʌ tampúghąi mína hʌgąhuí 'yesterday Yuu with his brother danced well for me with a drum at my house' [yąų 'yesterday' (T), yúu 'Yuu' (S), yačihąi 'with his brother' (Acc), šíig 'well' (Ma), mína 'for me' (RO), nampʌgtímʌ 'he danced in reference to me' (P), tampúghąi 'with drum' (Ag), mína 'my', hʌgąhuí 'at my house' (L)].

The following additional illustrations of emic independent clause classes show the occurrence of optional satellite tagmemes.

ImpCl: namák maámi 'let's kill fish!' [namák 'fish' (DO), maámi 'let's kill' (P)]; titú ubáim kuitámkata 'quietly take care of your brother!' [titú 'quietly' (Ma), ubáim 'your brother' (DO), kuitámkata 'you take care of' (P)].

StCl: apág ɸumúnum puháu 'my father stayed down river' [apág 'my father' (S), ɸumúnum 'down river' (L), puháu 'stayed' (P)]; kašín tíkič minítin 'tomorrow another will come' [kašín 'tomorrow' (T), tíkič 'another' (S), minítin 'will come' (P)].

DACl: wampukái učín áugmitkaɸui 'Tadpole is not causing the child to read' [wampukái 'Tadpole' (S), učín 'child' (DO), áugmitkaɸui 'he is not causing him to read' (P)]; yą́ą́ wámahi ɸumúnum 'yesterday we went downriver' [yą́ą́ 'yesterday' (T), wámahi 'we went' (P), ɸumúnum 'downriver' (L)].

InPACl: yamái ɸuwáaɸmą́k amą́š 'do you not have a fever now?' [yamái 'now' (T), ɸuwáaɸmą́k 'do you not have a fever' (P), amą́š 'you' (S)]; amą́š šihigkáš takámą́k 'are you working rubber?' [amą́š 'you' (S), šihigkáš 'rubber' (DO), takámą́k 'are you working' (P)].

InIACl: ya dapín maámʌ 'who killed the snake?' [ya 'who' (In-S), dapín 'snake' (DO), maámʌ 'he killed' (P)]; tuí puhámą́ amą́š 'where do you live?' [tuí 'where' (In-L), puhámą́ 'you live' (P), amą́š 'you' (S)].

SjACl: wíša yamáiš takastáhastai 'I'll probably work now' [wíša 'I' (S), yamáiš 'now' (T), takastáhastai 'I'll probably work' (P)]; amą́š kašíniš suhúktapáš 'tomorrow might you sell?' [amą́š 'you' (S), kašíniš 'tomorrow' (T), suhúktapáš 'you might sell' (P)].

DECl: ukukuík nanámnai atúšat yakí 'the eagle is one who flys far and high' [ukukuík 'eagle' (S), nanámnai 'is one who flys' (P), atúšat 'far' (Ma), yakí 'high' (L)]; káau tikíma wáinčatayi 'the owl is that which is not seen very

much' [káau 'owl' (S), tikíma 'very much' (Ma), wáinčatayi 'he is that not seen' (P)].

InPEC1: učíč wainnúkai 'are children those who see it?' [učíč 'children' (S), wainnúkai 'is he one who customarily sees it' (P)]; pumpúkuš pʌ́gkʌgčikai 'is an owl a little bit good?' [pumpúkuš 'owl' (S), pʌ́gkʌgčikai 'is he a little bit good' (P)].

InIEC1: wahí čígkita 'what bird is it?' [wahí 'what' (In-S), čígkita 'is bird' (P)]; wahínma káninaita 'in what does it sleep?' [wahínma 'in what' (In-L), káninaita 'he is one who customarily sleeps' (P)].

An additional contrastive feature of the emic clause classes is their distribution in sentence tagmemes. Independent clauses manifest the sentence-base tagmeme. A complete description of clause distribution is not included in this presentation; however, note the following contrastive distribution of the four major clause classes. In the illustrations the sentence-level tagmemes are indicated first, followed by the words with translation. The following sentence-level tagmemes occur in these illustrations: sentence-base (SB), sentence-qualifier (SQ), quote (Qt), vocative (Voc), and response (Res). Manifesting classes are indicated only when they consist of an independent clause class. For tagmemes occurring in independent clauses only, clause-level tagmemes are indicated in parentheses following the translation of each word or phrase.

Imperative clauses manifest the sentence-base tagmeme in imperative sentences in conversational style and the quote tagmeme in conversational and narrative style: yaɸúhú suhustá wakʌ́hau asámtai 'my brother, give it to me because I want it' Voc [yaɸúhú 'my brother'], SB:ImpCl [suhustá 'give it to me' (P:ImpV)], SQ [wakʌ́hau 'wanted' asámtai 'because it is']; ačiktá tíu 'grab him, he said' Qt:ImpCl [ačiktá 'grab him' (P:ImpV)], SB:StCl [tíu 'he said' (P:StV)].

Stative clauses manifest the sentence-base tagmeme in response sentences in conversational style. They also occur as the most frequent manifesting class of the sentence-base tagmeme in narrative style: wʌ́tatmʌk 'will you go?' aɸá wʌ́čatin 'no, will not go' SB:InPACl [wʌ́tatmʌk 'will you go' (P:In$_1$AV)], Res [aɸá 'no'], SB:StCl [wʌ́čatin 'will not go' (P:StV)]; núnikmatai ámič kampátumčik maá hinkíu 'when he did this the fox killing three came out' SQ [núnikmatai 'when he did this'], SB:StCl [ámič 'fox' (S), kampátumčik 'three' (DO), maá 'killing' (Ma), hinkíu 'he came out' (P:StV)].

Active clauses manifest the sentence-base tagmeme in statement, query, and response sentences in conversational style and in personal experience narrative style. kaihú kašín minítʌmʌk 'my sister, will you come tomorrow?' Voc [kaihú 'my sister'], SB:InPACl [kašín 'tomorrow' (T), minítʌmʌk 'will you come' (P:In$_1$AV)]; ʌʔʌ minítʌhai 'yes, I'll come' Res [ʌʔʌ 'yes'], SB:DACl [minítʌhai 'I'll come' (P:DAV)].

Equative clauses manifest the sentence-base tagmeme in descriptive and query of description sentences. dúwi wakʌhútayai tagkumátasa 'therefore it is that which is wanted in order to domesticate it' SQ [dúwi 'because of this'], SB:DECl [wakʌhútayai 'it is that which is wanted' (P:DEV)], SQ [tagkumátasa 'in order to domesticate']; apawá tátašam wahínum puhúwaita 'Father, in what does a woodpecker live?' Voc [apawá 'father'], SB:InIECl [tátašam 'woodpecker' (S), wahínum 'in what' (In-L), puhúwaita 'it is one who stays' (P:In$_2$EV)].

The following text gives additional illustrations of clause distribution within the sentence tagmemes. Sentences are numbered consecutively with the corresponding free translation given at the end of the text. Sentences with a

number plus a letter are sentences manifesting the sentence-quote tagmeme within the sentence having the same number.

1. SB:StCl [čúwi 'oriole' (S), sukuyán 'night hawk' (DO), iwakíu 'took him up' (P:StV), yakį́ 'high' (Ma), pasúgkạn 'into his nest' (L)]. 2. SB:StCl [ʌgkʌáu 'put him in' (P:StV), SQ [kanághatatus 'in order that he sleep']. 3. SB:StCl [ʌgkʌmáu 'put-in-one' (S), pásugnum 'in nest' (L), kanúmain 'able-to-sleep-one' (DO), dʌkápʌaču 'he did not feel' (P:StV)], SQ [pásug 'nest', bučíttai 'when moving'], SQ [dásạ 'wind', umpúam 'because blowing']. 4. SQ [išámak 'fearing'], SB:StCl [táu 'he said' (P:StV)]; 4a. Voc [saihú 'brother-in-law'], SB:DACl [iyágtathai 'I will fall' (P:DAV)].....5. SQ [túta į 'when he said'], SB:StCl [čúwi 'oriole' (S), tíu 'said' (P:StV)]; 5a. Res [a¢á 'no'], SB:DACl [iyágčattamạ 'you will not fall' (P:DAV)].....6. SB:StCl [¢awáhu 'dawned' (P:StV)], SQ [kanú¢uk 'without sleeping', sapíhin 'from fear'].....

7. SB:StCl [tíkič 'another', ¢awantái 'when day' (T), tahíu 'came for' (P:StV), agkuántai 'when afternoon' (T), sukuyá 'night hawk' (S), čuwín 'oriole' (DO)]. 8. Voc [kumpahú 'friend'], SB:DACl [minítham ạ 'I come for you' (P:DAV)], SQ [hukíthamsan 'in order to take you'], SQ [kanágmi 'that we sleep', mína 'my', hʌgạhuíš 'in my house also']. 9. SB:StCl [čuwíšakam 'oriole also' (S), šíig 'well', anʌás 'feeling' (Ma), tíu 'said' (P:StV)], Res [ayú 'Ok'].....10. SB:StCl [káši 'night' (T), tíu 'said' (P:StV)]; 10a. SB:ImpCl [ayámsami 'let's rest' (P:ImpV)] .....10b. SB:ImpCl [mína 'my', kanútai 'in my bed', huí 'here' (L), kanágmi 'let's sleep' (P:ImpV)], SQ [¢ʌ¢ʌkai 'from cold', waít¢aim 'lest you suffer']. 11. SB:StCl [patasú 'put' (P:StV), minagkuítnum 'on old log' (L), ągą́ 'outside' (L)].....12. SB:DECl [ašį́ 'all' (Ma), háhai 'I'm sick' (P:DEV), SQ [¢ʌ¢ʌáhan 'I being cold']. 13. SB:StCl [sukuyá 'night hawk' (S), tíu 'said' (P:StV)]; 13a.

SB:DECl [ɸʌɸʌkak 'coldness' (S), máčiki 'is little' (P:DEV)]; 13b. SB:DACl [wi 'I' (S), ámą 'your', hą̨ą̨mín 'in your house' (L), imá 'more' (Ma), waitɸábiahai 'I suffered' (P:DAV)], SQ [yakį́ 'high', kánučᵘ 'don't customarily sleep', ásan 'because I being']; 13c. SB:ImpCl [aták 'again' (T), hútikdayačmi 'let's not do it to each other' (P:ImpV)]; 13d. SB:ImpCl [amą́š 'you also' (S), adʌágta 'you remember' (P:ImpV), wáitɸamu 'that suffered' (DO)]; 13e. SB:DACl [wíša 'I also' (S), mídaun 'mine' (DO), adʌágtahai 'I will remember' (P:DAV)]; 13f. SB:DECl [kumpahúihai 'with your friends' (Acc), wáką 'stomach' (S), bʌsámahai 'it is broken' (P:DEV)], SQ [ɸanuniáuk 'deceiving one another'].

Free translation: 1. The oriole took the night hawk up high into his nest. 2. He put him in, in order that he sleep. 3. The one who was put in the nest didn't feel like sleeping because the wind blew and moved the nest. 4. Being fearful he said, 4a. "Brother-in-law, I will fall!" .....5. When he said it the oriole said, 5a. "No, you will not fall."..... 6. Because of his fear he dawned without having slept.....

7. Another day the night hawk came in the afternoon for the oriole. 8. "Friend, I come for you in order that we sleep in my house also." 9. The oriole also happily replied, "Ok." 10. At night he (night hawk) said, 10a. "Let's rest! 10b. Let's sleep here in my bed lest you suffer from cold." 11. He put him on an old log outside .....12. "I'm completely sick from the cold." 13. The night hawk said, 13a. "The cold is little. 13b. I suffered more in your house because I had never slept up high. 13c. Let's not do this to one another again. 13d. You remember your suffering. 13e. I'll remember mine. 13f. Among friends it is sad to deceive one another."

2

THE STRUCTURE AND CONTEXTS OF WITOTO PREDICATES IN NARRATIVE SPEECH

by
Eugene E. Minor and Eugene E. Loos

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

[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 Muinanʌ 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 including clauses which are the immediate contexts of predicates, are described in 3. In 4.1 the structure of predicates 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

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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, ǰ, k, m, n, ñ, ŋ, ɔ, ɸ, p, r, t, u, and ʌ (Minor, 1956). Orthographic symbols e, o, and v are used hereafter for ɛ, ɔ, and ɸ, respectively. A ligature indicates a diphthong, e.g. apemei '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 Instrument, 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, ± optional 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 tagmeme 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', apemẹj '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 dạʌde. "hạẹ nʌbạʌ kụe hi?do nʌpóde rʌa. nʌbạʌ hʌko rʌga o bu paga." dạʌde. '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 monạiñe hi?dʌ bii?de. benó o hopo gʌǰʌmo bii?deta. hạẹ bi?de iadʌ da hi?dó hạẹ 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 hiǰó 'to get well' marks a comment that is made regarding the first occurrence of hiǰó: hae apémadʌ pʌa hiǰode. ʔdaíno ǰoñéde. ua kue hiʔdodʌ ua hiǰoiʔde, daʌde apémadʌ hae. '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 ʔdaʌpe merʌka . . . ua pia ʔdaʌpe 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: nʌbaʌ 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 ǰʌʌno- 'to take hold' in the succeeding sentences gives more details about the idea expressed in the first sentence: raʌre o ǰʌʌnori, daʌde. ǰʌʌnoiʔdʌo, iadʌ ʌere ona aʌniʔdeta. ñue o ǰʌʌnori, daʌde. ǰʌʌnoiʔdʌomo uíre monai haíkʌri ia biiʔdʌkueta, daʌde. '"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 ñiʔdáʔda- 'cause to sniff' indicate a progression of events: hae onódʌmadʌ biʔdá apéma ñue manóde. hae biǰáno hipitaʌ ǰʌkíkana da ñʌʔdáʔdade. ñʌʔdáʔdano daʌde, hae - - hae ñue kue 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 erói- 'to see' marks the compliance to the previously given command: mai ba?dʌ omaʌ erói. hae eróidʌkaʌmo bi?de. 'Now you-all look there. Now when-we-looked, it-came.'

(i) Reciprocal activity. In the example the repetitions of bu?dá- 'to hit' mark the reciprocation of the same activity between the opponents: bʌ́ga dʌ́ga hʌ́áʌma bu?dádeʌoʌ. meíne ʌbána bu?dáde. meíne ʌbána bu?dáde. '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: ñeñaite ñʌgo mei bi?dío. pʌgo enaititoma pʌgo o biǰa. 'Nephew well then came-you. Well nephew-sun well you came.'

(k) Emphasis. In the first example the repetition of bi- 'to come' and henuai- 'to go look for' emphasizes the duration and the intensity of the activity respectively. In the second example the repetition of ǰo- 'to tell' emphasizes by negative antithesis the quality of the first statement: hae darui amani biñéna, biñéna. hira hae da moodʌ onódʌma henuaide, henuaide. 'Now three days doesn't-come, doesn't-come. Therefore now his father a-wise-man goes-to-find, goes-to-find.' uápue ǰo?de. ?daʌ́no ǰoñéde. '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,

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, menítą̆ʌ pakódʌką̆ʌmo, haíde abióda '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: hą̆e 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 sentences differ from other types of sentences in the composition 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 biĭa '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?dʌkų̆e 'shall-I-not-come?' Interrogative 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, components. They may consist of (1) a response without a predicate tagmeme, (2) a subsidiary mood sentence containing no subject tagmeme, (3) a transitive clause with omitted object tagmemes, or (4) a closure phrase for terminating stories and activities. In the following examples,

the dependent sentences are shown in brackets: (1) ʌere kuedʌ haiai ajǰo duikodaidʌkue 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 merîka. [hae 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 hi?dʌ bii?de . . . [raʌre o ǰʌʌnori.] 'Your son early tomorrow while-it-is-dark will-come. [You quickly take!]' (4) pueto aturomo haíde lača. [hae nʌʌe.] '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 components of the sentence include clause connectors, interjections, 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: ǰʌʌnoi?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 independent clause of a preceding but noncontiguous sentence. An example is: mai ba?dʌ omaʌerói . . . hae erójidʌkaʌmo 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 hae 'so now'.

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

3.13. Vocatives. 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)', ebui 'sister (of a woman)'.

3.2. Clauses. 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. Primary clauses. 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] a͜itʌku͜e 'I-run'; [T] biru͜i [L] benómena [L] hopómo [Ma] ra͜ʌre [InP] a͜itʌ́dʌku͜e. 'Today from-here to-your-house quickly I-run.'

(b) Intransitive state clause: [InstP:InstV] utírede 'It-is-hot'; [T] nau͜i [S] ku͜e a͜iǰoka͜edʌ [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 monai hakʌ́ri ia [O] aiǰue ooguena [L] daaʌemona [L] omo [I] nokáedo [Ma] raʌre [UP:UV] aʔdʌiʔdʌkue. '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 tagmeme expressing 'object of action' as in clause type II. Examples are: [CO] kue hitana [O] kue gʌǰʌ [BP:BV] kurúʔdaʔdʌkue. 'My daughter my yard I-caused-to-cultivate'; [T] naúiri [CO] kue hiʔdóna [O] aiǰue aména [IO] ori [I] čovémado [BP:BV] iʌ́ʔda ʔdadʌkue. 'Yesterday 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 sentence the subjects of a subordinate clause predicate and a primary clause predicate have the same referent, the subject 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: hae biǰáno . . . 'Now having-come'; menítaʌ pakódʌkaʌmo . . . 'turtles

when-we-were-catching'; da tapénaiʔdaǰena . . . '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 'therefore-does-not--' follow the primary clause, and (2) purpose clauses with a predicate filler terminating in -ǰena '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 kuẹ hopódʌ aiǰuẹ. 'My house big'. In the texts gathered and studied to date these two types of utterances are very infrequent. 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', aʌníño?dʌkue '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', kokʌ́o͡ide 'it-always-falls', hiúo͡ʃakadʌku͡e '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]

[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: iíriñobitʌde 'Many-have-been-repeatedly-cut-a-little'.

5. + TrR ± 111 (-ri) ± 131 (-no) ± 151 (-tʌ) ± 161 (-ʔda) + 2005 (-ga): iíriñotʌga '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): ąitʌ́de '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) iʌ́de '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 intransitive 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 -tʌ '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 -ʔda 'causative' is mutually obligatory

[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 syllable is reduplicated. When the root consists of two identical contiguous vowels there is a further variation not yet analyzed. Examples of reduplication are as follows: da nokae pʌnópʌnode 'He-kept-building his canoe'. koĩkoiakadʌkue 'I-keep-getting-ants'. rorodʌkue '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: iárĩñotʌode 'Many-people-cut-many-times-in-a-small-field-every-day'.

2. + InR ± 122 (-rii) ± 131 (-no) ± 141 (-koʌ) ± 151 (-tʌ) + 161 (-ʔda) + 0000: a͡itárĩiñokoʌtʌʔdade '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: itírepʌretʌʔdade 'Many-people-caused-to-really-hurt-habitually'.

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

6. + TrR ± 111 (-ri) + 112 (-pʌ) + 121 (-re) + 131 (-no) ± 151 (-tʌ) + 0000: iáripʌrenotʌde '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 objects is generally determined by its occurrence before or

after the causative suffix 161 -ʔda in unitransitive and bitransitive 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 situations, but data confirming its occurrence here are not available. 111 -ri 'repetitive' does not occur when the structure is closed by terminal suffix 2002 -ǰe '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 structure.

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 terminal 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-

tʌ?da?dade 'They-cause-him-to-make ... to-become-slightly-green'.

3. + stR + 113 (-ti) ± 151 (-tʌ) + 161 (-?da) ± 151 (-tʌ) + 161 (-?da) + 0000: da kakaʌna da mokoti-?da?dade '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 (-?da) ± 151 (-tʌ) + 0000: kurúriñotʌ?datʌde 'They-caused-many-to-repeatedly-cultivate ... a-little'.

5. + TrR ± 111 (-ri) ± 131 (-no) ± 141 (-koʌ) ± 151 (-tʌ) + 161 (-?da) ± 151 (-tʌ) + 161 (-?da) + 0000: iʌriñokoʌtʌ?datʌ?dade '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 -?da 'causative'. Formula 4 is formed from a transitive root, so needs only the single occurrence of suffix 161 -?da 'causative' for simple bitransitive structures. For more complex expressions such as caused causation from a transitive root, the double occurrence of suffix 161 -?da 'causative' is necessary, as in formula 5. Suffix 151 -tʌ 'plural participants' may occur twice: once preceding and once following 161 -?da '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 -?da 'causative', 161 -?da '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 -oma͡ʌko 'second person dual': okódʌ-oma͡ʌko 'You-two-are-eating'.

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

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

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

1019 -ʌo͡ʌ 'third person plural': okóde-ʌo͡ʌ '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': kue okó-ri 'I will-eat'.

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

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

2004 -ǰa ~ -a ~ -na 'present or past progressive'. -ǰa 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: kue hakʌrui-ǰa 'I am-fearing', hakʌrui-ǰa 'he-is-fearing', kue okúaka-na 'I was-wanting-to-eat', kʌóñe-na 'it-does-not-appear', kue kui-a 'I was-writing', kue hiru-a 'I was-drinking', naui kue 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: kue ni-adʌ 'I am-about-to-weave', kue teí-adʌ 'I am-about-to-cook', kue aʌní-adʌ 'I am-about-to-bite', kue hone-adʌ 'I am-about-to-place', kue hʌká-adʌ 'I am about-to-ask', kue okó-adʌ 'I am-about-to-eat'.

2007 -# 'positive imperative': mai 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: tapénaiʔda-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: pakódʌcaʌ̲-mo 'while-we-were-fishing'.

3022 -mona 'source of action' (locative); DS: duíko-ʔdaidʌkaʌ̲-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': itſ-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 formulas) 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 subject 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'; bi?dʌ́ma 'he-who-comes'.

II. [± M_2: Adj_1 + 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. [± M_1: Adj_4 ± M_2: Adj_1 + 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> [+ Adv_3 + (-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', <hi?dó> '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', manóriraʌma '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 kʌrága͡ʌ 'basket' > apéga͡ʌ 'that basket'. (b) Adj_1 fragment plus noun fragment: a͡ijʃue 'big' plus kʌrága͡ʌ 'basket' > a͡ijʃoga͡ʌ 'big-basket'. (c) Noun fragment plus noun fragment: ʌíma 'man' plus a?dava 'chicken' > ʌí?dava 'rooster'. (d) Adj_2 fragment plus noun fragment: hi?dʌrede 'black' plus hʌko 'tiger' > hi?dʌko 'black-tiger'.

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

Class 5 nouns. + InR + [+ 111 (-ri) + 2004 (-ʃ̌a)] + -ne 'nominalizer': makáriʃ̌ane 'manner of walking', uuriʃ̌ane 'speech'.

Class 6 nouns. + VR + 2005 (-ga) + noun fragment: kue͡ñéga 'not-having-been-written' plus rabe 'leaf' > kue͡ñégabe '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 suffixes are: (1) -ma 'masculine', (2) -ŋo ∞ -ño ∞ -gʌ 'feminine' (the distribution of the variants of 2 are not yet defined), (3) -ʃ̌u 'augmentative', (4) -?diru 'diminutive'. Examples are: kʌnʌma 'boy' vs. kʌnʌño 'girl'; iʃ̌a͡ʌma 'man-chief' vs. iʃ̌ʌʌŋo 'woman-chief'; eíroma 'old-man' vs. eírogʌ 'old-woman'; mono͡ʌ 'a-breast', monoʃ̌u 'a-large-breast'; mero 'pig', mero?diru '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 -ǰʌnoa for masculine nouns (hi?dóǰʌnoa 'two-sons'), and the suffix 12 -ʌŋuaa for feminine and other nouns (kʌnís-ñoʌŋuaa 'two girls; abániŋuaa 'two shields'; nokáeŋuaa 'two-canoes'; okóraaŋuaa 'two-spoons').

Plurality is indicated by one of the following suffixes:

13 -aa ~ -ǰaa ~ -ʌ 'some, many'. -ǰaa occurs following i-final stems, -ʌ occurs following a-final stems, and -aa occurs elsewhere. When -aa occurs, a stem-final vowel e is replaced by i, and stem-final o by u. imániǰaa 'many-rivers', rabiaa 'many leaves', kʌnáñuaa 'many-girls', mero?diruaa 'many-little-pigs', ʌímaa 'many-men'. Plurality may be emphasized by reduplication of -aa. An example is: imédaaaa [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. ʌʌñaaʌ/ʌʌnʌaa 'many men'.

15 (-e ~ -ʌe) 'many, all'. -e occurs suffixed to nouns of Class A, -ʌe occurs suffixed to Class B. itie '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 clarification, or emphasis ('I myself'), the independent subject tagmeme may also occur preceding the predicate. This independent 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 ʔdaipe merʌ́ka 'a-child by-a-demon has-been-stolen'; ua hʌko rʌñéga '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 ± -no 'place, position']: ba?dáno 'there (away)' or [+ Prt + -no]: apeno 'there (closely)'.

Loc_5 [+ N_{1-6} + -mo 'to, toward']: iǰémo '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']: kue 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: čovégʌdo aménana iádʌkue '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. <aiǰo> 'big': aiǰo okóde 'a-lot-(greatly) he-eats'.

Av_2. <raʌre> 'fast': raʌre aitʌde 'rapidly he-runs'.

Av_3. <ñue> 'well': ñue pʌnóde 'well he-does-(makes)'.

Av_4. <hʌʌdʌe> 'not even, little': hʌʌdʌe ǰiróñede 'even-a-little he-doesn't-drink'.

Av_5. <itíre> 'painfully, intensely': itíre ʌnʌde 'intensely-(soundly) he-sleeps'.

Av_{5a}. <ua> 'truly': ua kue hi?dó biǰa 'truly my son came'.

Av_6. <nokʌ ana> 'in or under rain' (N_{1-6} with postposed particle): nokʌ ana makáde 'the-rain under he-walks'.

Av_7. <ʌere> 'very': ʌere ona aʌni?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: apéru̯i-do 'on-that-day'.

Time phrases occur according to the following formulas:

Tm_1 plus InR; e.g. uíre mona̯i 'later sky-ing' (tomorrow).

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

[+ Tm_1 ± M(± M:Adj_4 + H:N_1)] e.g. ha̯e daru̯i amani 'now three days'.

[+ H:t.prt ± M:(+ InR ± -ñe) ± 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 mona̯iñe 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) ± T: Tx [+ Tm_1 + InR + Loc_6: (+ stR + -ri) + (+ InR + 3012)] ufre monai haʌ́kʌ-ri i-a (2) + O: Nx [± M_2: Adj_1 + (H: N_1 ± na)] aiǰue oogue-na (3) ± L: Loc_7 [+ N_1 + -mona] daaʌe-mona (4) ± IO: Loc_5 [+ N_1 + -mo] o-mo (5) ± I: [+N_1 + -do] nokáe-do (6) ± Ma: Av_2 raʌre (7) + P: UV [+ TrVR ± 201 + 1001 + 1011] aʔdʌ-i-ʔdʌ-kue. '(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) ± A: Nx [± M_2: Adj_1 + H: N_1] kue año (3) ± IO: Loc_5 [+ N_1 + -mo] kue-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.)

3

CONTRASTIVE FEATURES OF CANDOSHI CLAUSE TYPES

by
Lorrie Anderson and Mary Ruth Wise

STUDIES IN PERUVIAN INDIAN LANGUAGES: I

0. Introduction. Candoshi[1] clause types contrast with one another in their internal composition and in their function or distribution (Pike, 1960). The general contrastive features[2] of the voice types are described in 1, the contrastive features of each independent clause type in 2, and the contrastive features of dependent clauses in 3. The contrastive features of the filler class of each clause-level tagmemic slot are described in 4.

0.1. Tagmemic notation and symbols. In 2 and 3 the formulas given reflect a simplification of tagmemic notation (Longacre, 1960) in that the slot label is used to represent the tagmemic unit of slot filled by a member of a class. The details of the internal composition of each tagmeme are not given until 4. For example, although the different predicate tagmemes are one of the principal contrastive features of each clause type and each different predicate tagmeme is given a different label, the internal composition which dis-

[1] Candoshi is spoken by about 2000 Indians living mainly between the Morona and Nukural rivers in the northern part of Peru. Two groups of Indians, the Shapras who live mainly along the eastern tributaries of the Morona River, and the Muratos who live mainly around Lake Rimachi, comprise the Candoshi tribe.

The bulk of the data were gathered by Lorrie Anderson during field trips to a Shapra community on the Pushaga River in the years 1950-1958; some data from the Murato dialect, which differs slightly from the Shapra dialect, have been used after checking with a Shapra informant. Doris Cox and John Tuggy provided some additional data. Several thousand clauses from narratives, letters, and conversations have been used as the basis of this analysis.

In the initial analysis of Candoshi clauses by Lorrie Anderson, the suggestions of Paul Kirk and Viola Waterhouse were helpful. Mary Ruth Wise is responsible for the present form of the analysis.

[2] Mildred Larson's article (see page 1) is the source of the initial stimulus for this description which emphasizes the contrastive features of Candoshi clause types.

tinguishes each predicate from the others is not described until 4.

The following is a key to the symbols used throughout the paper: + obligatory constituent; ± optional constituent; = consisting of; : filled by, in formulas; < derived from; - joins words translating a single vernacular word in glosses; [ ] complex filler of a single slot; { } more inclusive complex filler of a single slot than that enclosed in [ ]; A aspect; Acc accompaniment; Adj adjective; App apposition; B bound; C conditional; Cl clause; D dependent; Dc declarative; Ds desiderative; E equative; F focus; H head; I independent; Id indicative; Imp imperative; In intransitive; Int intention; Inter interrogative; L location; Loc locative; M manner; Mk marker (as LMk for location marker); Mod modifier; N noun; Nom nominalizing; NonPer nonpersonal; O object; Obj objective; P predicate; Part participial; Pc particle; Pf prefix; Phr phrase; Poss possessor; Pot potential; Pro pronoun; R referent; Rt root; S subject on clause level; s subject included in verb; Sf suffix; Sj subjunctive; Ss substantive; St stem; StFm stem-forming; T time; Tem temporal; Tr transitive; V verb.

0.2. Sentence matrix of clauses. Clauses contrast with sentences (which we describe briefly here to give the distributional matrix of clauses) in that a predicate tagmeme obligatorily occurs in all clause types whereas a predicate tagmeme does not obligatorily occur in all sentence types. Also, sentences may include more than one clause.

Sentences consist of two contrastive types, independent and dependent. Independent sentences can optionally constitute a complete utterance and are not dependent upon a context. The formula for independent sentences follows:

± DCl ± DCl ± DCl + ICl ± ICl. In the examples which follow, the symbols (DCl) and (ICl) following each clause in Candoshi identify the clause as dependent or independent. wáakiyá (+ ICl) 'he-drinks'; mašárpá no póaki (+ ICl) 'with-a-leaf I I-cover-(it)'; ipórsáyaró (± DCl) nowáa-nášá sirítánčí (+ ICl) 'it-having-pulled-apart, I-myself sewed-(it)'; mapíiši (± ICl) máayáacšítá aat atóri (± DCl) mášinášináaworí (± DCl) nántáčori (± DCl) piyáam kontóm čiyát piyáam kontóm čiyát míša yasína čiyát ášíšá (+ ICl) 'I-was-unaware, "what-that-about to-say" (what's it saying that about) I-thought, I-listening, I-going-along, right-there palm to-stand right-there palm to-stand another tree to-stand it-was-doing-like-that (that-is-the-way-it-was)'.

Dependent sentences, on the other hand, can optionally constitute a complete utterance but are dependent upon the linguistic or nonlinguistic context. They include sequence sentences and various nonclause sentences. Sequence sentences contrast with independent sentences in that an introducer tagmeme, with a semantic component such as reason, speculation, or enumeration, is obligatory in addition to an obligatory independent clause. The formula for a sequence type dependent sentence is + Introducer ± DCl ± DCl + ICl ± ICl. Examples are: áširóčá (+ Introducer) kíšpor šántkíyá (+ ICl) 'that-is-why very-much he-wants-(it)'; kamáaparía (+ Introducer) močóoši kašíitáríyá (+ ICl) 'let's-see-(if) hair is-sticking-between-his-teeth'; míša ciyácin (+ Introducer) sarámpi kóosaránkča tíráparánkšó (+ ICl) škíya yóšintárankíyá (± ICl) 'other-news, measles came to-Tierra-Blanca, Shkiya brought-(it)'. Nonclause sentences, i.e. those in which no predicate tagmeme occurs include among other types response and vocative. Examples follow. (a) Response: ši (± S) pímáasiš (± T) 'you there-time-you' (while you were still there) [as response to 'when?']; aó 'answer when one's name is called', ntánn-

parfa 'no-maybe [a refusal]'. (b) Vocative: šinfkfa [name] 'Shiniki' --with optional vocative suffix -a ∞ -o.

Since both independent and dependent clauses occur in independent sentences, the contrastive features of these major Candoshi clause types are discussed in the matrix of independent sentences.

1. Contrastive features of voice types. Transitive, intransitive, and equative voices[3] crosscut the independent-dependent division of clauses and the mode division (see 2) of independent clauses and set up a further classification (see Chart I).

There follows a discussion of the features that distinguish transitive, intransitive, and equative voice types from one another in independent indicative and dependent clauses, and that distinguish transitive from intransitive voice types in independent subjunctive clauses.

An optional object tagmeme occurs in transitive clauses; this does not occur in intransitive clauses. A transitive predicate tagmeme occurs in transitive clauses; an intransitive predicate tagmeme occurs in intransitive clauses. (See 4.111 for the contrasts in the verbs which fill the different predicate slots.) Transitive and intransitive clauses further contrast with each other in that the usual relative order of tagmemes differs in the two types. In transitive clauses the location tagmeme usually follows the subject tagmeme whereas it usually precedes the subject in intransitive clauses.

Equative clauses contrast with both transitive and in-

[3] The term "voice" is used by Nida (1945, page 168) to include transitive and intransitive. Whereas he defines voice as 'the relationship of the participants to the action', it is defined here as 'the relationship of the subject to the predicate', and, therefore, equative is listed as a voice along with transitive and intransitive.

				Transitive	Intransitive	Equative
Independent						
	Indicative	Declarative		IIdDcTrCl	IIdDcInCl	IIdDcECl
		Interrogative	Yes-no	IIdInter$_1$TrCl	IIdInter$_1$InCl	IIdInter$_1$ECl
			Information-content	IIdInter$_2$TrCl	IIdInter$_2$InCl	IIdInter$_2$ECl
	Subjunctive	Declarative	Desiderative	IDcDsTrCl	IDcDsInCl	
			Imperative	IDcImpTrCl	IDcImpInCl	
			Potential	IDcPotTrCl	IDcPotInCl	
		Interrogative Yes-no	Desiderative	IInter$_1$DsTrCl	IInter$_1$DsInCl	
			Imperative	IInter$_1$ImpTrCl	IInter$_1$ImpInCl	
			Potential	IInter$_1$PotTrCl	IInter$_1$PotInCl	
		Interrogative Information-content	Desiderative	IInter$_2$DsTrCl		
			Imperative	IInter$_2$ImpTrCl		
Dependent	Conditional			DTrCl	DInCl	DECl

CHART I: CLAUSE TYPES

transitive clauses in that an equative predicate tagmeme occurs: the equative predicate slot is filled by a substantive whereas the transitive and intransitive predicate slots are filled by verbs. There is further contrast with transitive and intransitive clauses in that a subject is the only optional tagmeme which occurs in equative clauses.

Transitive clauses are divided into subtypes A, B, and C. (See transitive formulas in 2.11 and 3.) Transitive subtype B contrasts with A in that a referent tagmeme is obligatory in B whereas it is optional in A, and in that the predicate tagmeme is different. Subtype C contrasts with A and B in that an object 2b tagmeme is obligatory and an object 1 tagmeme is optional in C; whereas in A and B only one object tagmeme, either object 1 or object 2a, occurs and neither is obligatory. The predicate tagmemes also differ. Also, in C a subject tagmeme is usually the only optional tagmeme other than object 1. An accompaniment tagmeme does not occur in either B or C, but can occur in A.

Intransitive clauses are divided into subtypes A and B. (See intransitive formulas in 2.11 and 3.) Intransitive subtype B contrasts with A in that a referent tagmeme is obligatory in B whereas it is optional in A, and in that the predicate tagmeme is different.

2. Contrastive features of independent clause types. An independent clause is obligatory in independent sentences and can fill the total sentence slot.[4] An independent predicate tagmeme is obligatory in each independent clause. (As

[4] 'Total sentence slot' in this paper is used for 'total segmental sentence slot'. There is also a total supra-segmental sentence slot of intonation which we do not describe here or list in the formulas. Declarative intonation and interrogative intonation are important contrastive features of independent indicative declarative and independent indicative interrogative sentences. Nevertheless, the segmental sentence slot which

indicated in 1, other tagmemes are obligatory in certain clause types.)

The major division of independent clauses is between indicative and subjunctive modes. Clauses of both modes are subdivided into declarative and interrogative types. Independent subjunctive clauses are further subdivided into desiderative, imperative, and potential types. (See Chart I.)

We now turn to the contrastive formulas, or list of contrastive features, and examples of each type of independent clause.

2.1. Independent indicative clauses. In 2.11 we describe independent indicative declarative clauses and in 2.12 independent indicative interrogative clauses.

2.11. Independent indicative declarative clauses. These clauses usually include only one or two tagmemes: an obligatory predicate tagmeme, or an obligatory predicate tagmeme and any one of the tagmemes listed as optional in the following formulas. They may, however, include two optional tagmemes and occasionally three.

The contrastive formulas which follow show the most common relative order of tagmemes. In the examples each clause-level tagmeme is identified in parentheses following the Candoshi illustration.

Formulas for the subtypes of independent indicative declarative transitive clauses are:

---

a clause fills is given without reference to intonation since the focus of attention is on the segmental tagmemes of clauses.

Likewise, in 2, the segmental slot which dependent clauses fill is given without reference to intonation, although rising intonation and pause are contrastive features of dependent clauses filling an optional slot in independent sentences. For a different treatment of the relation of intonation to the sentence see Elson and Pickett (1960, page 27).

A = ± Acc ± M ± T ± S ± L ± O_1/O_{2a} ± R
+ IIdDcTrP$_a$ ± F

B = ± M ± T ± S ± L ± O_1/O_{2a} + R
+ IIdDcTrP$_b$ ± F

C = ± S ± O_1 + O_{2b}
+ IIdDcTrP$_c$ ± F

Examples follow. A: wáakiyá (+ IIdDcTrP$_a$) 'he-drinks', wankánáa (± O_1) ṣ̌áarankó (+ IIdDcTrP$_a$) 'boar he-killed', š̌i (± S) nowáa (± O_1) wanáasir támáam (± R) yápstárankíš̌ (+ IIdDcTrP$_a$) 'you me good with-reference-to-living you-taught', mašárpá (± Acc) no (± S) póaki (+ IIdDcTrP$_a$) 'with-a-leaf I I-cover-(it)'; B: nowáa (± O_1) mayístróam (+ R) íináakiya (+ IIdDcTrP$_b$) 'me with-reference-to-a-teacher he-will-cause-to-become' (he will cause me to become a teacher); C: pṣ̌a (+ O_{2b}) táyaránčiná (+ IIdDcTrP$_c$) '"let's-go," I-said'.

Formulas for the subtypes of independent indicative declarative intransitive clauses are:

A = ± Acc ± M ± T ± L ± S ± R + IIdDcInP$_a$ ± F

B = ± M ± T ± L ± S + R + IIdDcInP$_b$ ± F

Examples follow. A: wášonkáani (± S) tamóoro (+ IIdDcInP$_a$) 'his-blowgun was-lying-it', poot (± T) nčítarí coop (± S) yáčíyá (+ IIdDcInP$_a$) 'tomorrow another moon will-appear-it'; B: kánič (± S) mančánOsíam (+ R) kiṇáčíyá (+ IIdDcInP$_b$) 'one's-spirit with-reference-to-deer will-become' (one's spirit will become a deer).

The formula for the independent indicative declarative equative clause is: ± S + IIdDcEP. Examples are:

waš́óoráannčá (+ IIdDcEP) 'it-(is)-long'; kamóoš́ (± S) kapónkča (+ IIdDcEP) 'man (is) big'; karánk (± S) wanáasirí poro (+ IIdDcEP) 'guacamayo pretty feathers' (the guacamayo has pretty feathers).

2.12. Independent indicative interrogative clauses. There are two main types of independent indicative interrogative clauses. The first type, in which a 'yes' or 'no' response is expected, contrasts with declarative clauses in that it is obligatory in independent indicative interrogative sentence type 1 and in that an interrogative predicate tagmeme is obligatory. Since the formulas for interrogative clauses are quite similar to those of declarative clauses, we have omitted them in order to avoid redundancy. Examples follow. Transitive: ponfíčiš (+ IIdInterTrP$_a$) 'will-you-be-afraid?', ponfíčišá (+ IIdInterTrP$_a$) 'you-will-be-afraid,-won't-you?'; intransitive: poo (± T) náačiš (+ IIdInterInP$_a$) 'tomorrow will-you-go?'; equative: kiiš́ (+ IIdInterEP) '(is-it)-a-woman?'.

The second type of interrogative clauses, an information-content interrogative, contrasts with the first type and with declarative clauses in that an interrogative tagmeme and an interrogative predicate tagmeme occur obligatorily. It also contrasts with declarative clauses in its distribution.

The interrogative tagmeme is always fused with another tagmeme of the clause, i.e. the morphemes simultaneously manifest interrogative and some other tagmeme such as subject. Thus, čáaka 'who?' in the first example below simultaneously fills the subject slot and the interrogative slot. If the interrogative tagmeme is manifested by the morphemes which also manifest the predicate tagmeme, no other tagmeme is necessary and the optional tagmemes are limited to object and subject. In the examples which follow, the fusion of interrogative and the tagmeme it accompanies

is indicated by listing both tagmemes in parentheses. čáaka (+ Inter ± S) naač (+ IIdInterInP$_a$) 'who will-go?'; tamáakátšá (+ Inter + IIdInterInP$_a$) '(where)-are-you-going?'; ášinó (+ Inter ± T) pánaač (+ IIdInterTrP$_a$) 'when will-he-give-(it)?'.

2.13. Optional focus tagmeme in independent indicative clauses. In the above formulas, an optional focus tagmeme, i.e. focus of attention in the clause, is listed clause-final. It is always fused with another optional clause-level tagmeme. An alternative analysis is to consider that an obligatory focus tagmeme occurs clause-final and is usually fused with the predicate but may be fused with an optional clause-level tagmeme. Since, however, an optional clause-level tagmeme does not occur fused with the focus tagmeme in subjunctive clauses, i.e. the subjunctive predicate always occurs clause-final, we prefer to say that the focus tagmeme is optional in indicative clauses and that unless it occurs the predicate tagmeme occurs clause-final. When an optional tagmeme is fused with the focus tagmeme, then the optional tagmeme occurs clause-final rather than in its normal order in the clause. We consider the occurrence of the focus tagmeme in each type of independent indicative clauses to be a noncontrastive expansion of the clause type. Variants of this expansion depend upon the tagmeme with which the focus tagmeme is fused; the different order of tagmemes in each variant is, therefore, noncontrastive. In the examples, the gloss of the focused item is underlined.

Examples are: náyaráńčó (+ IIdDcInP$_a$) tpóoci (± F ± S) 'he-went man' [In a story where the jaguar is the main character, the man is brought into focus when he is the actor.]; potárankíni (+ IIdDcTrP$_a$) waakánáaci (± F ± O) 'we-caught boar'; išáńčiš (± S) íistáńčó (+ IIdDcInP$_a$) irínáama (± F ± R) 'your-wife helped Irene'; náačiš

(+ IIdInterInP$_a$) píya (± F ± L) 'will-you-go there?'; no (± S) šiyáankaaš (± R) mánki máncáakiná (+ IIdDcInP$_a$) ičínkoró šáari (± F ± T) 'I for-you my-heart I-do-poorly every day' (I'm sad for you every day); mínáamarí šáari (± S) waríitaak (± IIdDcInP$_a$) tápímmpátá (± F ± Acc) 'only-one day is-enough with-darkness'; šiyáankaaš (± R) mánki máncáakiná (+ IIdDcInP$_a$) kíišporí (± F ± M) 'for-you my-heart I-do-poorly very' (I'm very sad for you).

2.2 Independent subjunctive clauses. In 2.21 we describe independent subjunctive declarative clauses and in 2.22 independent subjunctive interrogative clauses.

Subjunctive clauses contrast with indicative clauses in that subjunctive clauses include not more than three tagmemes: a predicate tagmeme is obligatory and any one or two of the tagmemes listed as optional in indicative clause formulas may occur. (Note, however, that the focus tagmeme does not occur in subjunctive clauses.) They also contrast in that a subjunctive--rather than indicative--predicate tagmeme occurs. Transitive and intransitive voices in subjunctive clauses parallel the corresponding voices of indicative clauses, but subjunctive clauses differ in that there is no equative voice. Since the formulas are quite similar to those of indicative clauses (see 2.11), we have omitted them.

2.21. Independent subjunctive declarative clauses. These clauses are subdivided into desiderative, imperative, and potential types. These three types contrast with one another in that the predicate tagmemes differ. Examples of each of these types follow.

Independent declarative desiderative clauses. Transitive: yápi (+ IDcDsTrP) 'I-want-to-take-(it)', šiyáa kókiš (± O$_1$) kamánnpi (+ IDcDsTrP) 'your words I-

want-to-tell'; intransitive: káarpi (+ IDcDsInP) 'I-want-to-climb', íiwáari (± L) káarpi (+ IDcDsInP) 'high I-want-to-climb'.

Independent declarative imperative clauses. Transitive: panáanki (+ IDcImpTrP) 'give-(it-to-him)!', nípat (± Acc) čiyátáašiní (+ IDcImpTrP) 'with-this go-chase-(it)!'; intransitive: náanki (+ IDcImpInP) 'go!', poo (± T) niiš (± L) kóosáanksi (+ IDcImpInP) 'tomorrow here you-may-come!'.

Independent declarative potential clauses. Transitive: panáróntamá (+ IDcPotTrP) 'he-might-give-it-to-me (I don't want him to)', poo (± T) panáačínčpá (+ IDcPotTrP) 'tomorrow I-will-give-(it)-to-you', nowáam (± R) panáyaránta (+ IDcPotTrP) 'to-me he-gave-(it)'; intransitive: móčtárpá (+ IDcPotInP) 'be-aware-that-it-ordinarily-burns'.

2.22. Independent subjunctive interrogative clauses. These clauses consist of two types: a 'yes' or 'no' interrogative and an information-content interrogative. They differ from each other in the same ways as the parallel types of indicative interrogative clauses. Yes-no interrogative clauses contrast with subjunctive declarative clauses in that a subjunctive interrogative predicate tagmeme is obligatory. Information-content interrogative clauses contrast with subjunctive declarative clauses in that a subjunctive interrogative predicate tagmeme and an interrogative tagmeme fused with another tagmeme of the clause are obligatory.

Subjunctive yes-no interrogative clauses consist of desiderative, imperative, and potential types. Examples follow. Desiderative transitive: nía (± O) yápíatiš (+ IInterYes-NoDsTrP) 'it do-you-want-to-take?'. Desiderative intransitive: kárpíatiš (+ IInterYes-NoDsInP)

'do-you-want-to-climb?'. Imperative intransitive: náan-kíatiš (+ IInterYes-NoImpInP) 'go!-do-you-intend?' (do you intend for me to go?). Potential transitive: panáčínč (+ IInterYes-NoPotTrP) 'shall-I-give-it-to-you?'.

Subjunctive information-content interrogative clauses consist of desiderative and imperative types paralleling those of subjunctive declarative clauses. (No examples of information-content interrogative potential clauses occur in our data.) Examples have not been found of transitive and intransitive voices to completely parallel subjunctive declarative clauses. Examples follow. Desiderative: tamáapíatiš (+ Inter + IInterDsTrP) 'what-do-you-want-to-do?'. Imperative: tamáankíatiš (+ Inter + IInterImpTrP) 'what-did-you-say-I-should-do?'.

3. Contrastive features of dependent clause types. Dependent clauses contrast with independent clauses in the following ways: (1) They fill an optional slot in independent sentences. (They do not fill the total sentence slot but must occur with an independent clause.) Or, they fill a slot in an independent or dependent clause, or in a phrase. (2) A dependent predicate tagmeme is obligatory in dependent clauses. Verbs which fill the predicate slot in dependent clauses have a different set of affixes from those which fill the predicate slot in independent clauses (see 4.112). (3) Dependent clauses involve a single mode, the conditional.

When dependent clauses fill an optional slot in the sentence, the action of the dependent predicate is not obligatorily simultaneous with that of the predicate of the independent clause. When they fill an optional time or manner slot within an independent or dependent clause or an optional temporal appositive slot within a temporal phrase, the action of the dependent predicate must be simultaneous with that of the predicate of the independent clause in which

it occurs. The tagmemic formula for a dependent clause type is the same whether the clause fills an optional sentence slot or a slot within another clause or phrase.

Dependent transitive clauses contain up to four tagmemes of those listed in the transitive formulas below, whereas dependent intransitive clauses include only up to three of the tagmemes listed in the intransitive formulas.

Formulas for the subtypes of dependent transitive clauses are:

A =	± Acc	± M	± T	± S	± L	± O	± R	+ $DTrP_a$	± F
B =				± S		± O	+ R	+ $DTrP_b$	± F
C =				± S	± O_1	+ O_{2b}		+ $DTrP_c$	± F

Examples follow. A: wáyaró (+$DTrP_a$) 'he-having-drunk', nowáa kóki (± O_1) máṣ́ináak (+ $DTrP_a$) 'my words hearing-he', naa (± T) wáros (± O_{2a}) táaporíyaró (+ $DTrP_a$) 'later his-drunkenness having-gotten-rid-of', kčírapónkonkáaṣ́ (± R) ṣ́antkoš (+ $DTrP_a$) 'spear-desired want-you' (because you want a spear); B: nowáa (± O_1) mayístróam (+ R) ínáakčináari (+ $DTrP_b$) 'me with-reference-to-a-teacher if-they-cause-to-become'; C: taríri (± S) nowáa (± O_1) náaci (+ O_{2b}) táakčo (+ $DTrP_c$) 'Tariri me "go" if-he-says' (if Tariri says to me "go").

Formulas for the subtypes of dependent intransitive clauses are:

A =	± Acc	± M	± T	± S	± L	± R	+ $DInP_a$	± F
B =		± M	± T	± S	± L	+ R	+ $DInP_b$	± F

Examples follow. A: póotóri (± T) aráp (± L) náyaráńčóri (+ $DInP_a$) 'early-in-the-morning far having-gone-I', mantárṣ́áč (± S) nowáaṣ́ mooč (± L) waṣ́íaro (+ $DInP_a$) 'bird-then over my-head perching-he'; B: no (± S) son-

tátóam (+ R) kináakčóri (+ $DInP_b$) 'I with-reference-to-a-soldier if-I-become' (if I become a soldier).

The formula for dependent equative clauses is: ± S + DEP. Examples are: kisánáari (+ DEP) 'if-it-were-delicious', kamóoš (± S) kapónkonáari (+ DEP) 'the-man if-he-were-big'.

Dependent clauses, like independent indicative clauses, may have an optional focus tagmeme which is fused with another clause-level tagmeme and occurs clause-final. Examples are: ciyáataránko (+ $DInP_a$) šówančpát (± F ± Acc) 'he-having-talked with-his-brother'.

4. Contrastive features of filler classes of clause-level tagmemic slots. The contrastive features of the fillers of each tagmemic slot are the principal means of identifying the clause-level tagmemes.

The predicate tagmeme which occurs in each clause type is treated as a separate tagmeme and described separately since the filler of the predicate slot in each clause type is different and the resultant contrastive predicate tagmeme is one of the principal contrastive features of each clause type. On the other hand, other clause-level tagmemes are not treated as separate tagmemes in each clause type. Thus, we describe object 1 in 4.23 only once since the fillers of the tagmemic slot are the same whether object 1 occurs in an independent or dependent, or indicative or subjunctive clause. That is, we consider that one tagmeme may be distributed in various clause types.

The fillers of tagmemic slots which are obligatory in some clause type are described first in 4.1. Then, the fillers of tagmemic slots which are obligatory only in some clause subtype or always optional are described in 4.2.

4.1. Fillers of obligatory tagmemic slots. The fillers

of the predicate slots are described first in 4.11 since a predicate tagmeme is obligatory in each clause type. The fillers of the interrogative slot, obligatory in indicative interrogative and subjunctive interrogative information-content clauses, are described in 4.12.

4.11. Fillers of predicate slots. Fillers of predicate slots may be simple or complex. Complex fillers of predicate slots occur in indicative declarative predicates more often than in other predicate slots. Since the analysis of these complex fillers of predicate slots (verb phrases) is not yet complete, we illustrate here with a single example: (Here and in succeeding examples in 4 a complex filler of a tagmemic slot being described is enclosed in brackets and the tagmemic slot filled by the total is indicated in parentheses after the brackets.) IIdDcTrCl_a = no (± S) šámpiríríactámmtí (± R) [mánki (± Mod) máncáaki (+ IIdDcTrV_a)] (+ IIdDcTrP_a) 'I my-brother-in-law-also my-heart I-do-poorly' (I am sad about my brother-in-law also).

Simple fillers of predicate slots are described in 4.111 and 4.112. In 4.111 the contrastive features of transitive and intransitive verbs are given, and in 4.112 the contrastive features of the fillers of each predicate slot are given.

4.111. Transitive and intransitive verbs contrast in the fillers of their stem slots although the inflectional suffixes are the same. The lists of transitive and intransitive roots are different. A transitive stem may consist of (1) a transitive root, (2) a transitive root with an optional member of a class of transitive stem-forming prefixes, (3) a transitive root with an optional member of a class of transitive stem-forming suffixes, or (4) an intransitive root with an obligatory member of a class of transitivizing stem-forming prefixes; or (5) one of several compound stems

such as a bound root with an obligatory free transitive root, or reduplicated or partially reduplicated transitive roots.

Examples are: TrSt = činká (+ TrRt) 'to-finish-off' as in mosáa (± M) činkáakčá (+ IIdDcTrP$_a$) 'quickly he-finishes-(it)'. TrSt = tóčinká 'to-cause-to-finish' < [tó- (± StFmPf) 'causative' činká (+ TrRt) 'to-finish-off'] as in taas (± O$_{2a}$) tóčinkáakčá (+ IIdDcTrP$_a$) 'skin cause-to-finish' (he skins it). TrSt = činátamá 'to-love-a-little-bit' < [činá (+ TrRt) 'to-love' -tamá (± StFmSf) 'a-little-bit'] as in no (± S) činátamáaki (+ IIdDcTrP$_a$) 'I love-(him)-a-little-bit'. TrSt = tósowá 'to-cause-to-run-away' < [tó- (+ StFmPf) 'causative' sowá (+ InRt) 'to-run-away'] as in waṣámpiríría (± O$_1$) tósowárankíya (+ IIdDcTrP$_a$) 'brother-in-law he-caused-to-run-away'. TrSt = máṣináṣiná 'to-listen-and-listen' < [máṣiná (+ TrRt) ṣiná (± Partially reduplicated TrRt)] as in máṣi-náṣináworí (+ DTrP$_a$) 'listening-and-listening' (as I kept listening).

Transitive verbs A, B, and C--but not the clauses containing them--differ only in the fillers of the stem slot. Transitive stem A consists of any transitive stem except transitive stem B or transitive stem C. The only member of transitive stem B is íná 'to-cause-to-become'. The members of transitive stem C are limited to a small list of stems with the common semantic component 'to say'.

An intransitive stem may consist of (1) an intransitive root, or (2) an intransitive root with an optional member of a class of intransitive stem-forming suffixes; or (3) some type of compound stem such as a bound root with an obligatory free root or a root with a reduplicated or partially reduplicated intransitive root; or (4) a substantive root.

Examples are: InSt = náni (+ InRt) 'to-come' as in tpoots (± S) nánčpá (+ IDcPotInP) 'person is-coming-be-aware' (look out, someone is coming). InSt = čítanká 'to-

wander-around-aimlessly' < [č̣íta (+ InRt) 'to-wander' -nká (± StFmSf) 'without-purpose'] as in nčóra (± S) č̣ítan-káakanáya (+ IIdDcInP$_a$) 'child they-wander-aimlessly'. InSt = paṣ̌ó 'to-put-one's-hand-in' < [pa- (+ BRt) 'to-do-with-hand' ṣ̌o (+ InRt) 'to-put-in'] as in wačóš (± L) paṣ̌óki (+ IIdDcInP$_a$) 'in-the-hole I-put-my-hand'. InSt = kč̣óanač̣óana 'to-grow-and-grow' < [kč̣óana (+ InRt) 'to-grow' č̣óana (± Partially reduplicated InRt)] as in iwáat (± S) kč̣óanač̣óanataríya (+ IIdDcInP$_a$) 'corn always-grows-and-grows'. InSt = síina (+ SsRt) 'rain' as in kíṣ̌por (± M) siináakíyá (+ IIdDcInP$_a$) 'very-much is-raining-it'.

Intransitive verbs A and B differ only in the fillers of the stem slot. Intransitive stem A consists of any intransitive stem except B. The only member of intransitive stem B is kiná 'to-become'.

4.112. A description of the simple fillers of each predicate slot follows. A detailed description of the affixation, including optional affixes, of Candoshi verbs is not given here since it has been described by Doris Cox (1957).

In the formulas and in Chart II, we list the obligatory constituents of each filler of a predicate slot (optional constituents are listed only if they are contrastive). Since additional data make it possible to classify some of the verbs somewhat differently, we have made subdivisions not included in Cox's article. The numbers correspond to those in Cox's article except where additional data necessitate the use of additional numbers.

Suffix 516 'intention' has been added to all of Cox's charts except those for the optative and the dependent verb. Optative verbs have been renamed 'potential'. The following additions have been made to the chart for potential: 3014 'first person plural objective', 3015 'second person plural objective', 3016 'third person plural objective', 3213 'third

	Stem	Ds:1010	Imp:2020	800	A:500
IIdDcTrV	+Tr				+
IIdDcInV	+In				+
IIdDcEV	+Ss				
IIdInterV	+Tr/In /+InterRt			+811	+
IIdInterEV	+Ss				
IDcDsV	+Tr/In	+			
IDcImpV	+Tr/In		+		
IDcPotV	+Tr /+Tr /+In				
IInterYes-NoDsV	+Tr/In	+			
IInterYes-NoImpV	+Tr/In		+		
IInterYes-NoPotV	+Tr				
IInterDsV	+InterRt	+			
IInterImpV	+InterRt		+		
DTrV	+Tr				+4540/ 4530/4520
DInV	+In				+4540/ 4530/4520
DEV	+Ss				

CHART II. CONTRASTIVE FEATURES OF

*If a constituent occurs obligatorily, it is marked + in the appropriate column; if it occurs optionally, it is marked ± in the appropriate column. If any member of the class can occur, only + or ± is marked; if certain members only of the class can occur, they are listed following the + or ±.

Int: 516	C: 4510	Obj: 3010	s: 200 **	Pot: 3112	Inter: 114	ESf
			+			
			+			
						±
			+		±	
+			+		±	
					±	±
			+			
		+3011				
		+3012/ 3014-6		+		
			+3213/ 3214/3216	+		
+			+		±	
+			+		±	
		+3012			±	
+			+		±	
+			+		±	
	+		+			
	+		+			
	+					

THE FILLERS OF EACH PREDICATE SLOT *

**The millenium numbers listed in the formulas for fillers of the subject slot correspond to those assigned to them in Cox's article. They are omitted for the purpose of this chart, and the fillers of the subject slot numbered 200, except for IDoPotV for which the fillers of the subject slot are limited.

person singular subject', 3214 'first person plural subject', 3216 'third person plural subject'. Suffix 112 in Cox's article has been renumbered 3112. The formula given below for IDcPotInV was listed as an alternate of IIdV. The suffixes of century 200, renumbered 2200, occur in independent subjunctive interrogative verbs. Suffixes 4514 -naari 'if', and 4515 -paš ~ -napaš 'what if' have been added to the dependent verb chart.

The contrastive features of the fillers of each predicate slot as well as the similar features of a class of fillers, e.g. indicative declarative verbs, appear in Chart II.

IIdDcTrP:IIdDcTrV = + St:TrSt + A:500 + s:200. This formula is to be read 'independent indicative declarative transitive predicate slot filled by an independent indicative declarative transitive verb which consists of an obligatory stem slot filled by a transitive stem with an obligatory aspect slot filled by a member of suffix class 500 and with an obligatory subject slot filled by a member of suffix class 200.' Examples follow. A: čináakiná 'I-love' < [činá (+ $TrSt_a$) -ak (+ 541) -i (+ 211) -na (± 111)]; B: fináakiya 'he-causes-to-become' < {[f- (+ StFmPf) iná (+ InRt)] (+ $TrSt_b$) -ak (+ 541) -i (+ 213) -ya (± 111)}; C: táyarán-činá 'I-said' < [ta (+ $TrSt_c$) -ya (± 711) -ra (± 542) -nč (+ 522) -i (+ 211) -na (± 111)].

IIdDcInP:IIdDcInV = + St:InSt + A:500 + s:200. Examples of independent indicative declarative intransitive verbs are now given. A: náako 'he-goes' < [na (+ $InSt_a$) -ak (+ 541) -o (+ 213)]; B: kináčiyá 'he-will-become' < [kiná (+ $InSt_b$) -č (+ 521) -i (+ 213) -ya (± 111)].

IIdDcEP:IIdDcEV = + St:Ss ± ESf:čá/taná.[5] The

[5] Further study may show that the equational suffix is obligatory with certain classes of substantives. Since the analysis of these classes is not complete, we list the equational suffix here as an optional tagmeme.

filler of the independent indicative declarative equative predicate slot differs from the fillers of transitive and intransitive predicate slots in that the stem slot is filled by a substantive and the set of affixes which occurs is different. Some of the substantive classes which may fill the stem slot are nouns, adjectives, and bound roots. The equational suffix -taná occurs optionally when the subject is first person, and -čá occurs optionally when the subject is any other person. The equative predicate slot can also be filled by a substantive phrase. Examples are: kísa (+ St:Ss) 'it-is-delicious'; wámátčá 'he-is-a-good-hunting-dog' < [wámát (+ SsSt) -čá (± ESf)]; [i (± H:Pro) kantóašiní (± App:N)] (± S) [nčítarí (± Mod:Adj) waráacšíni (+ H:N)] (+ IIdDcEP:NPhr) 'we, Candoshi, other our-fighting' (we Candoshi fight differently).

The filler of the predicate slot in both yes-no and information-content independent indicative interrogative clauses contrasts with those described above in that interrogative suffix 114 optionally occurs.[6] The filler of the predicate slot in an interrogative information-content clause differs further if the interrogative tagmeme is fused with the predicate tagmeme. In this case the stem slot is filled by the interrogative root tamáa 'what-in-the-world?' and suffixes 811, 516, and 200 occur. Examples are: tanórša (+ IIdInterInV$_a$) 'did-you-cry?' < [tanó (+ InSt) -r (+ 542) -š (+ 212) -a (± 114)]; tamáakátšá (+ Inter + IIdInterInV)

[6] It would be possible to consider indicative interrogative verbs that are not fused with the interrogative tagmeme as optional expansions of indicative declarative verbs, since the only contrast is the optional occurrence of suffix 114. Note, however, that subjunctive interrogative verbs contrast sharply with subjunctive declarative verbs (see Chart II). Therefore, on the basis of this analogy of pattern and also on the basis of the alternate filler composed of the fused interrogative-predicate form, we have set up interrogative as a class of verbs in contrast with declarative.

'where-are-you-going?' < [tamáa (+ InterRt) -ka (+ 811) -t (+ 516) -š (+ 212) -a (± 114)]; kamóoṣáa (+ IIdInterEV) 'is-it-really-a-man?' < [kamóoṣa (+ SsSt) -a (± 114)].

The fillers of subjunctive declarative predicate slots contrast with the fillers of indicative declarative predicate slots in that the inflectional affixes are different whereas the same transitive or intransitive stem may occur in an indicative or subjunctive predicate. Separate formulas for desiderative, imperative and potential subjunctive declarative types are given, with examples of each.

IDcDsP:IDcDsV = + St:Tr/InSt + Ds:1010 + s:1200. Examples follow. Transitive: katónkpi 'I-want-to-eat' < [katónk (+ TrSt) -p (+ 1011) -i (+ 1211)]; intransitive: káarpi 'I-want-to-climb' < [káar (+ InSt) -p (+ 1011) -i (+ 1211).

IDcImpP:IDcImpV = + St:Tr/InSt + Imp:2020. Examples follow. Transitive: čináankamáasi 'think-first!' < [činá (+ TrSt) -anka (+ 2021) -máasi (± 2512)]; intransitive: náanki 'go!' < [ná (+ InSt) -anki (+ 2021)].

IDcPotP:IDcPotV = + St:TrSt + Obj:3010, or + St:TrSt + Obj:3012/3014-6 + Pot:3112, or + St:InSt + s:3213/3214/3216 + Pot:3112. Examples follow. Transitive: šinámpántá 'spank-me' < [šinámpá (+ TrSt) -ntá (+ 3011)], panáčínčpá '(I)-will-give-to-you' < [paná (+ TrSt) -č (± 3521) -ínč (+ 3012) -pá (+ 3112)], námpónéepá 'they-might-scold-us' < [námpó (+ TrSt) -née (+ 3014) -pá (+ 3112)]; intransitive: móčéečéepá 'it-is-likely-to-burn-soon' < [móč (+ InSt) -éeč (± [± 711 + 521]) -ée (+ 3213) -pá (+ 3112)].

Independent subjunctive interrogative predicate tagmemes contrast with subjunctive declarative predicates in that suffix 516 'intention' obligatorily occurs in desiderative and imperative clauses and in that interrogative suffix

114 optionally occurs in all subjunctive interrogative predicate tagmemes.

Yes-no interrogatives include desiderative, imperative and potential types.

IInterYes-NoDsP:IInterYes-NoDsV = + St:Tr/InSt + Ds:1010 + Int:516 + s:1200 ± Inter:114. Examples follow. Desiderative transitive: yápíatíš 'do-you-want-to-take-(it)?' < [yá (+ TrSt) -pí (+ 1011) -at (+ 516) -íš (+ 1212)]. Desiderative intransitive: káarpíatíš 'do-you-want-to-climb?' < [káar (+ InSt) -pí (+ 1011) -at (+ 516) -íš (+ 1212)].

IInterYes-NoImpP:IInterYes-NoImpV = + St:Tr/InSt + Imp:2020 + Int:516 + s:2200 ± Inter:114. An intransitive example is: náankíatíš 'go!-do-you-intend-(for-me)?' < [na (+ InSt) -ankí (+ 2021) -at (+ 516) -íš (+ 2212)].

IInterYes-NoPotP:IInterYes-NoPotV = + St:TrSt + Obj:3010 ± Inter:114. A transitive example is: panáčínč 'shall-I-give-it-to-you?' < [paná (+ TrSt) -č (± 3521) -ínč (+ 3012)].

Information-content interrogatives include desiderative and imperative types.

IInterDsP:IInterDsV = + St:InterRt + Ds:1010 + Int:516 + s:1200 ± Inter:114. An example is: tamáapíatíš (+ Inter + IInterDsTrV) 'what-do-you-want-to-do?' < [tamáa (+ InterRt) -pí (+ 1011) -at (+ 516) -íš (+ 1212)].

IInterImpP:IInterImpV = + St:InterRt + Imp:2020 + Int:516 + s:2200 ± Inter:114. An example is: tamáankíatíš (+ Inter + IInterImpTrV) 'what-did-you-say-I-should-do?' < [tamáa (+ InterRt) -nkí (+ 2021) -at (+ 516) -íš (+ 2212)].

The fillers of dependent predicate slots contrast with the fillers of independent predicate slots in that the inflec-

tional affixes are different although the same transitive, intransitive, or equative stems occur. Dependent predicate tagmemes are shown in the following formulas, followed by examples.

DTrP:DTrV = + St:TrSt + A:4540/4530/4520 + C:4510 + s:4200. An example is: šáyaróš 'when-you-have-killed' < [ša (+ $TrSt_a$) -ya (± 4711) -r (+ 4542) -o (+ 4513) -š (+ 4212)].

DInP:DInV = + St:InSt + A:4540/4530/4520 + C:4510 + s:4200. An example is: náakorí 'when-I-go' < [ná (+ InSt) -ak (+ 4541) -o (+ 4513) -rí (+ 4211)].

DEP:DEV = [+ St:SsSt + C:4510]. An example is: kisánáari 'if-it-were-delicious' < [kísa (+ SsSt) -náari (+ 4514)].

4.12. Fillers of the interrogative slot. Fillers of the interrogative slot in interrogative information-content clauses are conditioned by the tagmeme with which the interrogative tagmeme is fused. That is, it must be filled by a member of a class which can fill the slot of the other tagmeme. Thus, since a locative does not fill the subject slot, an interrogative locative such as 'where?' occurs when the interrogative is fused with the location tagmeme and another interrogative such as 'who?' occurs when it is fused with the subject tagmeme.

The tagmemic fusion of interrogative and another tagmeme, in turn, conditions the filler of the other tagmemic slot in the fusion. Thus, an interrogative locative, rather than other members of the class which can fill the location slot, occurs if the location slot is fused with the interrogative. Examples are: máayamá (+ Inter ± R) náaka (+ HdInterInP$_a$) 'with-reference-to-what (why) did-he-go?'; máayáa (+ Inter ± O_1) ponífičiš (+ HdInterTrP$_a$) 'what are-you-afraid-of?'.

4.2. Fillers of optional tagmemic slots. Tagmemic slots which are always optional or are obligatory only in some clause subtype include focus, subject, object 1, object 2a, object 2b, referent, location, time, accompaniment, and manner. The fillers of these slots will be described in the order just listed except for the fillers of the manner slot. Since the analysis of the fillers of the manner slot is not complete, we illustrate here with a single example: kamíran (± M) nowáa (± O_1) tačíitampárankáašá (+ $IIdDcTrP_a$) 'easily me he-followed'.

There is considerable overlap in the fillers of the remaining optional slots. Nouns,[7] pronouns, or substantive phrases, usually with a slot marker, are the most common fillers of these slots. We describe here the internal composition of illustrative types of phrases which occur in more than one of these slots. Slot markers, when pertinent, are underlined in examples in the following paragraphs.

Phrases with a noun or pronoun head include:

Noun phrase 1--appositional phrases consisting of +H:N/Pro ± App:$N/NPhr_4$. In appositional phrases the slot marker is usually phonologically bound[8] to both the

[7] In this paper Candoshi nouns are considered to be a class of distribution classes each of which has the same stem and in which, in some cases, a clitic marks it as the filler of a particular slot such as referent. In the list of stems and the set of other affixes with which they occur, nouns contrast with other word classes such as adjective or pronoun which may be marked with the same clitic when they fill the same slot a noun does, such as referent.

[8] By describing these slot markers as 'phonologically bound' we imply that they are clitics. No clear evidence has been found that all of them are clitics. The time marker -náa and the location marker -pi, however, occur as free forms filling the time and location slots, respectively, and can be treated as clitics. We, therefore, consider all of the slot markers to be clitics and the immediate constituents of the filler of a slot with a marker to be + H:N/Pro/etc. + Slot marker:clitic.

head and appositive. The object 1 marker, however, occurs bound only to either the appositive or the head. Examples follow. Filling subject slot: [óšá (+ H:Pro) wáanirí (± App:N)] (± S:$NPhr_1$) wipáa (± O_1) kamót (+ $IIdDcTrP_a$) 'she-then his-mother-(jaguar) her-child she-bit'. Filling referent slot: [atáatáam (+ H:N) monč̌ánkíam (± App:N)] (± R:+ $NPhr_1$ + RMk) panátarášiní (+ $IIdDcTrP_a$) 'with-reference-to-mother Monchanki we-always-gave-(it)'. Filling object 1 slot: [atáatáa (+ H:N) monč̌ánki (± App:N)] (± O_1:+ $NPhr_1$ + OMk) áštarášiní (+ $IIdDcTrP_a$) 'mother Monchanki we-always-did-that-to'; [waš̌ámpiríri (+ H:N) ónkamía (± App:N)] (± O_1:$NPhr_1$ + OMk) kamánnč̌íyá (+ $IIdDcTrP_a$) 'his-brother-in-law Onkami he-will-tell'.

Noun phrase 2--possessive phrases consisting of ± Poss:N/Pro/$NPhr_1$ + H:N. In possessive phrases the slot marker is phonologically bound to the possessor except when the phrase occurs in the location slot in which case the slot marker is also optionally bound to the head. Note that when an appositional phrase, $NPhr_1$, fills the possessor slot the slot marker is phonologically bound to the head of the appositional phrase and optionally also to the appositive. Examples follow. Filling object 1 slot: [apáaríacíč̌ (± Poss:N) kok (+ H:N)] (± O_1:+ $NPhr_2$ + OMk) yasáran-kóni (+ $DTrP_a$) 'God's word when-we-knew'. Filling location slot: [nowámon (± Poss:Pro) nóoci (+ H:N)] (± L:+ $NPhr_2$ + LMk) wacíyón (± S) kač̌íšč̌íyá (+ $IIdDcInP_a$) 'me-on my-body his-anger it-will-get-cold' (his anger will cool off on my body [if he kills me]); [nováp (± Poss:Pro) pankípi (± H:N)] (± L:+ $NPhr_2$ + LMk) náačiyá ($IIdDcInP_a$) 'my-to my-house-to he-will-go'. Filling referent slot: {[apáaríamíč̌ (+ H:N) isos (± App:N)] (± Poss:$NPhr_1$) pánko (+ H:N)} (± R:+ $NPhr_2$ + RMk) pankómpíari (+ $DTrP_a$) 'for-the-Lord Jesus his-house I-having-completely-built'; {[isósóamarí (+ H:N)

apáarí<u>amíč</u> (± App:N)] (± Poss:$NPhr_1$) pánko (+ H:N)} (± R:+ $NPhr_2$ + RMk) pankóyarórí (+ $DTrP_a$) 'for-Jesus-himself for-the-Lord his-house when-I-have-built'.

Noun phrase 3--modifier phrases consisting of + H:N/Pro ± Mod:N/Adj/Pro. In modifier phrases the slot marker is phonologically bound to the head. The order of the modifier--preceding or following the head--is apparently conditioned by the filler of the modifier slot. Examples follow. Filling subject slot: poot (± T) [nčítarí (± Mod) coop (+ H)] (± S) yáčiyá (+ $IIdDcInP_a$) 'tomorrow another moon it-will-show'. Filling object 1 slot: [máa-<u>číac</u> (+ H) ičínkoró (± Mod)] (± O_1:+ $NPhr_3$ + OMk) katónktaráašá (+ $IIdDcTrP_a$) 'things all he-ate' (he ate all sorts of things).

Phrases which are more limited in distribution than phrases with a noun or pronoun head include:

Noun phrase 4--an independent indicative declarative transitive or intransitive clause with the clitic -anó 'the-one-which',[9] which is phonologically bound to the predicate, nominalizing the whole clause. The clause head of this phrase is limited to optional location, subject, referent, and object tagmemes and an obligatory predicate tagmeme. Only two optional tagmemes occur in any one clause. These phrases fill a subject or object slot within either an independent or dependent clause, or a subject, object or locative apposition slot in a phrase. Slot markers are bound to the predicate after the nominalizing clitic. Examples follow. Filling subject slot: [yo (± S) kíišpor (± M) čináakóano (+ $IIdDcTrP_a$ + NomClitic)] (± S) wíipáa (± O_1) waníakiyá (+ $IIdDcTrP_a$) 'the-one-which intensely the-one-which-loves his-child punishes' (the one who loves intensely

[9]The bound form of the pronoun -anó is considered to be a clitic since there is also a free form áanó 'the-one-which'.

punishes his child). Filling object 1 slot: [tpooc (± S) áščiróanóa (+ IIdDcTrP + NomClitic)] (± O_1:+ $NPhr_4$ + OMk) patáatáak (+ $IIdDcTrP_a$) 'people those-which-keep-doing-like-that she-touches' (she touches the things that are like people).

Noun phrase 5--a phrase consisting of a nonpersonal clausal construction. The constituents are optional subject, object, and referent tagmemes and an obligatory nonpersonal predicate tagmeme consisting of a transitive or intransitive verb stem with the obligatory suffix -ma (531) 'durative' functioning as a nominalizer. These phrases fill an object or referent slot within an independent or dependent clause. Slot markers are bound to the predicate. Examples follow. Filling object 2a slot: náa (± T) no (± S) pačáma (± O_{2a}:$NPhr_5$ = + NonPerTrP) kasárankóri (+ $DTrP_a$) 'now I with-reference-to-killing having-stopped-I'. Filling referent slot: [nowáa (± O_1) tpooc (± S) pačámáam (+ NonPerTrP)] (± R:+ $NPhr_5$ + RMk) pinásárankáščá (+ $IIdDcInP_a$) 'me people with-reference-to-killing he-was-unable-then' (the person was unable to kill me then); [wáana (± S) katón-komáama (± R:+ $NPhr_5$ = NonPerTrP + RMk) patáatamáam (+ NonPerTrP)] (± R:+ $NPhr_5$ + RMk) pinásárankána (+ $IIdDcInP_a$) 'they-themselves with-reference-to-eating with-reference-to-do-work they-were-unable' (they themselves were unable to fix the food).

Participial phrase--a phrase consisting of a participial construction. The constituents are optional subject and object tagmemes and an obligatory participial predicate tagmeme consisting of a transitive or intransitive verb stem with the optional suffix -ta (712) 'punctiliar'. The phrase is clause-like in that it is a unit of predication; however, the predicate is not a finite verb, and it fills only slots usually filled by substantives. Therefore, we describe the construction as a participial phrase. These phrases fill a

time or manner slot or a temporal apposition slot in a phrase. Slot markers are bound to the predicate. Examples are: [wáapar (± S) kcítanáa (+ PartP)] (± T:+ PartPhr + TMk) áštárčá (+ IIdDcInP$_a$) 'her-father living-when it-is-done-like-that'; imámátá (± M:PartPhr = + PartP) aráp (± L) tarásíayaránšiná (+ IIdDcInP$_a$) 'holding-the-light-aloft far I-went-early-in-the-morning'.

Locative phrase--a locative appositional phrase consisting of + H:Loc/[+ Pro + LMk] ± App:[+ N/NPhr$_4$ + LMk]. When a locative appositional phrase fills the referent slot, the referent marker is phonologically bound to the head. Examples follow. Filling location slot: {pi (+ H:Loc) náataránkóanoš (± App:[+ NPhr$_4$ + LMk]} (± L) kóoskíyá (+ IIdDcInP$_a$) 'there where-the-one-who-went-is he-is-arriving'. Filling referent slot: óo (± S) [piyáammšá (+ H:Loc) nkóaci (± App:N)] (± R:+ LocPhr + RMk) náayaráncó (+ IIdDcInP$_a$) 'he with-reference-to-there path he-went' (he went by way of the other path).

4.21. Fillers of slots fused with the focus tagmeme. In independent clauses, the tagmemic fusion of focus and another tagmeme conditions the filler of the other tagmemic slot in the fusion. For example, the citation forms of nouns, i.e. those which occur in isolation, occur as the filler of the subject slot tagmemically fused with focus. The shorter forms of nouns differ from the citation forms in that the final vowel is usually dropped in the shorter forms. Either the shorter forms or the citation forms of nouns occur as filler of the subject slot not fused with focus. Compare the form of tpooci 'person' in the following examples. náayaráncó (+ IIdDcInP$_a$) tpóoci (± F ± S) 'he-went person'; tpooc (± S) náayaráncó (+ IIdDcInP$_a$) / tpóoci (± S) náayaráncó (+ IIdDcInP$_a$) 'person he-went'.

Similarly, if the filler of a slot includes a slot marker

with both one- and two-syllable allomorphs, the two-syllable rather than the one-syllable allomorph occurs if the tagmeme is fused with the focus tagmeme. Either form occurs when the tagmeme is not fused with focus. Compare the form of the object 1 marker in the following examples. potárankíni (+ IIdDcTrP$_a$) waakánáaci (± F ± O$_1$) 'we-caught boar'; waakánáa (± O$_1$) potárankíni (+ IIdDcTrP$_a$) 'boar we-caught'.

In dependent clauses occurring sentence-initial, the tagmemic fusion of focus and another tagmeme does not condition the filler of the other tagmeme, i.e., either the citation form or the shorter form occurs. (No examples occur in our data of fusion of focus and another tagmeme sentence-final in dependent clauses.) Compare the form of the accompaniment marker in the following examples. In dependent clause: yóotaríit (± M) ciyáataránko (+ DTrP$_a$) šówančpát (± F ± Acc) 'bad if-he-talked with-his-brother'. In independent clause: mínáamarí šáari (± S) waríitaak (+ IIdDcInP$_a$) tápímmpátá (± F ± Acc) 'only-one day is-enough with-darkness (to get there)'.

4.22. Fillers of the subject slot. The subject slot is filled by a noun, pronoun, or noun phrase 1-4. Examples are: kánič (± S:N) mančánOsíam (+ R) kináčiyá (+ IIdDcInP$_b$) 'one's-spirit with-reference-to-a-deer will-become'; óo (± S:Pro) piyáammšá nkóaci (± R) náayaráncó (+ IIdDcInP$_a$) 'he there-with-reference-to path he-went'; nčóra tóčip (± S:NPhr$_3$) kóosaránko (+ IIdDcInP$_a$) 'children three he-arrived'; yo kíišpor čináakóano (± S:NPhr$_4$) wíipáa (± O$_1$) waníakiyá (+ IIdDcTrP$_a$) 'the-one-who very-much loves, his-child he-punishes'.

4.23. Fillers of the object 1 slot. The fillers of the object 1 slot obligatorily include a head slot which may be filled by a noun, pronoun, or noun phrases 1-5 with one of

the following allomorphs of the object marker: -a ∞ -ac ∞ -aci. Examples are: ipáari (± S) somáasía (± O_1:+ N + OMk) kóoko (+ IIdDcTrP$_a$) 'my-child firewood he-carries'; ši (± S) nowáa (± O_1:+ Pro + OMk) wanáasir támáam (± R) yápstárankíš (+ IIdDcTrP$_a$) 'you me good with-reference-to-living you-taught'; máačíac ičínkoró (± O_1:+ NPhr$_3$ + OMk) katónktaráašá (+ IIdDcTrP$_a$) 'things all he-ate'; tpooc ášíširóanóa (± O_1:+ NPhr$_4$ + OMk) patáatáak (+ IIdDcTrP$_a$) 'people those-which-keep-doing-like-that she-touches' (she touches the figures that are like people); cipámáacímmštá (± O_1:+ NPhr$_5$ + OMk) yátaráncо (+ IIdDcTrP$_a$) 'the-dead-ones-then-only he-always-took'.

4.24. Fillers of the object 2a slot. Fillers of the object 2a slot contrast with the fillers of the object 1 slot in that there is no object marker. The semantic contrast between object 1 and object 2 is not completely defined. The fillers of the object 2a slot differ from the fillers of the subject slot in that pronouns do not occur and in that noun phrase 5, as well as noun phrases 1-4, can fill the object 2a slot. Examples are: konk (± O_{2a}:N) tipáatamá (+ IIdDcTrP$_a$) 'water I'm-going-to-go-get'; šitámin kok (± O_{2a}:NPhr$_2$) kamánnčiná (+ IIdDcTrP$_a$) 'our-ancestor's words I'll-tell'; náa (± T) no (± S) pačáma (± O_{2a}:NPhr$_5$) kasárankóri (+ DTrP$_a$) 'now I killing having-stopped'.

4.25. Fillers of the object 2b slot. The fillers of the object 2b slot are similar to the fillers of the object 2a slot in that there is no object marker. This slot, which occurs only in transitive clauses of subtype C, can be filled by any word, or phrase, or dependent or independent sentence, or a whole paragraph or discourse since object 2b is the object of a predicate with the semantic component 'to say' and can be any quotation. Examples are: máayáacšitá áat

(+ O_{2b}:PartPhr) atóri (+ $DTrP_c$) '"what-about-then to-say" I-thinking' ("what's he saying that for?" I wondering); tamáakšášá (+ O_{2b}:+ Inter + IIdInterInP$_a$) támpáašiná (IIdDcTrP$_c$) '"where-in-the-world-(are)-you-then?" I-shouted'.

4.26. Fillers of the referent slot. The fillers of the referent slot obligatorily include a head slot which may be filled by a noun, pronoun, locative, locative phrase, or noun phrase 1, 2, 3, or 5 with one of the following referent markers: -am ∞ -ama ∞ -amm 'referent, for, benefactive', -máanta ∞ -máant ∞ -amáant 'in-exchange-for', -nkṣ̌i ∞ -nkaaṣ̌ ∞ -nkaaṣ̌i 'with-desire-for, because-of'. Examples are: mínčóam (± R:+ N + RMk) čomáakiyá (+ IIdDcInP$_a$) 'with-reference-to-his-dirt he-is-bathing'; pamónin-káaṣ̌íš (± R:+ N + RMk) mánki máncáaktámaná (+ IIdDcTrP$_a$) 'with-desire-for-your-sister I'm also sad (about)'; ši (± S) kirak (± O_{2a}) nowáam (± R:+ Pro + RMk) šankániránkiš (+ IIdDcTrP$_a$) 'you letter me-with-reference-to you-sent'; yóosórša (± M) piyáammšá (± R:+ Loc + RMk) nowáa (± O_1) máačtárankó (+ IIdDcTrP$_a$) 'again-then there-with-reference-to me they-took'; óo (± S) piyáammšá nkóaci (± R:+ LocPhr + RMk) náayaráncó (+ IIdDcInP$_a$) 'he with-reference-to-there path he-went'; atáatáam mončánkíam (± R:+ NPhr$_1$ + RMk) panátarášiní (+ IIdDcTrP$_a$) 'with-reference-to-mother Monchanki we-always-gave-(it)'; no (± S) ántaríyáac wanímáam (± R:+ NPhr$_5$ + RMk) ṣ̌ántkína (+ IIdDcTrP$_a$) 'I Antariya with-reference-to-punishing I-want' (I want to punish Antariya).

4.27. Fillers of the location slot. The fillers of the location slot consist of (1) a locative or (2) a head slot filled by a noun, pronoun, noun phrase, or locative appositional phrase with an obligatory location marker. The fol-

lowing are location markers: -oš ∞ -šo ∞ -š 'in, on, with, location in time or space', -p ∞ -pi 'at, to', -mona ∞ -mon 'in, on, agent', -nonk ∞ -nonki 'beside, near'. Examples are: íwáari (± L:Loc) káarpi (+ IIdDcInP$_a$) 'high I-want-to-climb'; áanoš (± L:+ Pro + LMk) tayápstárankína (+ IIdDcTrP$_a$) 'the-one-which-at (at-that-time) I-taught'; máakináš (± L:+ N + LMk) kamíakčo (+ IIdDcTrP$_a$) 'in-a-machine it-chewed'; niiš (± L:+ Pro + LMk) kóosamáam (± R) šántaránkčá (+ IIdDcTrP$_a$) 'here with-reference-to-coming she-wanted'; nowámon nóoci (± L:+ NPhr$_2$ + LMk) wacíyón (± S) kačíščíyá (+ IIdDcInP$_a$) 'me-on my-body his-anger it-will-get-cold' (his anger will cool off on my body [if he kills me]); níiš kapíronóš (± L:+ LocPhr + LMk) kóosamáam (± R) šántaránkčá (+ IIdDcInP$_a$) 'here at-Capirona with-reference-to-coming she-wanted'.

4.28. Fillers of the time slot. Fillers of the time slot include (1) a temporal particle, pronoun, a noun phrase 3 in which the head slot is filled by a time noun,[10] or a dependent clause, or (2) a temporal appositional phrase or a participial phrase with an obligatory time marker. The following are time markers: -máa ∞ -máasi 'before, first', -náa ∞ -náari 'now, at-the-time-that'. Examples are: náa (± T:TemPc) níiš (± L) táakiní (+ IIdDcInP$_a$) 'now here we-live'; áanorí (± T:Pro) pi (± L) náataránkiní (+ IIdDcInP$_a$) 'at-that-very-time there we-went'; ičínkoró šáari (± T:NPhr$_3$) šiyáa (± O$_1$) čináakiná (IIdDcTrP$_a$) 'all days you I-think-of'; tóčip ši mároš (± T:DCl) potárankína (+ IIdDcTrP$_a$) '(while)-three you slept we-caught-(it)'

[10] The analysis of subclasses of nouns is not complete. A time noun, however, is a noun which without a time marker can fill the head slot of a time noun phrase or which can fill other slots such as subject without special affixation. This class is limited to a small group such as šáari 'day'.

(while you were sleeping three nights we caught [it]); siróotamáa nčóortamáasi (± T:+ TemPhr + TMk) nowáa (± O_1) kíyónk yáčiyáčtaránkíš (+ IIdDcTrP$_a$) 'before, when-I-was-a-child, me you-tormented'; wáapar kčítanáa (± T:+ PartPhr + TMk) áštárčá (+ IIdDcInP$_a$) 'her-father living-when it-is-done-like-that' (when her father is living it's done like that).

4.29. Fillers of the accompaniment slot. Fillers of the accompaniment slot obligatorily include a head slot which is filled by a noun, pronoun, or noun phrase, with one of the following allomorphs of the accompaniment marker: -pátá ∞ -pát ∞ -ptá ∞ -pá. Examples are: siráspát (± Acc:+ N + AccMk) panáako (+ IIdDcTrP$_a$) 'with-laughter he-gives-(it)'; áannpátá (± Acc:+ Pro + AccMk) katónkaránko (+ IIdDcTrP$_a$) 'with-that-one he-ate'; [mončánkpát išáarpá (± Acc:+ NPhr$_1$ + AccMk) pša páankáani (+ IIdDcTrP$_a$)] (+ O_{2b}) táyarína (+ IIdDcTrP$_c$) tótaríikaríaci (± F ± O_1) '"with-Monchanki my-sister let's-go we-will-see," I-said to-my-Totarika'.

4

NONCONTINGENT DECLARATIVE CLAUSES IN MACHIGUENGA (ARAWAK)

by
Betty A. Snell and Mary Ruth Wise

0. Introduction. Noncontingent clauses in Machiguenga[1] are independent in structure and distribution and are not immediately contingent upon a specific linguistic or nonlinguistic context.[2] Contingent clauses may be either independent or dependent in structure and distribution but are contingent upon a specific context. For example, a response-type clause occurs only in response to interrogation, previous utterance, or a particular nonlinguistic situation.

0.1. In order to point out the contrast between contingent and noncontingent clause types, a few of the characteristics of contingent clauses are discussed before the description of noncontingent clauses with which the main body of the paper is concerned. The examples of contingent clause types are not intended to be exhaustive.

Some items obligatory to the nuclei of noncontingent clauses may be omitted in contingent clauses or replaced by substitution items. For example, the obligatory affixal referent, included in the verb, in intransitive active clause B_1 (see 1.1112) may be replaced by a clause-level pronominal referent in the corresponding contingent clause. In the fol-

[1] For a classification of Machiguenga as Arawak, see Tax (1960). Machiguenga is spoken by several thousand Indians living in the provinces of Cuzco and Madre de Dios in southern Peru. The principal informants used for this study are speakers of the Pangoa dialect.

For a description of the phonemes used in the citing of examples, see Snell (n.d.). The phoneme of stress cited in that article is not marked in this paper.

The data were gathered by Mrs. Snell, and the analysis is largely hers. The paper was organized and written by both Mrs. Snell and Miss Wise.

[2] The division between contingent and noncontingent is not always clear cut: it could be argued that every utterance depends in some sense upon a context. Since the division is useful in distinguishing transitive, intransitive, and neutral classes in Machiguenga, it is used in this analysis.

lowing example, the affixal referent in the noncontingent clause is the final suffix -ro 'third-person-feminine', cited with underline. It is replaced in the contingent clause by the pronoun iroro-tari 'she/it--being':[3] no-poka-šita-k^{y}e-ro 'I--came--for--nrefl--her/it'; iroro-tari no-poka-šita-k^{y}e 'she/it--being I--came--for--nrefl' (that's what I came for).

Certain clause margin tagmemes, e.g. the affirmative slot filled by an affirmation particle or a pronoun with affirmation suffix, and the contrastive slot filled by an auxiliary verb, occur only in contingent clauses. Examples of the affirmative, cited with underline are: arisanoniroro g^{y}a-ga-k^{y}e-na-t^{y}o 'truly he--got--nrefl--me--emphasis' (he really did get [it] for me); iroro-tari tera pa-ma-kota-e 'it--being not you--bring--contained--incompletive' (so that's why you don't bring [so many things] any more). Examples of the contrastive are: o-nti-t^{y}o počarok^{y}i o-ntaika-bag^{y}eta-ka 'it--is--emphasis fruit it--lying--

[3] In the citation of examples, hyphens indicating morpheme breaks in the vernacular are matched by dashes in the literal translation. Morphemes which are not pertinent to the level of the discussion are indicated only when necessary in the translation. For example, the verb construction no-poka-ši-ta-k^{y}e-ro 'I--came--with-reference-to--vl--nrefl--her', could be further tentatively broken down as follows: no-po-ka-ši-ta-k^{y}-e-ro 'I--came--stem-former--with-reference-to--vl--nonrepetitive--nonreflexive--her/it'. Hyphens are used in the literal translations when more than one English word is required to translate a section of the vernacular. Free translations are enclosed in parentheses. The abbreviations nrefl and refl (nonreflexive and reflexive), as well as others listed in 0.2 are used in translations as well as formulas due to the difficulty encountered in trying to equate certain morphemes with an English word. For example, in the verb i-pasata-ka 'He--hit--refl', the word 'himself' is an adequate translation of the reflexive. In the verbs i-raga-ka 'he--cried--refl' and i-sekata-ka 'he--ate--refl', however, the reflexive is not translatable by such a pronoun.

distributed--refl' (but the fruit was lying around); o-nti i-maga-k^{y}e 'it--is he--sleeping--nrefl' (he's asleep [not dead]).

Two contingent clause types which have no noncontingent parallels are the noun clause and the identification clause. The noun clause consists of an obligatory subject slot filled by an adjective, and an obligatory predicate slot filled by a nominalized verb form of class 1:[4] pašini tʌan-ang^{y}ici 'another falling-over--one' (and then another one collapses [in an epidemic]). The identification clause consists of an obligatory predicate slot filled by an auxiliary verb or a personal pronoun, an obligatory identification 2 slot filled by a noun, a participle 2,[5] or a dependent noun clause (DNnCl),[6] and an optional subject slot filled by a noun or pronoun. Note that the identification 2 tagmeme and the identification tagmeme in noncontingent clauses (see 1.1114 and 1.42) differ from each other in that the fillers of the two variants contrast.

[4] For the purposes of this discussion, those nominalized verb forms which may fill the predicate slot of a contingent noun clause are designated as class 1.

[5] Participle 2 differs from participle 1 in composition and distribution. Participle 1 may fill the predicate slot of a noncontingent equative clause 1 (see 1.13). No pronominal object suffix may be included in this form. Participle 2 may fill the identification 2 slot of a contingent identification clause. A pronominal object suffix is obligatory.

[6] A dependent noun clause occurs as the filler of a slot in another clause or phrase. It has an obligatory predicate filled by a nominalized verb and optional nuclear and marginal tagmemes. In the example cited in the text, the dependent noun clause is perata-ka-ri-rira macig^{y}enga kamisea-kʌnirira 'ordering--refl--him--one people Camisea-living-ones (the one who gives the orders to the people who live on the Camisea River). It consists of an obligatory predicate filled by a nominalized verb and an optional clause-level object tagmeme filled by a noun phrase 4. For examples of dependent noun clauses occurring as the filler of the apposition slot in noun phrase 4, see 1.4224.

Constituents are identified in parentheses in the following examples. (See 0.2 for abbreviations and symbols used.) Examples are: i-nti (+ P:Ax) seripigari (+ Id_2:Nn) ir-iri (± S:Nn) 'he--is shaman his--father' (his father is a shaman); i-nti (+ P:Ax) tominta-ka-ri (+ Id:$Part_2$) hoa (± S:Nn) 'he--is fathered--refl--him John' (it's John who is his father); iriro (+ P:PersPro) seripigari (+ Id_2:Nn) ir-iri (± S:Nn) 'he shaman his--father' (his father is a shaman); iriro (+ P:PersPro) mig^{y}iri (± S:Nn) perata-ka-ri-rira macig^{y}enga kamiseak$_{\Lambda}$nirira (+ Id_2:DNnCl) 'he Miguel ordering--refl--him--one people Camisea-living-ones' (Miguel is the one who gives the orders to the people who live on the Camisea River).

0.2. The following abbreviations are employed in the formulas and examples: Act = active; Adj = adjective; Ax = auxiliary; ben = benefactive; C = core; caus = causative; Cl = clause; con = contained; D = dependent; dir = directional; Eq = equative; H = head; I/i = instrument; Id = identification; il = instrumental; In = intransitive; IS/is = indirect subject; N = neutral; Nn = noun; nrefl = nonreflexive; O/o = object; P = predicate; Part = participle; Pass = passive; pass = passive suffix; Pers = personal; Pro = pronoun; R/r = referent; rec = reciprocal; refl = reflexive; rl = referential; S/s = subject; T = transitive; Th = theme; V = verb; vl = verbal. In the abbreviations I/i, IS/is, O/o, R/r, S/s, a capital letter indicates a clause-level tagmeme, and a small letter, an affixal tagmeme included in the verb.

The following symbols are employed: + indicates obligatory constituent; ± indicates optional constituent; [ ] enclose the entire verb construction; ( ) enclose the theme or they enclose parallel affixal and clause-level tagmemes when the occurrence of one is dependent upon the occurrence

of the other; { } enclose a suffix complex; < > indicate a member of a class of substitutable items within the verb construction; colon, in formulas, is to be read 'filled by', the virgule / 'or', and the equal sign = 'consisting of'. For samples of interpretation of formulas, see the verbalized formulas at the beginning of 1.1111, 1.1112, and 1.1113.

1. Clause nuclei. Each clause nucleus includes a predicate and other clause-level tagmemes which are directly related to the predicate, i.e. which occur in apposition to pronominal affixes included in the verb or which obligatorily or optionally occur with that type of predicate. The clause nuclei are contrastive in each clause class and the clause margins (see 2) are noncontrastive. The clause classes are, therefore, the same as the clause nucleus classes which are listed below.

Three main classes of noncontingent declarative clause nuclei occur: active, passive, and equative. In addition to the contrastive fillers of the predicate slots (the lists of fillers of the predicate slot of each clause nucleus class do not overlap, and they contrast in internal composition), the particular clause-level tagmemes which may occur with the predicate are also contrastive features of these main classes. Active clause nuclei may include subject, object, referent, instrument, identification, and indirect subject[7] tagmemes; the clause-level subject is optional, but an included affixal

[7] For the term indirect subject, we are indebted to our colleague Rolland Rich. This term is used here to designate the subject caused to perform an action. For example, in the expression 'he caused it to chase me', the indirect subject is 'it'. This term is particularly useful in that certain verbs which would otherwise have been classed as transitive, had this item been called object 2, now remain as intransitive which seems to be more in keeping with the intransitive fillers of their core slots. For examples of these verb constructions, see 1.1115.

subject tagmeme in the verb is obligatory. Passive clause nuclei may include object, referent, instrument, identification, and indirect subject tagmemes; no subject tagmeme occurs. Equative clause nuclei may include subject and object tagmemes; the clause-level subject tagmeme is obligatory, but no affixal subject is included in the verb.

Active and passive clause nuclei are further subdivided into classes of intransitive, transitive, and neutral. Equative clause nuclei are subdivided into intransitive and neutral. Intransitive clauses do not include an object. Transitive clauses must include an object, which may be an affix included in the verb and/or a clause-level tagmeme. Neutral clauses contrast with intransitive and transitive clauses in that an object is optional.

Lists of intransitive, transitive, and neutral verbs are determined on the basis of presence or absence of a clause-level or included affixal object tagmeme. Similarly, the core and theme levels within the total verb construction are each divided into intransitive, transitive, and neutral classes on the basis of external distribution and internal composition.

An intransitive core or theme occurs only in an intransitive verb. A transitive or neutral core or theme can occur in an intransitive verb by the addition of the reflexive or of another suffix which may function as an intransitivizer. Transitive cores are divided into groups A, B, and D. (See 1.111 and 1.112 regarding corresponding groups of clause nuclei.) Transitive core A occurs in the theme of the predicate in clause nucleus groups A, B, C, and E. Transitive core B occurs only in the theme of the predicate in B_2. Transitive core D occurs only in the theme of the predicate in group D and in E_2. Transitive core TC-A includes all A transitive cores except 'to-say' designated $TC\text{-}A_2$. Neutral core NC includes all neutral cores except 'to-eat', designated NC_2.

1.1. Clause nucleus formulas. The formulas given in the following sections are intended to show possibility of occurrence of clause-level tagmemes rather than position of occurrence which may be changed for emphasis, contrast, or stylistic variation. Note, however, that both possibility of occurrence and position of occurrence are shown for tagmemes included in the verb. (See 1.3 regarding the position of occurrence of clause-level tagmemes.)

Due to the impossibility of showing all mutually co-occurring combinations of verb theme types and clause nucleus tagmemes in one formula, the intransitive, transitive, and neutral classes of clause nuclei have been further subdivided into groups which show the relationship between the verb theme types, the pronominal affixal tagmemes included in the verb construction, and the clause-level tagmemes which are either required by the verb theme or optionally occur in apposition to pronominal affixal tagmemes required by the verb theme.

In formulas, the enclosure of pronominal affixal tagmemes and clause-level tagmemes in a single set of parentheses indicates co-occurrence restrictions across word boundaries. For example, in intransitive active clause nucleus B_2 in 1.1112, the occurrence of a referent tagmeme is optional. If, however, a clause-level referent occurs, an affixal referent is required.

1.11. Active clauses. The active clause nuclei are presented for intransitive, transitive, and neutral classes.

1.111. Intransitive active clauses. The subtypes of the intransitive active clause nuclei are presented in five groups which differ from each other in their clause-level constituents. All groups include a contrastive obligatory predicate and an optional subject. Group A is limited to

these items. Group B also includes an optional referent and group C an instrument, obligatory in C_1 and optional in C_2. Group D has an obligatory identification. Group E has an optional indirect subject.

In this section, as well as in succeeding sections, the fillers of the tagmeme slots are not indicated in the formulas except where word-level tagmemes are directly related to clause-level tagmemes. Therefore, while the breakdown formulas of the verbs filling predicate slots are given, items that may occur in the verb but are not directly related to clause-level items, are omitted. For example, the continuative suffix which occurs in the second example in 1.1111 is not listed in the formula since it is not related to the other tagmeme of the clause. For the description of verb phrases which may also fill the predicate slots, see 1.41. For fillers of slots other than predicate, see 1.42.

1.1111. Group A. There are three variants of A, differing from each other in the internal composition of the verb. The first has an intransitive core in an intransitive theme in an intransitive verb. The second has either a transitive or neutral core with an obligatory directional and reciprocal resulting in an intransitive theme in an intransitive verb. The third has a transitive core in a transitive theme with an obligatory reflexive resulting in an intransitive verb.

The formula of the first variant of A below is to be read as follows: 'Clause-level tagmemes are an obligatory intransitive active predicate A filled by an intransitive active verb A, and an optional subject. Intransitive verb A consists of an obligatory subject prefix, an obligatory intransitive theme A, and an obligatory nonreflexive or reflexive suffix. Intransitive theme A consists of an obligatory intransitive core.'

A = + InActP-A: [InActV-A = + s + (InTh-A = + InC)
+ nrefl/refl] ± S
/ + InActP-A: [InActV-A = + s + (InTh-A_2 = + TC-A/NC
+ {+ dir + rec}) + refl] ± S
/ + InActP-A: [InActV-A = + s + (TTh-A = + TC-A)
+ refl] ± S

Examples are: A = i-poka-k^ye (+ InActP-A) no-tomi (± S) 'he--to-come--nrefl my--son'; i-raga-ka (+ InActP-A) 'he--to-cry--refl'; / i-pasata-ba-kaga-na-ka (+ InActP-A) no-tomi-eg^yi (± S) 'they--to-hit--toward--each-other--continuative--refl my--son--s' (my sons were hitting each other); / i-pasata-ka (+ InActP-A) 'he--to-hit--refl' (he hit himself).

1.1112. Group B. In addition to differences in the core of the verb, B_1 differs from B_2 in that in B_1 the affixal referent is obligatory and the clause-level referent, R, is optional whereas in B_2 a referent is not obligatory but an affixal referent is obligatory if a clause-level referent occurs. The variants of B_1 differ from each other in the composition of the theme of the verb.

The formula of the first variant of B_1 below is to be read as follows: 'Clause-level tagmemes are an obligatory intransitive active predicate B_1 filled by intransitive active verb B_1, an optional referent, and an optional subject. Intransitive verb B_1 consists of an obligatory subject prefix, an obligatory intransitive theme B_{1a}, an obligatory non-reflexive suffix and an obligatory referent suffix. Intransitive theme B_{1a} consists of an obligatory intransitive core

and an obligatory complex[8] composed of a member of the referential class of suffixes with an obligatory member of the verbal class of suffixes.'

B_1 = + InActP-B_1: [InActV-B_1 = + s + (InTh-B_{1a} = + InC + {+ <rl> + <vl>}) + nrefl + r] ± R ± S

/ + InActP-B_1: [InActV-B_1 = + s + (InTh-B_{1b} = + NC + {+ <rl>/<con> + <vl>}) + nrefl + r] ± R ± S

B_2 = + InActP-B_2: [InActV-B_2 = + s + (InTh-B_2 = + TC-A + {+ <rl>/<con> + <vl>}) + refl ± (+ r] ± R) ± S

Examples are: B_1 = i-poka-šĭ-ta-k^{y}e-ro (+ InActP-B_1) no-šinto (± R) 'he--to-come--with-reference-to--vl--nrefl--her my--daughter' (he came to see my daughter); / g^{y}a-tagʌta-šĭ-ta-k^{y}e-ro (+ InActP-B_1) 'he--to-climb-up--with-reference-to--vl--nrefl--her (he climbed up after her); g^{y}a-tagʌta-ko-ta-k^{y}e-ro (+ InActP-B_1) tinti (± R) 'he--to-climb-up--because-of--vl--nrefl--it papaya' (he climbed up to get the papaya); B_2 = i-k^{y}isa-šĭ-ta-ka-ro (+ InActP-B_2) no-šinto (± R) hoa (± S) 'he--to-be-angry--with-reference-to--vl--refl--her my--daughter John' (John was angry with my daughter); / i-k^{y}isa-ko-ta-ka-ro (+ InActP-B_2) 'he--to-be-angry--because-of--vl--refl--her' (he was resentful because of her).

1.1113. Group C. C_1 contrasts with C_2 in that in C_1, in which the theme of the verb is intransitive or neutral, a

[8] Evidence that this is best treated as a complex unit is morphological and beyond the scope of this paper. For evidence in a related language, see Wise (n.d.).

clause-level instrument, I, is obligatory. In C_2, in which the theme of the verb is transitive with no obligatory instrumental suffix, the clause-level instrument is optional. It is, however, obligatory if an optional affixal instrumental occurs. The variants of C_1 differ from each other in the composition of the theme. The formula of the first alternate of C_1 below is to be read as follows: 'Clause-level tagmemes are an obligatory intransitive active predicate C_1 filled by intransitive active verb C_1, an obligatory instrument, and an optional subject. Intransitive active verb C_1 consists of an obligatory subject prefix, an obligatory intransitive theme C_1, an obligatory reflexive suffix, and an optional instrument suffix. Intransitive theme C_1 consists of an obligatory intransitive core and an obligatory complex composed of an obligatory instrumental and an obligatory verbal.'

$$C_1 = +\text{InActP-}C_1\text{: [InActV-}C_1 = +\text{s} \quad +(\text{InTh-}C_1 = +\text{InC} \quad +\{+\text{il} \quad +\text{vl}\}) \quad +\text{refl} \quad \pm\text{i]} \quad +\text{I} \quad \pm\text{S}$$

$$/ \quad +\text{InActP-}C_1\text{: [InActV-}C_1 = +\text{s} \quad +(\text{NTh-}C_1 = +\text{NC} \quad +\{+\text{il} \quad +\text{vl}\}) \quad +\text{refl} \quad \pm\text{i]} \quad +\text{I} \quad \pm\text{S}$$

$$C_2 = +\text{InActP-}C_2\text{: [InActV-}C_2 = +\text{s} \quad +(\text{TTh-}C_2 = +\text{TC-A}) \quad +\text{refl} \quad \pm(\pm\text{i]} \quad +\text{I}) \quad \pm\text{S}$$

Examples are: C_1 = no-at-an-ta-ka (+ InActP-C_1) pitoci (+ I) 'I--to-go--by-means-of--vl--refl canoe'; no-at-an-ta-ka-ro (+ InActP-C_1) pitoci (+ I) 'I--to-go--by-means-of--vl--refl--it canoe'; / no-kamarang-an-ta-ka (+ InActP-C_1) seri (+ I) 'I--to-vomit--by-means-of--vl--refl tobacco'; C_2 = no-pašita-ka (+ InActP-C_2) no-mančak^{y}i (± I) 'I--to-cover--refl my--cushma' (I cover myself with my cushma); no-pašita-ka-ro (+ InActP-

C_2) no-mančak^yi (± I) 'I--to-cover--refl--it my--cushma' (I cover myself with my cushma).

1.1114. Group D. In addition to the obligatory clause-level identification tagmeme, Id, which occurs in each variant of group D, D_2 also includes an obligatory affixal indirect subject and an optional clause-level indirect subject. D_3 also includes an obligatory indirect subject, an obligatory affixal referent, and an optional clause-level referent. Although the theme of the verb in D_3 does not differ from the theme in D_2, the verbs differ in that the combination of non-reflexive suffix and affixal referent in D_3 is obligatory if the optional clause-level referent occurs. These would be enclosed in parentheses except that they are noncontiguous, being separated by the affixal and/or clause-level indirect subject tagmemes.

The variants of D_3 differ from each other in that the first has an obligatory affixal indirect subject and an optional clause-level indirect subject, and the second has an obligatory clause-level indirect subject. This variation is occasioned by the occurrence of a first or second person pronominal suffix as referent in the first variant and a third person pronominal suffix in the second variant.[9]

D_1 = + InActP-D_1: [InActV-D_1 = + s + (TTh-D_1 = + TC-D_2) + refl] ± S + Id

D_2 = + InActP-D_2: [InActV-D_2 = + s + (TTh-D_2 = + TC-D_1 + caus) + refl + is] ± IS ± S + Id

[9] The following restrictions apply to sequences of pronominal suffixes. Two third person pronominal suffixes may not occur. The only permitted sequences are first or second person followed by third person.

D_{3a} = + InActP-D_{3a}: [InActV-D_{3a} = + s + (TTh-D_2 =
+ TC-D_1 + caus) + nrefl + r:1/2 + is] ± IS
± R ± S + Id

D_{3b} = + InActP-D_{3b}: [InActV-D_{3b} = + s + (TTh-D_2 =
+ TC-D_1 + caus) + nrefl + {+ ben + r:3}] + IS
± R ± S + Id

Examples are: D_1 = i-paita-ka (+ InActP-D_1) mario (+ Id) 'he--to-name--refl Mario' (his name is Mario); D_2 = mario (± S) i-pega-kaga-ka-ro (+ InActP-D_2) no-šinto (± IS) k^yemari (+ Id) 'Mario he--to-change-into--caused--refl--her my--daughter tapir' (Mario caused my daughter to change into a tapir); D_{3a} = i-pega-kaga-k^ye-na-ro (+ InActP-D_{3a}) no-šinto (± IS) k^yemari (+ Id) 'he--to-change-into--caused--nrefl--me--her my--daughter tapir' (he caused my daughter to change into a tapir for me); D_{3b} = i-pega-kaga-k^ye-ne-ri (+ InActP-D_{3b}) iri-šinto (+ IS) k^yemari (+ Id) 'he--to-change-into--caused--nrefl--for--him his--daughter tapir' (he caused his daughter to change into a tapir for him).

1.1115. Group E. Each variant of group E includes an obligatory affixal and an optional clause-level indirect subject tagmeme. E_2 also includes optional affixal and clause-level referent tagmemes. E_3 includes an optional affixal referent and an obligatory clause-level instrument required by the affixal instrumental included in the theme. The class of causatives indicated in the formulas as <caus> includes both prefixal and suffixal members.

Note that groups D and E overlap in that certain variants of both groups include indirect subject and referent

tagmemes. They contrast, however, in that the identification tagmeme is obligatory to group D and does not occur in group E and in that the cores of the verbs are different.

E_1 = + InActP-E_1: [InActV-E_1 = + s + (InTh-E = + InC + <caus>) + nrefl/refl + is] ± IS ± S

/ + InActP-E_1: [InActV-E_1 = + s + (InTh-E = + NC + <caus>) + nrefl/refl + is] ± IS ± S

E_2 = + InActP-E_2: [InActV-E_2 = + s + (InTh-E = + InC + <caus>) + nrefl ± r + is] ± IS ± R ± S

/ + InActP-E_2: [InActV-E_2 = + s + (InTh-E = + NC + <caus>) + nrefl ± r + is] ± IS ± R ± S

E_3 = + InActP-E_3: [InActV-E_3 = + s + (InTh-E_2 = + NC + <caus>) + {+ il + vl}) + nrefl/refl ± r:1/2 + is] ± IS + I ± S

Examples are: E_1 = mario (± S) i-šiga-kaga-k^{y}e-ro (+ InActP-E_1) no-šinto (± IS) 'Mario he--to-run-away--cause--nrefl--her my--daughter' (Mario caused my daughter to run away); / g^{y}o-g^{y}i-kamaranga-k^{y}e-ri (+ InActP-E_1) no-tomi (± IS) 'he--cause--to-vomit--nrefl--him my--son' (he caused my son to vomit); E_2 = i-k^{y}eng^{y}isʌrea-kaganta-k^{y}e-na-ri (+ InActP-E_2) 'he--to-be-sad--cause--nrefl--me--him' (he caused him to be sad for me); / g^{y}o-g^{y}i-kamaranga-k^{y}e-na-ri (+ InActP-E_2) 'he--cause--to-vomit--nrefl--me--him' (he caused him to vomit for me); E_3 = g^{y}o-g^{y}i-kamarang-an-ta-k^{y}e-na-ri (+ InActP-E_3) no-tomi (± IS) seri (+ I) 'he--cause--to-vomit--by-means-of--vl--nrefl--me--him my--son tobacco' (he caused my son to vomit for me by using tobacco).

1.112. Transitive active clauses. The subtypes of the transitive active clause nuclei are presented in five groups paralleling the groups of intransitive active clauses. These groups differ from each other in their clause-level constituents. All groups include an obligatory predicate, an optional or obligatory object, and an optional subject. Group A is limited to these items. Group B also includes an optional referent. The division between groups A and B is less clear in the transitive clauses than in the intransitive clauses because of the optional nature of referent in B_1 and B_3. Since an affixal referent is obligatory in B_2, group B has been set up.

In addition to predicate, object, and subject, group C also includes an obligatory instrument. Group D includes an identification tagmeme, and group E includes an indirect subject tagmeme.

1.1121. Group A. In A_1 an object tagmeme is obligatory, and either an affixal or clause-level object may meet this requirement. In A_2 a clause-level object is obligatory since no affixal object may occur with the core TC-A_2 'to say' which occurs in the theme.

A_1 = + TActP-A_1: [TActV-A_1 = + s + (TTh-A_1 = + TC-A)
+ nrefl/refl + ($\pm$ o] $\pm$ O) $\pm$ S

A_2 = + TActP-A_2: [TActV-A_2 = + s + (TTh-A_2 = + TC-A_2)
+ nrefl] + O[10] $\pm$ S

Examples are: A_1 = i-toga-iga-k^{y}e-ro (+ TActP-A_1)

[10] The object slot in A_2 and B_2 may be filled by a direct quotation of speech or motion. The latter occurs as in the idiomatic expression okantanak^{y}e (+ TActP-A_2) irok^{y}i ($\pm$ S) magoriri magoriri (+ O) 'they-said his-eyes blink blink'.

iriroeg^{y}i (± S) 'they--to-cut--plural--nrefl--it they'; i-toga-iga-k^{y}e (+ TActP-A_1) camairinci (+ O) 'they--to-cut--plural--nrefl field'; g^{y}o-ga-ka-ro (+ TActP-A_1) 'he--to-eat--refl--it'; A_2 = i-kanta-k^{y}e (+ TActP-A_2) came (+ O) 'he--to-say--nrefl, "let's-go"'.

1.1122. Group B. In B_1, an affixal and/or clause-level object may occur except when the occurrence of a third person referent suffix precludes the occurrence of an affixal object (cf. footnote 9), e.g. formulas B_{1b} and B_{2b}. In such variants, containing a third person referent suffix, a clause-level object is obligatory for these clauses to be considered noncontingent. In B_3, a clause-level object is obligatory since TC-A_2 occurs in the theme of the verb. B_1 and B_2 differ from each other in that the cores of the verbs are different and in that an affixal referent is obligatory in B_2 whereas it is optional in B_1.

B_{1a} = + TActP-B_{1a}: [TActV-B_{1a} = + s + (TTh-A = + TC-A) + nrefl + (± {± r:1/2 + o}] ± O) ± R ± S

B_{1b} = + TActP-B_{1b}: [TActV-B_{1b} = + s + (TTh-A = + TC-A) + nrefl ± (+ {+ ben + r:3}] ± R) + O ± S

B_{2a} = + TActP-B_{2a}: [TActV-B_{2a} = + s + (TTh-B = + TC-B) + nrefl + r:1/2 + (± o] ± O) ± R ± S

B_{2b} = + TActP-B_{2b}: [TActV-B_{2b} = + s + (TTh-B = + TC-B) + nrefl + r:1/2/3] ± R + O ± S

B_3 = + TActP-B_3: [TActV-B_3 = + s + (TTh-A_2 = + TC-A_2) + nrefl ± (+ r] ± R) + O ± S

Examples are: B_{1a} = i-toga-k^{y}e-na-ro (+ TActP-B_{1a}) mario (± S) 'he--to-cut--nrefl--me--it Mario' (Mario cut it for me); B_{1b} = i-toga-k^{y}e-ne-ri (+ TActP-B_{1b}) i-camaire (+ O) 'he--to-cut--nrefl--for--him his--field'; B_{2a} = i-pa-k^{y}e-na-ro (+ TActP-B_{2a}) 'he--to-give--nrefl--me--it'; B_{2b} = i-pa-k^{y}e-na (+ TActP-B_{2b}) kamisa (+ O) 'he--to-give--nrefl--me cloth'; B_3 = i-kanta-k^{y}e-ro (+ TActP-B_3) came (+ O) 'he--to-say--nrefl--her let's-go' (he said to her, "let's go").

1.1123. Group C. In addition to the obligatory clause-level instrument, C_{1a} also includes an obligatory affixal (C_{1a1}) or clause-level (C_{1a2}) object and an obligatory affixal referent. C_{1b} also includes an obligatory affixal object and an optional affixal instrument. C_2 includes an obligatory affixal instrument and an obligatory clause-level object in addition to the obligatory clause-level instrument.

C_{1a1} = + TActP-C_{1a1}: [TActV-C_{1a1} = + s + (TTh-C_1 = + TC-A + {+ il + vl}) + {+ nrefl + r:1/2} + o] ± O ± S + I

C_{1a2} = + TActP-C_{1a2}: [TActV-C_{1a2} = + s + (TTh-C_1 = + TC-A + {+ il + vl}) + {+ nrefl + ben + r:3}] + O ± S + I

C_{1b} = + TActP-C_{1b}: [TActV-C_{1b} = + s + (TTh-C_1 = + TC-A + {+ il + vl}) + {+ nrefl + o:1/2 ± i}] ± O ± S + I

C_2 = + TActP-C_2: [TActV-C_2 = + s + (TTh-C_1 =
+ TC-A + {+ il + vl}) + refl + i]
+ O ± S + I

Examples are: C_{1a1} = o-pašit-an-ta-k^{y}e-na-ri (+ TActP-C_{1a1}) no-tomi (± O) no-mančak^{y}i (+ I) 'she--to-cover--by-means-of--vl--nrefl--me--him my--son my--cushma' (she covered my son for me using my cushma); C_{1a2} = i-tog-an-ta-k^{y}e-ne-ri (+ TActP-C_{1a2}) no-ačane (+ I) i-camaire (+ O) 'he--to-cut--by-means-of--vl--nrefl--for--him my--axe his--field' (he cut his field for him using my axe); C_{1b} = i-pašit-an-ta-k^{y}e-na-ro (+ TActP-C_{1b}) i-mančak^{y}i (+ I) mario (± S) 'he--to-cover--by-means-of--vl--nrefl--me--it his--cushma Mario' (Mario covered me with his cushma); C_2 = i-tog-an-ta-iga-ka-ro (+ TActP-C_2) ača (+ I) camairinci (+ O)[11] 'they--to-cut--by-means-of--vl--plural--refl--it axe field' (they cut the field with an axe).

1.1124. Group D. Transitive core D_1 and transitive core D_2 each include only one member. In formula D_1 the clause-level identification tagmeme is obligatory. In D_2 it is optional. The second variant of D_2 differs from the first in that a causative tagmeme included in the theme requires an indirect subject tagmeme to be included in the verb construction.

[11] Though this order is acceptable, a more frequent and preferred order would be either object, predicate, instrument, or the breaking down of this clause into two clauses of which one may be contingent. Examples are: camairinci (+ O) i-tog-an-ta-iga-ka-ro (+ TActP-C_2) ača (+ I) 'field they--to-cut--by-means-of--vl--plural--refl--it axe'; i-toga-iga-k^{y}e-ro (TActP-A_1) camairinci (± O), i-tog-an-ta-iga-ka-ro (+ TActP-C_2) ača (+ I) 'they--to-cut--plural--nrefl--it field, they--to-cut--with--vl--plural--refl--it axe'.

D_1 = + TActP-D_1: [TActV-D_1 = + s + (TTh-D_1 = + TC-D_1) + nrefl + o] ± O ± S + Id

D_{2a} = + TActP-D_{2a}: [TActV-D_{2a} = + s + (TTh-D_{2a} = + TC-D_2) + nrefl + o] ± O ± S ± Id

D_{2b} = + TActP-D_{2b}: [TActV-D_{2b} = + s + (TTh-D_{2b} = + TC-D_2 + caus) + nrefl + is:1/2 + o:3] ± O ± S ± Id

Examples are: D_1 = i-pega-k^{y}e-ri (+ TActP-D_1) ir-iri (+ Id) mario (± S) 'he--to-change--nrefl--him his--father Mario' (Mario referred to him as his father); D_{2a} = i-paita-k^{y}e-ri (+ TActP-D_{2a}) 'he--to-name--nrefl--him'; D_{2b} = i-paita-kaga-k^{y}e-na-ri (+ TActP-D_{2b}) no-tomi (± O) perero (± Id) 'he--to-name--cause--nrefl--me--him my--son Peter' (he caused me to name my son Peter).

1.1125. Group E. All members of group E include indirect subject tagmemes. In addition, E_1 includes an obligatory affixal object, E_2 an obligatory clause-level object, and E_3 an obligatory affixal and optional clause-level object. Note that groups D and E overlap in that an affixal indirect subject occurs in one variant of D_2. They contrast, however, in that the identification tagmeme occurs in group D and does not occur in group E and in that clause-level indirect subjects optionally occur in E_1 and E_2 but do not occur in D. Although TC-D_1 occurs in the theme of the verb in E_2, the addition of a causative suffix results in a TTh-E and no identification tagmeme occurs.

E_1 = + TActP-E_1: [TActV-E_1 = + s + (TTh-E = + TC-A + <caus>) + nrefl + o: 1/2 + is: 3] ± IS ± S

E_2 = + TActP-E_2: [TActV-E_2 = + s + (TTh-E = + TC-D_1 + <caus>) + nrefl + is] ± IS + O ± S

E_3 = + TActP-E_3: [TActV-E_3 = + s + (TTh-E_2 = + NC + <caus> + {+ <con> + <vl>}) + nrefl + is: 1/2 + o: 3] ± O ± S

Examples are: E_1 = mario (± S) i-patimata-ga-k^{y}e-na-ro (+ TActP-E_1) masero (± IS) 'Mario he--to-chase--cause--nrefl--me--it toad' (Mario caused the toad to chase me); E_2 = i-pega-kaga-k^{y}e-ro (+ TActP-E_2) anita (± IS) no-gocirote (+ O) 'he--to-change--cause--nrefl--her Anita my--knife' (he caused Anita to lose my knife); E_3 = g^{y}o-g^{y}i-kamaranga-ko-ta-ga-k^{y}e-na-ro (+ TActP-E_3) no-seka (± O) 'he--cause--to-vomit--contained--vl--cause--nrefl--me--it my--food' (he caused me to vomit my food).

1.113. Neutral active clauses. The clauses included in the class of neutral clause nuclei, i.e. clause nuclei in which an object tagmeme is optional, could be included in the intransitive and transitive classes. Since, however, the division into intransitive and transitive classes is made on the basis of the obligatory occurrence or absence of an object tagmeme, the inclusion in either of these classes of a subtype with an optional object tagmeme, creates a problem. For this reason, a class of neutral clause nuclei is set up. The following subtypes, in which the A, B, and C groupings parallel those of the intransitive and transitive active clauses, have been noted:

A_1 = + NActP-A_1: [NActV-A_1 = + s + (NTh-A_1 = + NC) + nrefl ± o] ± O ± S

A_2 = + NActP-A_2: [NActV-A_2 = + s + (NTh-A_2 = + NC_2) + refl ± o] ± O ± S

B_{1a} = + NActP-B_{1a}: [NActV-B_{1a} = + s + (NTh-A_1 = + NC) + nrefl ± {+ r: 1/2 + o}] ± R ± O ± S

B_{1b} = + NActP-B_{1b}: [NActV-B_{1b} = + s + (NTh-A_1 = + NC) + nrefl ± (+ {+ ben + r: 3}] ± R + O) ± S

B_2 = + NActP-B_2: [NActV-B_2 = + s + (NTh-B = + NC + {+ <con> + <vl>}) + nrefl + r] ± R ± O ± S

C = + NActP-C: [NActV-C + s + (NTh-C = + TC-A + {+ il + vl}) + refl ± o] ± O + I ± S

Examples are: A_1 = i-kaema-k^{y}e-ri (+ NActP-A_1) no-tomi (± O) 'he--to-invite--nrefl--him my--son'; i-kaema-k^{y}e (+ NActP-A_1) 'he--to-scream--nrefl'; A_2 = i-sekata-ka-ro (+ NActP-A_2) no-tomi (± S) pan (± O) 'he--to-eat--refl--it my--son bread' (my son is eating bread); i-sekata-ka (+ NActP-A_2) 'he--to-eat--refl'; B_{1a} = i-kaema-k^{y}e-na-ri (+ NActP-B_{1a}) 'he--to-invite--nrefl--me--him' (he invited him for me); B_{1b} = i-kaema-k^{y}e-ne-ri (+ NActP-B_{1b}) i-gok^{y}ine (± O) mario (± S) 'he--to-invite--nrefl--for--him his--uncle Mario' (Mario invited his uncle for him); B_2 = i-kaema-ko-ta-k^{y}e-ri (+ NActP-B_2) came (± O) 'he--to-call-out--to--vl--nrefl--him, "let's-go"'; C = no-pašit-an-ta-ka-ro (+ NActP-C) no-šinto (± O) no-bašikaro (+ I) 'I--to-

cover--by-means-of--vl--refl--her my--daughter my--blanket' (I covered my daughter with my blanket); no-pašit-an-ta-ka (+ NActP-C) no-bašikaro (+ I) 'I--to-cover--by-means-of--vl--refl my--blanket' (I covered myself with my blanket).[12]

1.12. Passive clauses. Clause-level object, referent, instrument, identification, and indirect subject tagmemes occur in addition to the predicate in the passive clause nucleus classes. Passive clause nucleus classes contrast with active classes in that no subject tagmeme occurs in the passive. They contrast further in that the predicates differ: in the predicates of active clause nuclei, suffixal variants of the object, referent, instrument, and indirect subject tagmemes occur. In contrast, prefixal variants of these tagmemes occur in the predicates of passive clause nuclei.

The term 'passive' is used in the sense that none of the tagmemes which occur with (or included in) the predicate are active but rather are acted upon. Whereas many of the clauses can be translated in a traditional meaning of passive, e.g. i-pasatʌn-gani 'he--to-hit--pass' (he was hit), others have a slightly different sense. Thus, o-ga-gani 'it--to-eat--pass' does not mean a certain food has been eaten but that it is edible.

Passive clause nuclei do not parallel the more traditional use of passive in that they are not merely a transform or variant of active clauses but a contrastive class: no agent or actor can be expressed. They also differ from the traditional use in that not only transitive but also intransi-

[12] Note that although this example translates the same as the second example of intransitive clause C_2 (see 1.1113), the inclusion of the instrumental tagmeme in the theme of the neutral clause makes possible an optional object, as in the preceding example, which does not occur in the intransitive clause.

tive and neutral classes occur. A further difference in the use of the term is that referent, instrument, and indirect subject affixal tagmemes, as well as object, have variants which are conditioned by their occurrence in passive constructions: only third person masculine or feminine pronominal prefixes occur in these slots. The clause-level parallels of these tagmemes differ from the variants which occur in active clause nuclei in that only third person variants of the classes of fillers occur.

The formulas of intransitive, transitive, and neutral clause nucleus classes are each presented in groups paralleling the groups of active clause nuclei. (Not all of the parallel groups occur in the data.)

1.121. Intransitive passive clauses. Examples of groups C, D, and E occur in our data.

Group C. The variants of group C differ from each other in that the themes in the verbs are different.

C = + InPassP-C: [InPassV-C = + i: 3 + (InTh-C = + InC
+ {+ il + vl}) + refl + pass] ± I
/ + InPassP-C: [InPassV-C = + i: 3 + (NTh-C = + NC
+ {+ il + vl}) + refl + pass] ± I
/ + InPassP-C: [InPassV-C = + i: 3 + (TTh-A = + TC-A
+ refl + pass] ± I

Examples are: C = o-at-an-t-a-gani (+ InPassP-C) pitoci (± I) 'it--to-go--by-means-of--vl--refl--pass canoe' (the canoe is a means of transportation); / o-kamarang-an-t-a-gani (+ InPassP-C) seri (± I) 'it--to-vomit--by-means-of--vl--refl--pass tobacco' (tobacco is an emetic); / o-pašit-a-gani (+ InPassP-C) pašikaronci

(± I) 'it--to-cover--refl--pass blanket' (blankets are used for covering oneself).

Group D. Group D includes only one member.

D = + InPassP-D: [InPassV-D = + is:3 + (TTh-D_2 = + TC-D_1 + caus) + nrefl + pass] + Id ± IS

An example is: i-pega-kag-ʌn-gani (+ InPassP-D) i-tomi (± IS) k^yemari (+ Id) 'he--to-change-into--cause--nrefl--pass his--son tapir' (his son was caused to turn into a tapir).

Group E. Both members of group E include optional clause-level indirect subject tagmemes. In addition, E_2 includes an obligatory instrument tagmeme since an instrumental suffix is included in the theme of the verb.

E_1 = + InPassP-E_1: [InPassV-E_1 = + is:3 + (InTh-E = + InC + <caus>) + nrefl + pass] ± IS

/ + InPassP-E_1: [InPassV-E_1 = + is:3 + (InTh-E = + NC + <caus>) + nrefl + pass] ± IS

E_2 = + InPassP-E_2: [InPassV-E_2 = + is:3 + (InTh-E_2 = + NC + <caus> + {+ il + vl}) + nrefl + pass] + IS + I

Examples are: E_1 = o-šiga-kag-ʌn-gani (+ InPassP-E_1) 'she--to-run-away--cause--nrefl--pass' (she was caused to run away); / g^yo-g^yi-kamarang-ʌn-gani (+ InPassP-E_1) 'he--cause--to-vomit--nrefl--pass' (he was caused to vomit); E_2 = g^yo-g^yi-kamarang-an-t-ʌn-gani (+ InPassP-E_2) ananek^{y}i (± IS) seri (+ I) 'he--cause--to-vomit--by-means-of--vl--nrefl--pass child tobacco' (the child was caused to vomit by using tobacco).

1.122. Transitive passive clauses. Transitive passive clauses include groups A, B, C, D, and E.

Group A. The variants of group A differ only in that the themes of the verbs are different.

A = + TPassP-A: [TPassV-A = + o:3 + (TTh-A_1 =
+ TC-A) + nrefl/refl + pass] ± O
/ + TPassP-A: [TPassV-A = + o:3 + (TTh-A_2 =
+ TC-A_2) + nrefl + pass] ± O

Examples are: A = o-g-a-gani (+ TPassP-A) 'it--to-eat--nrefl--pass' (it's edible); / o-kani-a-gani (+ TPassP-A) 'it--to-say--nrefl--pass' (it is said).

Group B. The two variants of group B differ from each other in the fillers of the core slots and in the themes of the verbs, each list of fillers being composed of only one member. The transitive core -ama- 'to-bring' is designated as TC-A_3 for the purposes of the formula below. In the active clauses it is included with the transitive cores designated as TC-A.

B = + TPassP-B: [TPassV-B = + r:3 + (TTh-A_3 =
+ TC-A_3) + nrefl + pass] ± R + O
/ + TPassP-B: [TPassV-B = + r:3 + (TTh-B =
+ TC-B) + nrefl + pass] ± R + O

Examples are: B = g^y-am-ʌn-gani (+ TPassP-B) no-hime (± R) i-seka (+ O) 'he--to-bring--nrefl--pass my--husband his--food' (my husband was brought food); / g^yoga ananek^{y}i (± R) i-p-ʌn-gani (+ TPassP-B) cengoci (+ O) 'that child he--to-give--nrefl--pass trousers' (that child was given trousers).

Group C. An optional clause-level object and an obligatory clause-level instrument occur in group C.

C = + TPassP-C: [TPassV-C = + o:3 + (TTh-C =
+ TC-A + {+ il + vl}) + refl + pass] ± O[13] + I

An example is: o-tog-an-t-a-gani (+ TPassP-C) camairinci (± O) ačа (+ I) 'it--to-cut--by-means-of--vl--refl--pass field axe' (the [big trees in the] field are cut down with an axe).

Group D. The identification tagmeme differs from the object, referent, instrument, and indirect subject tagmemes in that it does not transform as a pronominal prefix in a passive clause. It remains a clause-level identification tagmeme, and an affixal object is obligatory.

D = + TPassP-D: [TPassV-D = + o:3 + (TTh-D =
+ TC-D) + nrefl + pass] + Id ± O

An example is: o-pait-ʌn-gani (+ TPassP-D) rosa (+ Id) i-hina ig^{y}e (± O) 'she--to-name--nrefl--pass Rose his--wife my-brother' (my brother's wife was named Rose).

Group E. An optional clause-level indirect subject and an obligatory clause-level object occur in group E.

E = + TPassP-E: [TPassV-E = + is:3 + (TTh-E =
+ TC-D_1 + caus) + nrefl + pass] ± IS + O

[13] When the affixal object slot is filled by a third person feminine pronominal prefix, and the noun filling the instrument or indirect subject slot is feminine, the clause-level object is obligatory. Otherwise, the clause would be ambiguous with a parallel intransitive passive clause nucleus of group C in which the pronominal prefix fills the instrument slot.

An example is: o-pega-kag-ʌn-gani (+ TPassP-E) anita (± IS) no-gocirote (+ O) 'she--to-lose--cause--nrefl--pass Anita my--knife' (Anita was caused to lose my knife).

1.123. Neutral passive clauses. Group A neutral passive clause nuclei differ from neutral active clause nuclei in that (1) an affixal subject is obligatory in neutral active but absent in neutral passive, and (2) an affixal object is obligatory in neutral passive whereas in neutral active it is optional. Although this clause could be considered transitive, it is classified as neutral to parallel the distribution of NTh-A_1 in active clauses.

A = + NPassP-A: NPassV-A = [+ o: 3 + (NTh = + NC)
+ nrefl + pass] ± O

An example is: i-kaem-ʌn-gani (+ NPassP-A) 'he--to-call-out--nrefl--pass' (he was called).

1.13. Equative clauses. Two main types of equative clause nuclei occur: equative 1, in which the predicate slot is filled by a participle 1 (see footnote 5); and equative 2, in which the predicate slot is filled by an adjective construction rather than by any type of verb. The clause-level subject tagmeme is obligatory in both.

Both intransitive and neutral equative types have been noted. The formula for the intransitive equative clause nucleus is:

$InEq_1$ = + $InEqP_1$: [$InPart_1$ = + (InTh = + InC)
+ nrefl/refl] + S

/ + $InEqP_1$: [$InPart_1$ = + (NTh = + NC)

+ nrefl/refl] + S

Examples are: $InEq_1$ = kama-k^{y}e (+ $InEqP_1$) no-tomi (+ S) 'to-die--nrefl my--son' (my son is dead); / kamaranga-na-k^{y}e (+ $InEqP_1$) no-hina (+ S) 'to-vomit--continuative--nrefl my--wife' (my wife is vomiting).

The formula for the neutral equative clause nucleus is:

NEq_1 = + $NEqP_1$: [$NPart_1$ = + (NTh = + NC) + refl]

+ S ± O

An example is: šintota-a (+ $NEqP_1$) oribia (+ S) i-šinto (± O) 'to-daughter--refl Olive her--daughter' (Olive has had a baby daughter).

The formula for equative 2 is:

Eq_2 = + EqP_2: $Adj_{1/2}$[14] + S

Examples are: o-mara-a-rika (+ EqP_2) eni (+ S) 'it--big--liquid--adj-marker Urubamba' (the Urubamba River is swollen); mameri (+ EqP_2) sekaci (+ S) 'none manioc' (there isn't any manioc).

1.2. Criteria for separating nuclear tagmemes. In

[14] The classification of adjectives according to their distribution in the clause or phrase is not complete. For the purposes of this paper, however, adjectives which may fill only the predicate slot of an equative clause nucleus are designated adjective 1. Adjectives which may fill the predicate slot of an equative clause nucleus or the auxiliary slot in an auxiliary verb phrase (see 1.413) are designated adjective 2. Adjectives which may fill clause nucleus slots other than predicate are designated adjective 3. Adjectives which may occur only in the modification slot of a noun phrase are designated adjective 4. Adjective 2 and 3 may also fill the modification slot of a noun phrase (see 1.4222).

Machiguenga, no contrastive slot markers are included in the fillers of either the affixal or clause-level subject, object, referent, instrument, indirect subject, and identification slots.[15] (Note that there is no affixal identification tagmeme.) In active clauses, however, the filler of the affixal subject slot is a prefixal allomorph of the pronominal affixes, whereas the fillers of the other slots are suffixal allomorphs of the pronominal affixes. In passive clauses only prefixal allomorphs of the pronominal affixes occur. These slots and their fillers are considered separate tagmemes on the following grounds:[16]

(a) There are certain restrictions on the fillers of clause-level slots although the lists of fillers are highly overlapping. No adjective, pronoun, nor personal noun, i.e. man, woman, etc., may fill the instrument slot of a noncontingent clause; only a personal noun or a third person pronoun may fill the referent slot when the benefactive morpheme occurs in the verb; the identification slot cannot be filled by a pronoun. The fillers of the affixal object, referent, instrument, and indirect subject slots are homophonous: no- ∞ na- 'first person'; pi- ∞ pa- ∞ po- 'second person'; i- ∞ g^ya- ∞ g^yo- 'third person masc.'; o- ∞ a- 'third person fem.' The identification tagmeme is unique in that it has no affixal counterpart.

[15] For an example of a language in which such markers do occur, see "Contrastive Features of Candoshi Clause Types," page 67.

[16] An alternate solution to the problem of homophonous tagmemes would be to consider the referent, indirect subject, instrument, and object tagmemes all as objects. In this case all of the clauses now included in groups B, C, and E, and part of group D, of intransitive clauses would be considered transitive. This analysis would result in up to three object tagmemes occurring in a single clause, each object having a different semantically conditioned function. We, therefore, have chosen to consider them separate tagmemes marked by the theme construction in the verb rather than by contrastive slot markers in the fillers of the slots.

(b) They are semantically contrastive. Note, for example, the following: (1) i-pasata-k^{y}e-na-ro 'he--hit--nrefl--me--her' (he hit her for me); (2) i-patima-kaga-k^{y}e-na-ro 'he--to-chase--caused--nrefl--me--her' (he caused her to chase me); (3) i-pašit-an-ta-k^{y}e-na-ro 'he--covered--with--vl--nrefl--me--it' (he covered me with it). In example (1), the third person feminine pronominal suffix -ro is the recipient (object) of the action performed for the benefit of the first person pronominal suffix -na (referent). In example (2), -ro is the one caused to perform the action (indirect subject) upon -na (object). In example (3), -ro is the means employed (instrument) by the subject, the third person masculine pronominal prefix i-, to perform the action upon -na (object).

(c) As many as four of these semantically contrastive tagmemes may be represented in a single active clause nucleus. Note the following example in which subject occurs as a prefixal tagmeme, referent and object occur as suffixal tagmemes, and object and instrument occur as clause-level tagmemes: i-pašit-an-ta-k^{y}e-na-ro no-šinto i-mančak^{y}i 'he--to-cover--by-means-of--vl--nrefl--me--her my--daughter his--cushma' (he covered my daughter for me with his cushma).

(d) Object, referent, instrument, identification, and indirect subject each occur in conjunction with different theme classes in the verb. The theme classes are distinguished according to specific core classes such as D_1, or specific affixes, such as referential, which occur in a theme. The identification tagmeme occurs only with verb constructions containing a specific core, D_1 or D_2, in a Th-D. In intransitive active clause nuclei, the referential, in a Th-B_1, and referent tagmemes are mutually obligatory as seen in examples in 1.1112. The instrumental, in a Th-C_1, and clause-level instrument are mutually obligatory

as seen in examples in 1.1113 and 1.1123. The causative, in a Th-E, and indirect subject tagmemes are mutually obligatory as seen in examples in 1.1115 and 1.1125.

(e) The clauses in which they occur transform differently. For the purpose of using transforms as a criterion for the separation of the above listed tagmemes, 'transform' will be defined as the rewriting of intransitive active clause nucleus groups B, C, and E as one or more group A clauses; i.e. the elimination of the referential, contained, and referent tagmemes in group B, the instrumental and instrument tagmemes in group C, and the causative and indirect subject tagmemes in group E. (No transform of the identification tagmeme of group D has been discovered.)

In the transform of group B to group A, the referent tagmeme of B becomes the object of a type A transitive active clause preceded by a type A intransitive active clause with the same core in the theme of the predicate as the type B clause. An example is: intransitive active clause B_1, i-poka-šį-ta-k^{y}e-ro no-šinto 'he--to-come--with-reference-to--vl--nrefl--her my--daughter' transforms to intransitive active clause A_1 followed by transitive active clause A_1, i-poka-k^{y}e; i-ne-e-ro-ra no-šinto 'he--to-come--nrefl; he--to-see--incompletive--her--conditional my--daughter' (he came to see my daughter).

In the transform of certain members of group C to group A, the instrument tagmeme of group C becomes an optional marginal location tagmeme in an intransitive active clause A_1 with the same core in the theme of the predicate as the type C clause. An example is: intransitive active clause C_1, no-at-an-ta-ka pitoci 'I--to-go--by-means-of--vl--refl canoe' transforms to intransitive active clause A_1, no-ata-k^{y}e pitoci-kʌ 'I--to-go--nrefl canoe--in'.

In the transform of group E to group A, the indirect

subject tagmeme of group E becomes the subject of an intransitive active clause A_1 followed by a transitive active clause A_1 in which the same indirect subject tagmeme becomes the object. In the following example, intransitive active clause E_1, i-šiga-kaga-k^{y}e-ro no-šinto hoa 'he--to-run-away-(by-taking-with-him)--cause--nrefl--her my--daughter John' (John caused my daughter to run away) transforms to intransitive active clause A_1 followed by transitive active clause A_1, o-šiga-ka no-šinto; i-tenta-ka-ro hoa 'she--to-run-away--refl my--daughter; he--took-(with-him)--refl--her John' (my daughter ran away; John took her with him).

1.3. Apposition of pronominal affixes and clause-level tagmemes. As seen in the formulas in the preceding sections, pronominal suffixes paralleling clause-level object, referent, instrument, and indirect subject tagmemes, one or two of which may occur in a particular active clause in addition to subject and predicate tagmemes, may occur included in the verb. When two of these clause-level tagmemes occur following the predicate, the last pronominal suffix is in apposition with the closest clause-level tagmeme, other than subject, unless the person of the pronominal suffix precludes any possible ambiguity.

Note the following examples: (1) i-tog-an-ta-iga-ka-ro sabʌri i-camaire 'he--to-cut--with--vl--plural--refl--it machete his--field' (he cut his field with a machete); (2) o-pašit-an-ta-k^{y}e-na-ro no-šinto o-bašikaro 'she--to-cover--with--vl--nrefl--me--her my--daughter her--blanket' (she covered my daughter with her blanket for me); (3) i-pasat-an-ta-k^{y}e-na no-hime inčak^{y}ii 'he--to-hit--with--vl--nrefl--me my--husband stick' (my husband hit me with a stick). In example (1), the predicate includes a third person feminine pronominal instrument suffix -ro and

is followed by an appositional clause-level instrument and a clause-level object. In example (2), the predicate includes a first person referent suffix -na and a third person feminine object suffix -ro, and is followed by an appositional clause-level object and a clause-level instrument. In example (3), the predicate includes a first person object suffix -na, and is followed by clause-level subject and instrument. The first person affixal object cannot be confused with the subject or instrument tagmemes.

The occurrence of more than two nuclear clause-level tagmemes is relatively infrequent in legendary material. In approximately 9,150 words of such text material both subject and object clause-level tagmemes occur, in addition to the predicate, in only 19 clauses. Five of these are direct quotations. Occurrence of more than two nuclear clause-level tagmemes seems to be more frequent in conversation.

1.4. Fillers of clause nucleus slots.

1.41. Verb phrase fillers of predicate slots. The minimum forms of the simple verb fillers of the predicate slots have been described in the breakdown formulas in 1.1. A predicate slot may also be filled by a verb phrase.[17] The following types have been noted:

1.411. Verb phrase 1--negation. The formula for this phrase type is: + Negation: Negative + H: Negative V. A negative verb differs from the verbs given in the formulas

[17] Verb phrases may be continuous, as illustrated in 1.41, or discontinuous. In the first example below the negation and the head tagmemes of verb phrase 1 are separated by an object. In the second example the manner and the head tagmemes of verb phrase 2 are separated by an object: tera iroro nongante 'not it i-said' (that isn't what I said); g^{y}ogaka sekaci kogapag^{y}e 'he-ate manioc aimlessly'.

in 1.1 in that an incompletive or completive suffix is obligatory. Furthermore, when the negative tera is the filler of the negation slot, and the stem begins in p, t, or k, an obligatory incompletive prefix also occurs. The incompletive and completive affixes are underlined in the following examples: tera no-at-e 'not I--to-go--incompletive' (I didn't go); gara no-at-i 'not I--to-go--completive' (I won't go); tera no-m-pok^{y}-e 'not I--incompletive--to-come--incompletive' (I didn't come); gara no-pok^{y}-i 'not I--to-come--completive' (I won't come).

1.412. Verb phrase 2--manner.[18] Three subtypes of verb phrase 2 have been noted. In subtype (a), the optional manner slot always precedes the obligatory head and is filled by adverb 1.[19] In subtype (b), the manner slot may either precede or follow the head and is filled by adverb 2 or adjective 3. In subtype (c), the manner slot always follows the head and is filled by conjunction 1.[20] Examples, with fillers of manner slot underlined, are: (a) = panik^{y}at^{y}o ingamanak^{y}era 'almost he-will-die'; cik^{y}ani ikontetanak^{y}e

[18] A combination of verb phrase 1 and verb phrase 2 occurs in which the negation slot occurs phrase initial and the head slot is filled by a negative verb. Examples: tera no-n-gant-e kogapag^{y}e 'not I--incompletive--said--incompletive for-nothing' (I wasn't kidding); tera kameti no-n-tim-e 'not well I--incompletive--live--incompletive' (I'm not living well).

[19] Adverb 1 and adverb 2 differ in the list of items comprising each class.

[20] Classes of conjunctions are not discussed in this paper. Conjunction 1, of which aik^{y}iro is the only member, has been distinguished here since it is the only class of conjunctions which may fill the manner slot in a verb phrase. When it fills the manner slot the meaning is modified to 'again'. When it fills a connective slot preceding the verb, it joins two clauses and the meaning is modified to 'also'. It may also fill the connective slot in a compound noun phrase (see 1.4225).

'carefully he-came-out'; (b) = notimaigak^{y}e kameti 'we-live well'; kametik^{y}a intimaigae 'well they-will-live'; (c) = ipiganaa aik^{y}iro 'he-returned again'.

1.413. Verb phrase 3--auxiliary. The auxiliary slot may be filled by adjective 2, the participial form of the verb atak^{y}e 'to-go', or the intransitive verb ok^{y}enak^{y}e 'to-go-by-means-of' which, when it occurs as the simple filler of the predicate slot, requires either a nuclear clause-level instrument tagmeme, or a marginal clause-level location tagmeme. The auxiliary is followed by the head slot filled by a declarative active verb. Examples, with the fillers of the auxiliary slot with underline, are: ain^{y}o imagak^{y}e 'there-is he-sleeping' (he's asleep); atak^{y}e[21] išiganaka 'gone he-running away' (he has already run away); ok^{y}enak^{y}e opinganak^{y}eri 'she-went she-feared-him' (immediately she was afraid of him).

1.42. Fillers of slots other than predicate. The simple fillers of clause-level subject, object, referent, instrument, identification, and indirect subject slots are presented with reference to the particular slots they fill. Complex fillers are presented without reference to particular slots.

1.421. Simple fillers. The slots listed in the above paragraph may be filled by a noun, pronoun, or adjective 3, with the following exceptions: (1) No example of an identification slot filled by a pronoun has been found. (2) In non-contingent clauses, the instrument slot may be filled only by a noun. Three examples of each slot, except instrument and

[21] This full form of the auxiliary is shortened to ata in fast speech and is then phonologically tied to the head. The same is true of the intransitive verb filler of the auxiliary slot in the next example, which then becomes ok^{y}e.

identification, will be given with the fillers underlined. The slots will be filled by a noun, pronoun, and adjective 3, in that order. Examples are: Subject slot = okonteatanak^{y}e oani 'it-came-out its-liquid'; iragaka irirori 'he-cried he'; iaigak^{y}e maganiro 'they-went all'. Object slot = nobiikaka nia 'I-drank water'; nompasatak^{y}eri irirori 'I-will-hit-him him'; nopang^{y}itak^{y}e pašini 'I-planted another'. Referent slot = ikantanak^{y}ero icinanete came 'he-said-to-her his-wife, "let's-go"'; iatašitak^{y}eri irirori 'he-went-with-reference-to-him him'; nopʌtiri piteniro 'I-gave-him both' (I gave to both of them). Instrument slot = nopasatantakari inčak^{y}ii 'I-hit-with-him stick' (I hit him with a stick). Identification slot = ipaitak^{y}eri mig^{y}iri 'he-named-him Miguel'; kʌtari opegaka k^{y}iraari 'white it-turned-itself red'; Indirect subject slot = g^{y}og^{y}išineak^{y}eri notomi 'he-caused-to-be-happy-him my-son'; g^{y}og^{y}ikamarangak^{y}ena naro 'he-caused-to-vomit-me me'; g^{y}og^{y}išigak^{y}eri maganiro 'he-caused-to-run-away-him all' (he made them all run away).

1.422. Complex fillers. The slots listed above may also be filled by a noun or pronoun phrase of the types listed below.[22]

1.4221. Noun phrase 1--possession. Noun phrase 1 consists of a possessed slot filled by a noun stem affixed for possession and a possessor slot filled by a noun. An example is: o-k^{y}icok^{y}i ampei 'its--seed cotton'. An example of this phrase, underlined, filling the instrument slot

[22] Noun phrases may be continuous, as illustrated in 1.422, or discontinuous. In the following example, the modification and head tagmemes of noun phrase 2 are separated by the predicate: maganiro g^{y}ogakaro obaca 'all he-ate-it her-flesh' (he ate all of her flesh).

follows: isemiantaigakari ok^{y}icok^{y}i incipa 'they-peppered-him it-seed guava' (they peppered him with guava seeds).

1.4222. Noun phrase 2--modification 1. Noun phrase 2 consists of a head slot filled by a noun and a modification slot filled by an adjective 2, 3, or 4. The head may also be filled by a pronoun in which case the modification slot must be filled by an adjective 3. The modification slot may either precede or follow the head. Examples are (modification filler is underlined): inčato omarane 'tree big'; imarane šima 'big fish'; maganiro g^{y}oga 'all those'; naroeg^{y}i maganiro 'we all'. Examples of this phrase occurring in the object slot: g^{y}agašitak^{y}ero kobiti omarane 'he-got-for-it pot big' (he got a big pot [to mix it in]); noncongataerira maganiro g^{y}oga 'I-will-finish-him all those'.

1.4223. Noun phrase 3--modification 2. Noun phrase 3 consists of a head filled by a noun or pronoun 1 or 2,[23] and a modification slot filled by a pronoun 3. The modification slot may either precede or both precede and follow the head. When it both precedes and follows, the filler of both slots must be identical. Examples are: g^{y}oga pišiti 'that tucan'; oka pibocote oka 'this your-annatto this'; oga naši 'that mine'; g^{y}okari g^{y}oka 'this this' (this one [in contrast to others]). Examples of this phrase occurring in the object slot are: ineapaak^{y}ero oga šing^{y}i 'he-saw-it that corn'; ogari naši namanak^{y}ero katonko 'that mine I-took-it upriver'; g^{y}okari g^{y}oka ipakagantak^{y}empi pitomi 'this this he-sent-to-you your-son'.

[23] For the purposes of this paper, personal pronouns are designated pronoun 1, possessive pronouns are designated pronoun 2, and demonstrative pronouns are designated pronoun 3.

1.4224. Noun phrase 4--apposition. Noun phrase 4 consists of a head slot filled by a noun or pronoun 2 and an apposition slot filled by a noun. Examples are (apposition filler underlined): iraniri g^{y}airi 'his-brother-in-law bee' (his brother-in-law [whose name was] Bee); naši nobašikaro 'mine my-blanket'. Examples of this phrase occurring in object and instrument slots, respectively, are: ineirira iraniri g^{y}airi 'he-saw-him his-brother-in-law bee'; nompašitantak^{y}empari naši nobašikaro 'I'll-cover-with-him mine my-blanket' (I'll cover him with my blanket).

The head of an appositional phrase may also be filled by a noun phrase and the apposition slot may be filled by a dependent noun clause (see footnote 6). Examples are: iripokapaak^{y}e g^{y}oka kasʌvarerini gak^{y}eririra 'he-will-come this demon killed-him-one' (the demon that killed him will come); aganairo išinto timang^{y}icirira impok^{y}irokʌ 'she-took-again-her her-daughter living-one star-with' (she took again her daughter, the one who had lived with the star).

1.4225. Noun phrase 5--compound. Noun phrase 5 consists of a series of items, simple or complex, and optional connectives which fill a single clause-level slot. Examples are (noun phrase underlined): ontikabak^{y}eri g^{y}oga kamagarini aik^{y}iro kamacirini 'it-will-obstruct-him that devil also demon'; ain^{y}o piteni itomi intiri iritineri intiri iraniri 'there-are two his-sons, and his-nephew, and his-brother-in-law'.

2. Clause margins. The clause margin includes optional clause-level items which are not directly related to items included in the predicate. These optional marginal items are time, location, and onomatopoeia. Any one or all of these may occur with any of the clause nucleus types

described above with the exception that the onomatopoeia tagmeme does not occur with an equative 2 clause nucleus. The time tagmeme usually precedes the nucleus, the location tagmeme usually follows the nucleus, and the onomatopoeia tagmeme is always clause-final.

2.1. The tagmeme of time. The filler of the time slot may be a simple temporal particle, a noun phrase 2 (with a very limited list of fillers of the head and modification slots due to semantic restrictions), or a dependent active or passive clause consisting of nucleus with optional margin.[24] Examples are: paita pintinaanaera 'later you-will-get-up-again'; omiringa kʌtag^{y}iteri ongaemabaitak^{y}e 'every day she-will-call-out'; g^{y}ogotagaigak^{y}enara kilometro quince gotaganarira ikanti omarapag^{y}erika kʌto kan^{y}ovag^{y}etaka clavos 'he-taught-us-when kilometer fifteen taught-us-one he-said big thorns like nails' (when the one who taught us in kilometer fifteen taught us, he said that the thorns were big like nails).

2.2. The tagmeme of location. The filler of the location slot may be simple, phrasal, clausal, or compound.

2.21. Simple location slot fillers. Simple location slot fillers are of two types: (1) a locative particle, or (2) a

[24] A dependent active or passive clause differs from the independent clauses described in 1.11 and 1.12 in that dependent clauses fill a slot in an independent clause or sentence. In addition, the conditional suffix -ra is obligatorily affixed to the predicate filler of all dependent clauses. In the example given in the text of a dependent transitive clause filling the time slot of an independent transitive clause, g^{y}o-gotaga-iga-k^{y}e-na-ra 'he--to-teach--plural--nrefl--us--when' (when he taught us) fills the dependent predicate slot; kilometro quince 'kilometer fifteen' fills the location slot of the dependent clause; and gotaga-na-rira 'to-teach--us--one' (the one who taught us) fills the subject slot.

noun or pronoun with an obligatory locative suffix -kʌ. Examples of clauses containing a location slot filled by a locative particle are: itentanakari kamatikʸa 'he-took-him downriver'; ogʸikontetʌtiri soci 'she-caused-to-go-out-him outside'. Examples of clauses containing a location slot filled by a noun or pronoun with an obligatory locative suffix are: piatakʸe pangoci-kʌ 'you-went house--to'; omagakʸe naro-kʌ 'she-slept me--with'.

2.22. Phrasal location slot fillers. Three types of noun phrases, 1, 2, and 4, including an obligatory locative suffix, may fill the location slot. In noun phrase 1, possession, the locative is suffixed to the possessed tagmeme: ipokakʸe ocapia-kʌ eni 'he-came its-edge--to Urubamba' (he came to the edge of the Urubamba River). In noun phrase 2, modification, the locative is suffixed to the filler of the modification slot: pimponatakʸero kʸiraari-kʌ kamisa 'you-will-wrap-it red--in cloth' (you will wrap it up in red cloth). In noun phrase 4, apposition, the locative is suffixed to the filler of the head. (When noun phrase 4 occurs in the location slot, only pronoun 2 fills the head of the phrase.) An example is: pimpašitakʸeri naši-kʌ nobašikaro 'you-will-cover-him mine--in my-blanket'.

2.23. Clausal location slot fillers. Clausal location slot fillers consist of a dependent active or passive clause nucleus (see footnote 24) with optional margin. Examples are: noatae otimira ina 'I-go-again she-lives-where mother' (I'm going back where my mother lives); pogakʸero ikʸitatʌnganira 'you-put-it he-buried-is-where (you put it where he is buried).

2.24. Compound location slot fillers. Compound location slot fillers are of two types. The first consists of a

series of locatives and obligatory connectives, and indicates plurality of locations. An example is: itimi ingʸeniš1kʌ aikʸiro otišikʌ 'he-lives woods-in also hill-in'. The second consists of a string of simple, phrasal, or clausal locatives of equal rank indicating a single location. Each member of the string contributes to the description of the location; usually the first is general and the following are more specific. Examples are: oatai anta kamatikʸa 'she-went there downriver'; itimi kara ingʸenišikʌ kara 'he-lives there woods-in there'; oatanakʸe kamatikʸa kara ocitiakʌ 'she-went downriver there its-mouth-to' (she went down to the mouth of the river); ikʸentakotakʸerira anta katongo ogʸašiakʌ eni 'he-crucified-him there upriver its-headwaters-at Urubamba' (he crucified him there upriver at the headwaters of the Urubamba River); gʸogakʸero anta imagʸira ikʸitatʌnganira 'he-put-it there he-sleeps-where he-buried-is-where' (he put it there where he sleeps where he is buried).

2.3. The tagmeme of onomatopoeia. The onomatopoeia tagmeme adds colour to Machiguenga speech. Two types of fillers occur in the onomatopoeia slot. The first includes the words used in imitation of the sound of the action expressed in the predicate. The second includes verb stems, otherwise bound, used to describe the motion or effect of the action. Examples are: ipotakoigakʸeri hiriririri 'they-burned-him sound-of-fire-burning'; iponiakatʸo saatirign tiron tiron tiron tiron 'he-came sound-of-rushing-out sound-of-running-away sound-of-running-away sound-of-running-away sound-of-running-away'; itibʌgʸitakʸero tibʌgʸi tibʌgʸi tibʌgʸi 'he-stirred-seeds-it stirring-seeds stirring-seeds stirring-seeds'; ošipetiapacatanakʸera šipetiapaca 'it-became-fine-grained-mass fine-grained-mass'.

5

IQUITO SYNTAX

by
Robert and Elizabeth Eastman

0. Introduction. The purpose of this paper is to describe the structure of words, phrases, clauses, and sentences in Iquito.[1]

Iquito syntax is hierarchically structured in that functional units (words, phrases, clauses, sentences) fill

[1]Iquito is a member of the Zaparoan language family (McQuown, 1955), which includes Arabela, Semigae, and Záparo. The data were gathered during 1957-1961 in the village of San Antonio on the Pintoyacu River about 50 miles due west of the city of Iquitos, Peru, in the Amazon Basin.

The phonemes of Iquito are: p, t, k, s, r, m, n, nasal h, w, y, i, ʌ, u, a, vowel length, and high tone. Vowel length is written by

slots in general in the units of the next higher level, i.e., words fill slots in phrases; phrases fill slots in clauses; clauses fill slots in sentences; and sentences fill slots in paragraphs. Types of words, phrases, clauses, and sentences are determined on the basis of differences both in external distribution (function) and in internal composition (form).

1. Sentence types. A sentence in Iquito is a functional unit consisting of at least a main thought and a juncture signal. Optional forethoughts and afterthoughts in a sentence have a close-knit grammatical relation to the rest of the sentence but a loose phonological relation; that is to say, the forethoughts and afterthoughts are separated from main thought and from one another by phonological junctures. Forethought or afterthought is manifested by a combination of a clause-level tagmeme[2] and a juncture signal tagmeme functioning as a unit.

The general pattern of sentences is expressed in the following basic composite formula:

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a reduplicated vowel, high tone by acute accent. The syllable patterns are V, CV, Cia, and Cua.

The authors express appreciation to Catherine Peeke, Eugene Loos, and Kenneth L. Pike for their helpful comments and suggestions. This paper was written in connection with 1961 linguistic workshops of the Summer Institute of Linguistics at Yarinacocha, Peru, and at the University of Oklahoma.

[2] Tagmeme in this paper is used to mean a functional slot on a given level filled by such units as word, phrase, or clause. For an amplified definition of tagmeme, see Pike (1958) and Pickett (1960).

± Forethought: forethought construction

+ Main thought: clause/nonclause

± Vocative: nonpossessed person noun

+ Juncture Signal: final or query juncture

± Afterthought: afterthought construction

The formula of a forethought construction is

+ X:x + Juncture Signal: nonfinal juncture

The formula of an afterthought construction is

+ X:x + Juncture Signal: final juncture

X:x represents any one of the following tagmemes:[3] (1) time manifested by temporal noun, time word, time phrase, relative time clause, condition clause, or (in a forethought construction only) independent declarative clause; (2) location manifested by place noun, location word, location phrase, or relative location clause; (3) location-from manifested by location-from word, location-from phrase, or relative location clause; (4) manner manifested by nonpossessive substantive phnase, manner word, manner phrase, or relative manner clause; (5) accompaniment manifested by accompaniment phrase; (6) goal manifested by goal phrase; (7) purpose manifested by purpose phrase; (8) cause manifested by cause phrase; (9) reference manifested by reference phrase; (10) exchange manifested by exchange phrase; (11) apposition to subject, object, or to any tagmeme within brackets (cf. formula in 2.1.1) of a declarative active clause manifested by substantive word, substantive

[3] In any given sentence a tagmeme does not occur in a forethought or afterthought construction if it occurs in the clause of the main thought.

phrase, substantive clause, or relative nominative clause; (12) vocative manifested by nonpossessed person noun; (13) comparison-contrast manifested by comparison-contrast word or concessive clause.

Forethought may also be manifested by a series of appositions-to-subject or appositions-to-object, each item in the series being followed by nonfinal juncture. E.g., sikiááhana, pʌsʌ́kʌ́ná, anitáákina, kímasʌʌtʌ́ʌ́yaa seis sóles núú. 'Deer, tapir, wild-pig, I-sell six soles it.' Afterthought likewise may be manifested by a series of appositions, subjects, or objects, each item in the series--even the last--being followed by nonfinal juncture (or sometimes by final juncture).

Juncture signal, as a tagmeme of a sentence, is manifested by final or query juncture. As a tagmeme of a forethought construction, it is manifested by nonfinal juncture. As a tagmeme of an afterthought construction, it is manifested by final juncture except where afterthought is manifested by a series of items, in which case either final or nonfinal juncture may occur. The juncture morphemes are constituted phonologically as follows: (1) Final juncture is a weakening of the last vowel in the pause group, plus pause. Glottal stop is associated with final pause following CVV, mV, nV, wV, and yV. Final juncture is written with a period at the end of a sentence and with a semicolon within a sentence (that is, preceding afterthought). (2) Query juncture is high pitch on the last syllable of the pause group, plus pause. Glottal stop is always associated with query pause. Query juncture is written with a question mark. (3) Nonfinal juncture is high pitch on every syllable of the pause group after the last lexical high tone, plus pause. Nonfinal juncture is written with a comma.

The following sentence illustrates the composite formula:

átiihi háá, pʌsáká asakúrá asúraaha; sáámita natááha. 'Next now, tapir ate manioc; newly planted.' átiihi háá, manifests forethought. pʌsáká asakúrá asúraaha manifests main thought. Final juncture (;) manifests juncture signal. sáámita natááha. manifests afterthought.

All sentences are divided into independent and dependent sentence types. Independent sentences may initiate discourse and dependent sentences may not. Note the following examples: kísíwʌʌraa kiááha. 'I-am-visiting you.' kuaasáhá. 'All-right.' The first of these examples is an independent sentence, the second a dependent sentence functioning as a response to the first.

Independent and dependent sentences are subdivided into complete and incomplete. In complete sentences main thought is manifested by a clause (a functional unit containing a predicate); in incomplete sentences main thought is manifested by a nonclause (a functional unit on the same level as clause but containing no predicate. Cf. 2.8 - 2.12).

Some sentences which are complete and independent in form may have the same distribution as dependent sentences. Note the following examples. The following example consists of main thought, manifested by declarative clause with answering tagmeme first, and juncture signal. asúraaha nuukápii. 'Manioc she-is-cooking.' This sentence is in response to the interrogation sááká nuukápii. 'What is-she-cooking?' The following example consists of main thought, manifested by declarative clause containing an emphasis tagmeme, and juncture signal. avión táá túú. 'Airplane it-is indeed.' This sentence is in response to the query avión táá? 'Airplane is-it?'

Sentences are further subdivided as seen in Chart I on the basis of both different internal composition and different external distribution. Volition sentences are then subdivided on the basis of different internal composition only. Since the

basic formula of each sentence type is stated in Chart I, formulas are given below for only those sentence types containing optional expansions.

The following abbreviations are used in sentence formulas:

FT	= forethought	ftc	= forethought construction
MT	= main thought	atc	= afterthought construction
AT	= afterthought	cl	= clause
JS	= juncture signal	noncl	= nonclause
Voc	= vocative	decl	= declarative
Sequ	= sequence	int	= interrogative
$\pm$	= optional	imp	= imperative
+	= obligatory	f	= final
:	= filled by	qu	= query
/	= or	$sequ_X$	= sequence word or phrase
		pers	= person

1.1. Independent sentences. Independent sentences include declaration, query, interrogation, second person volition, first person volition, and call.

1.1.1. Independent declaration. Expanded formula:

$\pm$ FT:ftc + MT:decl cl $\pm$ Voc:nonpossessed person noun

+ JS:f $\pm$ AT:atc ... $\pm$ AT:atc

Four is the maximum number of AT's observed in an independent declaration.

The following example consists of FT, MT, JS, AT. áákari yááwʌ́ʌ́ni-hina, kĩhíwʌtaki núúkiika kááyá; kĩhamííku. 'Today, I-met a man; my-friend.'

The following example consists of MT, Voc, JS. kíí

				BASIC FORMULA		DIAGNOSTIC DISTRIBUTION	
						preceded by	followed by
Independent Sentences	Complete		Declaration	+ MT: decl cl	+ JS: f	discourse initiate may	Nothing required
			Query	+ MT: decl cl	+ JS: qu		Yes/No response
			Interrogation	+ MT: int cl	+ JS: f		Information response
		Volition	2nd person Volition	+ MT: imp cl/ 2d pers future decl cl	+ JS: f		Agreement response
			1st person Volition	+ MT: 1st pers decl cl (future/pres progr)	+ JS: f		
	Inc		Call	+ MT: noncl 5	+ JS: f		Indication of hearing
Dependent Sentences	Complete		Sequential	decl cl ± Sequ: sequ + MT: containing ± Adv ± Emph*	+ JS: f	discourse initiate not may	Declaration — Nothing required
			Information Response	+ MT: decl cl with answering tagmeme first	+ JS: f		Interrogation — Nothing required
			Yes/No Response	+ MT: decl cl containing ± Emphasis*	+ JS: f		Query — Nothing required
	Incomplete		Yes/No Response	+ MT: noncl 1	+ JS: f		Query — Nothing required
			Agreement Response	+ MT: noncl 2	+ JS: f		Volition — Nothing required
			Information Response	+ MT: noncl 3	+ JS: f		Interrogation — Nothing required
			Query	+ MT: noncl 3	+ JS: qu		Declaration — Yes/No response
			Interrogation	+ MT: noncl 4	+ JS: f		Declaration — Information response

CHART I: SENTENCE TYPES

*See restrictions (10) and (11) in 2.1.1. It is to be noted that in this sentence type at least one of the following tagmemes must occur: sequence, adversative, emphasis.

kiaasaakʌ́ʌ́nii sákumatááni don robérto. 'I you-will-tell-a-story in-turn, Don Roberto.'

1.1.2. Independent query. Expanded formula:

± FT:ftc + MT:decl cl + JS:qu ± AT:atc

The following example consists of MT, JS, AT. kiaanʌ́ʌ́yaa kíʌ́ha? máámaaha. 'Are-you-calling me, Mother?'

1.1.3. Independent interrogation. Expanded formula:

± FT:ftc + MT:int cl ± Voc:nonpossessed person noun + JS:f ± AT:atc

The following example consists of MT, Voc, JS. tʌ́ʌ́tí kiaaíkuaa mááyá. 'Where are-you-going, child?'

1.1.4. Independent second person volition. Expanded formula:

± FT:ftc ... ± FT:ftc + MT:imp cl / 2d pers future decl cl ± Voc:nonpossessed person noun + JS:f ± AT:atc ... ± AT:atc

Three is the maximum number of FT's and of AT's observed in a second person volition sentence.

The following example consists of MT manifested by an imperative clause, Voc, JS, and two AT's. takʌrʌháʌkiaana kínikiiha sawíhá; tʌ́ʌ́ kiaaíímaa; kítʌ́ʌ́ni-ííra kiaamʌ́kʌma. 'Roll-away-from my-sight, rock; from-where you-lie; that-I-might-fall in-your-vacated-place.'

The following example consists of three FT's, MT manifested by a declarative active clause in which subject is a second person personal pronoun, and JS. kiááhana,

irmííkuna, áámikáákana, kiáá iikuáárʌʌkiáána. 'You, Ermico, tomorrow, you will-go.'

1.1.5. Independent first person volition. Expanded formula:

+ MT:1st pers decl cl (in which tense is either present progressive or future) ± Voc:nonpossessed person noun + JS:f

The following examples consist of MT and JS. páákuaa háá. 'We-are-going now.' kíí kiaasíwʌʌrakúwʌʌ imʌʌráání. 'I you-will-visit again.'

1.1.6. Independent call. The following example consists of MT, manifested by nonclause 5 (cf. 2.12), and JS. taatááha. 'Sister!'

1.2. Dependent sentences. Dependent sentences include sequential, three kinds of responses, dependent query, and dependent interrogation.

1.2.1. Dependent sequential. Expanded formula:

± FT:ftc ... ± FT:ftc ± Sequ:$sequ_x$ + MT:decl cl (containing ± Adversative:kíhá 'but' or ± Emphasis:túú 'indeed') ± Voc:nonpossessed person noun + JS:f ± AT:atc ... ± AT:atc

Four is the maximum number of FT's observed in a sequential sentence; four the maximum number of AT's. A combination of one or two FT's and one or two AT's is frequent. Sequence is one of the tagmemes (in addition to those listed in

1) that may be part of a forethought construction in a sequential sentence. It is to be noted that in a dependent sequential sentence at least one of the following tagmemes must occur: sequence, adversative, emphasis.

The following example consists of FT, MT, JS, and four AT's. átiihi háá, kuánruuyáárʌʌkúrá naaháá núúkiika násí; kuamakáára; kíkiwáánati násí; úúmáána násí; mákisi. 'Next now, I-cleared also a field; before-my-absence; my-niece's field; big field; used-field.'

1.2.2. Dependent yes/no response (incomplete). The The following example consists of MT, manifested by nonclause 1 (cf. 2.8), and JS. káá. 'No.'

1.2.3. Dependent agreement response. The following example consists of MT, manifested by nonclause 2 (cf. 2.9), and JS. kuaasáhá. 'All right.'

1.2.4. Dependent information response (incomplete). The following example consists of MT, manifested by nonclause 3 (cf. 2.10), and JS. káámi. 'Upriver.'

1.2.5. Dependent query. The following example consists of MT, manifested by nonclause 3 (cf. 2.10), and JS. kíha? 'Me?'

1.2.6. Dependent interrogation. The following example consists of MT, manifested by nonclause 4 (cf. 2.11), and JS. kánʌʌka. 'Who?'

2. Clause and nonclause types. A clause is a functional unit containing a predicate. A nonclause (cf. 2.8 - 2.12) is a functional unit on the same level but containing no predicate.

Independent clauses may fill MT slot in sentences; de-

			ACTIVE	STATIVE
			Intransitive Transitive	
Independent	Declarative		2.1.1	2.1.2
	Interrogative		2.2.1	2.2.2
	Imperative		2.3	
Dependent	Relative	Time	2.4.1	
		Location	2.4.2	
		Manner	2.4.3	
		Nominative	2.4.4	2.4.4
	Concessive		2.5.1	2.5.2
	Conditional		2.6.1	2.6.2
	Substantive	Infinitive	2.7.1	
		Doer	2.7.2	
		Present-Rec'r	2.7.3	
		Past-Rec'r	2.7.4	

CHART II: CLAUSE TYPES

The clause types listed in the vertical column at the left are determined by different internal composition and different external distribution. Those at the top of the chart are determined by different internal composition only. Each clause type is described in the numbered paragraph indicated.

pendent clauses may not. Independent clauses are declarative, interrogative, and imperative. Dependent clauses are relative, concessive, conditional and substantive. Each of these seven clause types except imperative and substantive is divided into active and stative on the basis of different internal composition.

Active clauses are further subdivided on the basis of different internal composition into intransitive and transitive. In an intransitive clause the predicate is manifested by an intransitive verb, and object (either direct object or indirect object) never occurs. In a transitive clause the predicate is manifested by a transitive verb; and an obligatory object, manifested by substantive word, phrase, or clause, occurs. Direct object (but not the indirect object) may be manifested by a purpose phrase or an independent declarative or interrogative clause when following a verb of mental activity. A series of direct objects may occur last in a clause, each one followed by nonfinal juncture (even the last item is followed by nonfinal juncture).

The formulas to be given for active clauses are composites of intransitive and transitive. Arrows indicate the places in one of which an object must occur in a transitive clause. Where an arrow is directly above a tagmeme, an object replaces that tagmeme. P:v in the composite formulas signifies predicate: intransitive verb / transitive verb.

The following abbreviations are used in the clause formulas:

Slot Abbreviations

S = subject
DO = direct object
IO = indirect object
O = either direct or indirect object
T = time

L = location
LF = location-from
M = manner
Acc = accompaniment
Pur = purpose
Ref = reference
Exch = exchange
Ident = identification
I = interrogative
Neg = negative
CO = comparison-contrast
App- = apposition to
Perm = permissive
DepClIntrod = dependent clause introducer

Filler Abbreviations

$subst_x$ = substantive word, phrase, or clause
v = independent verb
v_x = independent verb or verb phrase
sv = independent stative verb
sv_x = independent stative verb or stative verb phrase
t_x = temporal noun; time word, phrase, or clause
l_x = place noun; location word, phrase or clause
lf_x = location-from word, phrase, or relative location clause
m_x = nonpossessive substantive phrase; manner word, phrase, or clause
-p = postposition phrase
i_x = interrogative word or phrase
neg = negative word
co = comparison-contrast word
adj_x = descriptive adjective or adjective phrase

2.1. Declarative clause. A declarative clause fills MT slot of an independent declaration, an independent query, an independent volition, a dependent sequential, a dependent complete yes/no response, and a dependent complete information response as shown in Chart I.

A declarative clause may fill direct object slot in a declarative active clause following a verb of mental activity (this is rare). E.g., nuunĺkii kiaasĺkii 'she-sees you-are-fading'.

A declarative clause may fill time or apposition to time slot in a forethought construction. E.g., kípʌʌkakúrá nuamakúúni, hawáári kíratawʌʌkúrá náámá 'I-finished it-constructing, at-that-point I-brought leaves'.

2.1.1. Declarative active clause. Formula (arrows indicate positions in one of which object [either direct object or indirect object] must occur in a transitive clause):

$$\pm \text{Neg}\downarrow\text{:neg} \quad + \text{S:subst}_X \quad + \text{P:v}_X\downarrow$$

$$\pm [\pm \text{T:t}_X \quad \pm \text{L:l}_X \quad \pm \text{LF:lf}_X \quad \pm \text{M:m}_X]_1\downarrow$$

$$\pm [\pm \text{Acc:acc-p} \quad \pm \text{Goal:goal-p} \quad \pm \text{Pur:pur-p}$$

$$\pm \text{Cause:cause-p} \quad \pm \text{Ref:ref-p} \quad \pm \text{Exch:exch-p}]_2\downarrow$$

The following examples illustrate each of the tagmemes in the formula:

nuumlitʌ́ʌ́yaa siyuuyáána núú 'he-is-giving fisherman it' (+ S + P ± IO + DO).

káá kanamáákatúúwa paahiáárikʌna naki-hína ámʌyaakíini núúkiika kááyá 'not our-ancestors were-able jungle-in to-go-about one man' (± Neg + S + P + DO: substantive clause).

anásá nuíkii nuu-ííku 'angry he-is it-concerning' (± M + S + P ± Ref).

kíkuaataa sináákʌ́ iyikúúra 'I-am-weeding cloth in-exchange-for' (+ S + P ± Exch).

tíírahi nuaníkí taaríkí 'there-from he-came at-dawn' (± LF + S + P ± T).

nuííkuakura taana-hátá nukuhímani 'he-went another-with his-friend' (+ S + P ± Acc ± App-Acc).

nuiwʌ́ʌ́rʌkura taarʌ́ʌ́ni ʌ́ʌ́kuhi 'he-died grieving because-of' (+ S + P ± Cause).

nuíínii kánuu inʌ́ʌ́si-ííra 'she-is-twisting fiber hammock-for' (+ S + P + DO ± Pur).

nuánii íítí ánuura 'she-is-coming here towards' (+ S + P ± Goal).

Restrictions, modifications, and amplifications of the declarative active clause formula are as follows:

(1) Subject and predicate occur in the order indicated in the formula and without an intervening tagmeme with two exceptions: (a) Subject may occur last in the clause to highlight the sentence as an important one, as when the chief character of a narrative is introduced. E.g., iyúhukiaakʌ́ná naamákʌ́kú núúkiika kumʌ́átina 'stayed behind-them an old-lady'. (b) Subject and predicate are interruptible in a future-tense clause. In fact, interruptibility of the subject-predicate nucleus is the marker of future tense; i.e. object or any optional tagmeme except negative, permissive, and apposition, when it occurs, normally occurs between subject and predicate. In a future-tense active clause, if subject is filled by a personal pronoun, the allomorph that occurs is a free form phonologically whereas in all other tenses it is a bound form. E.g. núú ʌ́ámikʌ́ʌka siwʌ́ánʌrʌʌ 'he tomorrow will-arrive' in contrast with nuusiwʌ́ánʌrʌʌ ʌ́ʌkari 'he-arrived today'.

(2) The negative tagmeme has high priority for occur-

rence first in the clause; when it occurs there, no other tagmeme may precede the subject-predicate nucleus. E.g. káá nuiwÁÁrii 'not he-is-dying'. In a complete information response, however, the tagmeme answering the interrogation must be first in the clause; and negative, if it occurs, immediately follows predicate. When negative follows predicate, the verb contains the suffix -hi (-hi and káá are considered to be a discontinuous morpheme, an allomorph of the káá that fills negative slot preceding subject). E.g. rimíírii áákuhi nuiwʌʌrîhikura káá 'medicine because-of he-negative-died not'.

(3) The tagmemes within brackets may occur in any order within the brackets. The tagmemes of brackets 2 may precede those of 1, but more frequently 1 precedes 2.

(4) Any one brackets tagmeme (rarely two tagmemes) may precede subject under the following conditions: (a) if the tagmeme is in answer to an interrogation; (b) if the tagmeme is being emphasized; (c) if the order is a stylistic variation on the order of the preceding clause, especially when the second clause is a repetition.

(5) The maximum number of optional tagmemes observed in a declarative active clause is four.

(6) The apposition tagmeme may occur in the clause to elucidate any one of the following tagmemes: subject, object, or any brackets tagmeme. Apposition to a brackets tagmeme occurs directly following it; apposition to subject or object occurs at least one tagmeme removed. E.g. máákatúúwa iikiáárikʌna taarnáyaa maasiáápʌ káámina antímú ánáka-hina 'ancestors lived long-ago many upriver Pintoyacu headwaters-in (+ S + P ± T ± App-S ± L ± App-L).

(7) The identification tagmeme occurs optionally in an active clause when the predicate is manifested by such intransitive verbs as káriiyaa 'looks' or kúkii 'becomes'.

Identification may precede or follow the subject-predicate nucleus or in a future-tense clause may interrupt the subject-predicate nucleus. It is manifested by adjective or adjective phrase. When identification occurs, one other optional tagmeme in the clause is the maximum observed. E.g. áákuasana nuukáriiyaa 'red he-looks'.

(8) The permissive tagmeme, manifested by permissive word páá 'let', optionally occurs preceding subject-predicate nucleus and only in a clause that fills MT of a declaration sentence. When it occurs, no other tagmeme precedes subject nor does the negative occur in the clause. E.g. páá nuumákii 'let him-sleep' (± Perm + S + P). The action may or may not be already going on. The predicate is manifested only by a present progressive verb.

(9) The hesitation tagmeme, manifested by a replacive pronoun (cf. 4.2.7), or, occasionally, by interrogative manner word háátaráátá 'how', or by nonfinal juncture, occurs optionally before any tagmeme in the formula except the negative. It is often accompanied by a slowing down of the speech rate. E.g. nuíkii yáána rááy-hina 'he-lives uh in-Raya'.

(10) The adversative tagmeme, manifested by adversative word kíhá 'but', occurs optionally as the second word in the clause, only following negative or predicate, and only in a clause that is filling MT slot of a sequential sentence. E.g. káá kíhá kínaakarááyaa núú 'not but I-want it'.

(11) The emphasis tagmeme, manifested by emphasis word túú 'indeed', occurs optionally following predicate or clause-finally or, in a future-tense active clause, between subject and predicate. Emphasis tagmeme occurs only in a clause or nonclause that is filling MT slot of a complete yes/no response or a sequential sentence. E.g. kíí túú míí núú 'I indeed will-do it'.

(12) The comparison-contrast tagmeme, manifested by

comparison-contrast word áhapáá 'nevertheless, although', naaháá 'also', or sákumatááni 'in-turn', occurs optionally preceding any brackets tagmeme or object, or clause-finally (in a clause filling MT slot of a query, comparison-contrast never occurs clause-finally). When comparison-contrast occurs clause-finally, it may be manifested by a concessive clause as well as comparison-contrast word. E.g. suwáátá kííkii áhapáá kíwÁÁrii 'Happy I-am although I-am-sick' (± M + S + P ± CO: concessive-clause). kúwáá ámáyaakii áhapáá tíí 'animals go-about nevertheless there' (+ S + P ± CO ± L).

(13) The potentiality tagmeme, manifested by potentiality word kúútá 'maybe', occurs optionally following any tagmeme in the formula except negative. It occurs optionally following the apposition tagmeme as well. nuííkuaki kúútá 'he-went maybe'.

(14) The contrary-to-fact tagmeme, manifested by contrary-to-fact word tÁÁ, occurs optionally in a declarative clause following subject. The verb in a clause containing tÁÁ is in the future tense. káá nuukukisaakuráákari, kíí tÁÁ iwÁÁrʌkura. 'Not it-having-been, I would have-died.' If the sentence does not contain a condition clause as in the foregoing example, tÁÁ means 'almost'.

(15) When an object occurs preceding subject-predicate for emphasis or in answer to an interrogation, no other tagmeme occurs there. E.g. kiááhana pÁÁ namíini namirʌʌkiáána 'you we first will-anoint'.

(16) When indirect and direct object both occur in a clause, they are often but not always contiguous. When contiguous, the order is not fixed. If, however, direct object is manifested by a noun, it precedes indirect object, presumably to avoid ambiguity with possessive noun phrase.

2.1.2. Declarative stative clause. Formula:

+ Ident: $subst_X/adj_X/pur\text{-}p$ + P: sv_X ± S: $subst_X$

áámuuyáána tʌ́ʌ́ ííná mʌyáárá 'killer is this dog'.

Restrictions, modifications, and amplifications of the formula are as follows:

(1) The negative tagmeme occurs optionally, and when it occurs the order of tagmemes is + Neg + P + Ident ± S. E.g. káá tʌ́ʌ́ suwáání ííná mʌyáárá 'not is good this dog'.

(2) The potentiality tagmeme, manifested by potentiality word kúútá 'maybe', occurs optionally following identification, predicate, or subject.

(3) The comparison-contrast tagmeme, manifested by comparison-contrast word, occurs optionally preceding or following subject. It may also be manifested by concessive clause, in which case it follows subject.

(4) The emphasis tagmeme, manifested by emphasis word túú 'indeed', occurs optionally following predicate or clause-finally and only in a clause that is filling MT slot of a complete yes/no response or sequential sentence. E.g. avión tʌ́ʌ́ túú 'airplane it-is indeed'.

2.2. Interrogative clause. An interrogative clause fills MT slot of an independent interrogation sentence. tʌ́ʌ́tí nuííkii 'where is-he?'

An interrogative clause may fill direct object slot in a declarative active clause following a verb of mental activity. káá kínakúsii tʌ́ʌ́tí nuííkii 'not I-know where he-is'.

2.2.1. Interrogative active clause. The formula and statements of restriction and amplification given for the declarative active clause are the same for interrogative active with the following exceptions:

(1) The first tagmeme in an interrogative clause is a double-function interrogative tagmeme manifested by interrogative word or phrase. In addition to its function of eliciting an information response, interrogative tagmeme functions as subject, object, or any one of the brackets tagmemes. In other words, when interrogative tagmeme functions as direct object, direct object does not occur elsewhere in the clause; when interrogative tagmeme functions as time, time does not occur elsewhere in the clause, and so on. The interrogative tagmeme is symbolized with I and the symbol of its second function, thus I-S, I-O, I-T, etc.

(2) Predicate is filled only by simple verb, not by verb phrase.

(3) Permissive and adversative tagmemes, which occur optionally in declarative active clause, do not occur in interrogative clause.

(4) The maximum number of optional tagmemes observed in an interrogative active clause is two.

(5) Subjunctivizer tagmeme, manifested by subjunctivizer word hÁÁta, occurs optionally following interrogative tagmeme. E.g. káá kínakúsii tÁÁtí hÁÁta kíkaakÁÁha ííkii 'not I-know where might my-father be'.

The following are examples of interrogative active clause. kánʌʌka ánii 'who is-coming' (+ I-S + P). tÁÁtihi kiáánii 'where-from are-you-coming' (+ I-LF + S + P). sáákáá áákuhi nuumííyaa nááhi 'what because-of is-he-doing thus' (+ I-C + S + P + DO).

2.2.2. Interrogative stative clause. Formula:

$$+ \text{I-Ident}: i_x \quad + \text{P}: \text{sv} \quad \pm \text{S}: \text{subst}_x$$

Potentiality tagmeme, manifested by potentiality word kúútá 'maybe', occurs optionally following I-Ident, predicate, or subject. Comparison-contrast tagmeme, manifested

by comparison-contrast word, occurs optionally preceding or following subject.

The following is an example of interrogative stative clause. kánʌʌka yáána táárikʌna ʃíná sááwiri 'whose possession was this knife' (+ I-Ident + P ± S).

2.3. Imperative clause. An imperative clause may fill MT slot of an independent second person volition. áriikuakiááha 'sing-right-now'.

The formula for the imperative active clause (there is no imperative stative) is the same as that for the declarative active with the following exceptions:

(1) Subject is absent when the subject of the clause is understood to be second person singular. (2) Subject is present when it is second person plural, but subject is restricted to this one filler. (3) Predicate is restricted to a present-tense verb containing optionally any aspect morpheme except progressive. (4) Negative,[4] permissive, contrary-to-fact, and adversative tagmemes do not occur in an imperative clause. (5) Predicate is filled only by verb, never by verb phrase.

The maximum number of optional tagmemes observed in an imperative clause is four.

The following is an example of an imperative active clause. kinʃíkuakiáána hawáárina iita-kúúra 'you-all-go at-that-time to-the-house' (+ S + P ± T ± L).

2.4. Relative clauses. The basic composite formula for the relative active clauses is

[4]Negative tagmeme does not occur in an imperative clause. A negative command such as 'don't eat' is expressed by the verb suffix -kuma 'far-distant or never-to-come future'. Thus, asákuma 'eat in the never-to-come future', or more freely, 'don't eat'.

+ DepClIntrod: dependent clause introducer word

+ S: $subst_X$ + P: $v_X\downarrow$

The dependent clause introducer is a double-function tagmeme which functions both to introduce the relative clause and as a tagmeme (subject, object, time, location, or manner) within the clause.

A relative clause may be expanded by any of the optional tagmemes found in declarative active except permissive, adversative, emphasis, and comparison-contrast. Optional tagmemes occur last in the relative clause; two is the maximum observed.

A special intonational quality characterizes certain vowels of relative clauses. The last vowel of dependent clause introducer words of more than two syllables is higher in pitch and longer than vowels elsewhere. This length has a breathy quality--almost a pause--different phonetically from the vowel length that is a suprasegmental phoneme in Iquito. The last vowel of the clause is likewise affected. When a relative clause is followed by final juncture, its last vowel is not lenis and glottal stop is never present as is the case elsewhere. This prominence of certain vowels in a relative clause is written by underlining the vowel.

Relative clauses are subdivided on the basis of different dependent clause introducer tagmemes and different external distribution of the clauses.

2.4.1. Relative time clause. A relative time clause may fill time or apposition to time slot. Its first tagmeme is DepClIntrod-T, manifested by hÁÁtikari 'when'. hÁÁtikari nuukúkikiaakáná úúmáána, nuapárakiaakáná mʌrahaarîká asáání-hina 'when he-became big, he-began children eating-in'.

2.4.2. Relative location clause. A relative location clause may fill location, location-from, apposition to location, apposition to location-from, or apposition to goal slot. Its first tagmeme is DepClIntrod-L, manifested by tÁÁ 'where'. kanasiwáánʌrʌʌkúrá ninÁÁni áákuhi tíí tÁÁ kanííkii 'we-arrived night before there where we-live'.

2.4.3. Relative manner clause. A relative manner clause may fill manner or apposition to manner slot. Its first tagmeme is DepClIntrod-M, manifested by hÁÁta 'as'. naamúúniiyáárikʌna taarnáyaahÁÁ hÁÁta taawáyá aamúúniiyaa áákari 'they-killed long-ago as white-people kill now'.

A nonclause form corresponding to the relative manner clause is + DepClIntrod-M + S:subst$_X$ in which the action is implicitly the same as that of the independent clause in which it is filling the manner slot. E.g. nááhi nuunikísaa hÁÁta kúúsí 'thus it-appears like a-pig'.

2.4.4. Relative nominative clause. A relative nominative clause may fill apposition to subject, apposition to object, apposition to any brackets tagmeme. The first tagmeme of a relative nominative active clause is DepClIntrod-S or DepClIntrod-O, manifested by ííná 'that'. káá kínikii kiaamutúúra; ííná kiaamiiyáákura. 'Not I-see your-motor; which you-used-to-have.'

The formula for the relative nominative stative clause (the nominative is the only relative clause with an active-stative dichotomy) is

+ DepClIntrod-S + P:sv + Ident:subst$_X$/adj$_X$/pur-p

kínaakarÁÁyaa sináákÁ masÁÁni ííná tÁÁ áákuasana 'I-want the-cloth to-buy which is red'.

2.5. Concessive clause. A concessive clause may fill

the comparison-contrast slot clause-finally in declarative and imperative clauses. It may fill the comparison-contrast slot in a forethought or afterthought construction.

The formula for a concessive clause is the same as that for a relative clause except that DepClIntrod is not a double-function tagmeme and the special intonational characteristic of relative clauses is not present in a concessive clause.

2.5.1. Concessive active clause. Formula:

+ DepClIntrod: co (áhapáá 'although') + S: $subst_X$ + P: v ↓

A concessive active clause may be expanded by any one of the optional tagmemes of a declarative active clause except permissive, adversative, emphasis, and comparison-contrast. Optional tagmemes occur last in the concessive clause; two is the maximum observed. kanítkuakiáákʌ; áhapáá nuusáápʌkiáákʌ kínítwahi. 'We-went; although he-cried after-me.'

2.5.2. Concessive stative clause. Formula:

+ DepClIntrod: co(áhapáá 'although')

+ Ident: $subst_X$/adj_X/pur-p + P: sv_X ± S: $subst_X$

naaiikiáárikʌna nítya-karikúmá áhapáá mʌrahaarítká táárikʌna 'they-lived underground although children were'.

2.6. Condition clause. A condition clause fills time slot in a forethought or afterthought construction.

2.6.1. Condition active clause. Formula:

+ Neg: neg + S: $subst_X$ + P: dependent active verb ↓

Two brackets tagmemes occur optionally following predicate

or object. pʌyÁÁni yááwÁÁni nuunaakarÁÁyaa iwÁÁni; káá kiaamiitʌʌsáákari nunáákí núú. 'Every day she-wants to-set; not you-giving her-eggs to-her.'

2.6.2. Condition stative clause. Formula:

+ Ident: $subst_X/adj_X$/pur-p + P: dependent stative verb

± S: $subst_X$

If negative occurs, it precedes predicate and identification follows predicate. úúmáána kukisáákari 'big being'; káá kukisáákari úúmáána 'not being big'.

2.7. Substantive clauses. A substantive clause may fill subject, object, identification, head of any postposition phrase, or apposition slot.

Substantive clauses are subdivided on the basis of different fillers of the predicate slot and different order of the tagmemes. In the following formulas of substantive clauses the tagmemes enclosed in parentheses are ones that follow the postposition when the clause fills the head of a postposition phrase. X:x represents any brackets tagmeme (cf. 2.1.1).

2.7.1. Infinitive clause. In an infinitive clause predicate is filled by an infinitive (cf. 4.1.3).

(1) Formula of an infinitive clause filling subject slot:

$$\pm \text{X:x} \quad \pm \text{S: subst}_X \quad +\text{P: infinitive} \quad \pm \overset{\downarrow}{\text{X}}\text{:x}$$

When subject is absent, it is understood that the action is done by any or everyone. If both indirect object and direct object occur, they follow predicate in that order.

In the following example the infinitive clause fills sub-

ject slot and is composed of time, subject, predicate, direct object. áhápaki atíya nuupaakaraasíini kíiha 'not-in-existence yet his-paying me' (he hasn't paid me yet).

(2) Formula of an infinitive clause filling direct object slot:

$$\pm \overset{\downarrow}{\text{X:x}} \quad \pm \text{X:x} \quad \pm \text{S:subst}_{\text{X}} \quad + \text{P:infinitive} \quad \pm \overset{\downarrow}{\text{X:x}}$$

When subject is absent (it is absent more often than present), it is understood that the action is done by the subject of the clause in which it is filling direct object slot. If both indirect object and direct object occur in the infinitive clause, indirect object replaces X:x immediately preceding P.

In the following example the infinitive clause fills direct object slot and is composed of direct object, location, predicate. naanaakarÁÁyaa tááná iskuíira naaníya-hina inááni 'they-want another school in-their-land to-put'.

(3) Formula of an infinitive clause filling head slot of a purpose postposition phrase:

$$\pm \text{S:subst}_{\text{X}} \quad + \text{P:infinitive} \quad \overset{\downarrow}{\pm} \text{X:x} \overset{\downarrow}{}$$

When subject is absent, it is understood that the action is done by any or everyone. If both direct object and indirect object occur, direct object intervenes between subject and predicate.

In the following example the infinitive clause fills head slot in a purpose postposition phrase and is composed of subject, predicate, direct object, and location. nuimáárikʌna náána nuáámúúni-íira íiná kááyá numarasi-hiná 'he-swallowed log his-killing-for-the-purpose-of this man in-his-stomach'.

(4) Formula of an infinitive clause filling head slot of any postposition phrase except purpose phrase:

$$\pm \text{Neg:neg} \quad \pm \overset{\downarrow}{\text{X:x}} \quad + \text{P:infinitive} \downarrow$$

It is understood that the action is done by the subject of the clause in which the postposition phrase fills a slot.

In the following example the infinitive clause fills head slot in an accompaniment postposition phrase and is composed of negative, direct object, predicate. káá sáákáá aarfíni-hata nufíkuaki 'not anything saying-with he-went'.

2.7.2. Doer clause. In a doer clause predicate is filled by a doer word (cf. 4.1.3). Formula:

$$\pm \text{Neg:neg} \quad \pm \text{X:x} \quad \pm \overset{\downarrow}{\text{X:x}} \quad + \text{P:doer} \quad (+ \text{X:x})$$

The following example of a doer clause is composed of negative, time, accompaniment, predicate, location. káá háátikari náátamahaniwaaka-hátá iikuáána anirúúku-hina 'not ever his-brothers-with a-goer to-the-fishing-hole' (one who never goes with his brothers to the fishing hole).

2.7.3. Present-receiver clause. In this clause type predicate is filled by a present-receiver word (cf. 4.1.3). Formula:

$$\pm \text{X:x} \quad \pm \text{S:subst}_{\text{X}} \quad + \text{P:present-receiver word}$$

The following example consists of subject and predicate. kínaakaráásana 'a thing I like'.

2.7.4. Past-receiver clause. In this clause type predicate is filled by a past-receiver word (cf. 4.1.3). Formula:

$$\pm \text{X:x} \quad \pm \text{S:subst}_{\text{X}} \quad + \text{P:past-receiver word} \quad (\pm \text{X:x})$$

The following example consists of time, subject, predicate. háá nání tásiikápʌ́ 'already mother awaited-ones' (ones that mother already awaited).

2.8. Nonclause 1. Nonclause 1 fills MT slot of incomplete yes/no response sentence. Formulas:

(1) + Affirmation: affirmation word/co

(2) + Neg: neg ± (Potentiality: potentiality word)/ (Emphasis: emphasis word)

kiaaʃíkuaa? káá túú. 'Are-you-going? No indeed.'

2.9. Nonclause 2. Nonclause 2 fills MT slot of agreement response sentence. Formula:

+ Agreement: agreement word kuaasʌ́há 'all right'.

2.10. Nonclause 3. Nonclause 3 fills MT slot of incomplete information response and dependent query sentences. Formula:

± CO: co + X: x ± (Potentiality: potentiality word)/ (Emphasis: emphasis word)

X: x in the above formula represents subject, object, identification or any brackets tagmeme.

In the following example the second sentence is an information response whose MT is filled by + T ± Potentiality. hʌ́ʌ́tikari kiáá iikuáárʌʌ. áámikááka kúútá. 'When you will-go? Tomorrow maybe.'

2.11. Nonclause 4. Nonclause 4 fills MT slot of a dependent interrogation. Formula:

+ Interrogative: i_X ± Potentiality: potentiality word

Interrogative tagmeme is a double-function tagmeme as in interrogative clause (cf. 2.2.1). In the following example the second sentence is an incomplete interrogation dependent upon the sentence preceding it. kááyá ánii. tÁátihi kúútá. 'A-man is-coming. Where-from perhaps?'

2.12. Nonclause 5. Nonclause 5 fills MT slot of a call. Formula:

+ Vocative: nonpossessed person noun

taatááha. 'Sister!'

3. Phrase types. A phrase in Iquito is a functional unit consisting of a head and either modifier(s) or function signal.

3.1. Substantive phrase. A substantive phrase may fill the following slots: subject, object, identification, head of any postposition phrase, or apposition.

3.1.1. Nonpossessive noun phrase. Formula:

± (± Quantity Modifier: quantitative pronoun)/

(± Demonstrative Modifier: demonstrative pronoun)/

(± Specifying Modifier: specifying pronoun)/

(± Descriptive Modifier: adj_X/doer word/receiver word)

+ Head: nonpossessed noun

The occurrence of one modifier is obligatory; descriptive modifier is optional if one or more other modifiers occur.

Descriptive modifier may precede or follow head. When descriptive modifier is present, only one other modifier may occur. ííná úúmáána kááyá 'this fat man'; núúkiika máákata mʌsáhí 'one ancestor female'; táárʌmiiyáána mááyá 'sorrowing child'; ííná tááná míísi 'this other cat'.

3.1.2. Possessive noun phrase. Formula:

± (± Quantity Modifier: quantitative pronoun)/

(± Demonstrative Modifier: demonstrative pronoun)/

(± Specifying Modifier: specifying pronoun)

+ Possessive Modifier: personal pronoun/noun/ possessive noun phrase

+ Head: possessed noun

± Descriptive Modifier: adj_X/doer word/ receiver word

Two optional tagmemes is the maximum observed in a possessive noun phrase. When possessive modifier slot is filled by a possessive noun phrase, the phrase is restricted to the two obligatory tagmemes. E.g. kímaaya yáána 'my-child's clothes'; kííta sáámina 'my-house new'; núúkiika tááná máákata niyíní 'one other ancestor's child'; kúúmí mʌyáárá áwaku 'two tiger's claws'.

3.2. Adjective phrase. Adjective phrase may fill descriptive modifier slot in a substantive phrase (cf. 3.1) and identification slot in a declarative clause. Formula:

+ Intensive Modifier: húúra 'very' + Head: descriptive adjective

húúra suwáání táá kiaasimíímá 'very pretty is your-book'.

3.3. Manner phrase. Manner phrase may fill manner slot. Formula:

+ Intensive Modifier: húúra 'very' + Head: manner word

nuunaakarááyaa húúra úúmááta núú 'he-likes very much it'.

3.4. Sequence phrase. Sequence phrase may fill sequence slot in a sequential sentence (cf. 1.2.1). Formulas:

(1) + Head: sequence word átiihi

+ Time Modifier: time word háá 'now'

(2) + Head: sequence word ííya

+ Demonstrative Modifier: demonstrative pronoun átiihi háá 'next now'

3.5. Verb phrase. Verb phrase may fill predicate slot in a declarative clause. Formula:

+ Head: independent verb + Report Modifier: report word

naamasikúraaha kináhá káámihi 'they-fled it-is-said from-up-there'.

3.6. Postposition phrases. Composite formula:

+ Head: $subst_X$ + Function Signal: postposition

Ten postposition phrase types are determined on the basis of occurrence in different slots in a clause. Each of the brackets tagmemes (cf. 2.1.1) may be filled by a postposition phrase.

(1) The time postposition phrase fills time slot; its function signal is filled by a time postposition such as -hina 'in', áákuhi 'before', níwahi 'after', -ííra 'until'. yááwáání-hina 'daytime-in'.

(2) The location postposition phrase fills location slot; its function signal may be filled by any one of numerous locational postpositions such as -hina 'in', -karííra 'under', -namásikaráátá 'around', -ííkuku 'over'. nasi-híná 'fields-in'.

(3) The location-from postposition phrase fills location-from slot; its function signal is filled by any locational postposition plus the suffix -hi 'from'. nasi-hináhí 'the-fields-in-from'. When the head of this phrase type is filled by an infinitive clause, function signal is filled by -ííkuahi 'from'. sirúúni-ííkuahi 'fishing-from'.

(4) The manner postposition phrase fills manner slot; its function signal is filled by -hina 'in, by'. aaká-híná nuííkuaa ikíítu-hina 'water-by he-is-going Iquitos-to'. aaká-híná manifests manner in the example cited because it answers the question háátaráátá nuííkuaa 'how is-he-going?'. In aaká-híná nuííkii 'water-in he-is', aaká-híná manifests location because it answers the question táátí nuííkii 'where is-he?'.

(5) The accompaniment postposition phrase fills accompaniment slot; its function signal is filled by -hata 'with'. sááwiri-hata 'knife-with'; cuáátamajani-hátá 'my-brother-with'; saawáání-hata 'crying-with'.

(6) The cause postposition phrase fills cause slot; its function signal is filled by áákuhi 'because of'. taaráání áákuhi 'grieving because-of'; níwá áákuhi 'situation because-of' (therefore).

(7) The reference postposition phrase fills reference slot; its function signal is filled by ííku 'concerning'. anásá nuííkii nuu-ííku 'angry he-is it-about'.

(8) The purpose postposition phrase may fill purpose, direct object, or identification slot; its function signal is filled by -ííra 'for-the-purpose-of'. iináási-ííra 'hammock-for-the-purpose-of'; kínaakarááyaa kiáá

kiaakuwasííni paahúúni-fíra kííha 'I-want you your-language to-teach me'. In the foregoing example the purpose phrase fills direct object slot, and the head of the purpose phrase is filled by an infinitive clause.

(9) The goal postposition phrase fills goal slot; its function signal is filled by ánuura 'towards'. násí ánuura 'fields towards'.

(10) The exchange postposition phrase fills exchange slot; its function signal is filled by iyikúúra 'in-exchange-for'. anúútí iyikúúra 'chicle in-exchange-for'.

3.7. Interrogative phrase. An interrogative phrase may fill interrogative slot.

3.7.1. Interrogative noun phrases. An interrogative noun phrase may fill the following slots: I-S, I-O, I-Ident, and I-T. A basic composite formula for the interrogative noun phrases is

+ Modifier: interrogative word + Head: noun

They are subdivided on the basis of different modifier slots.

(1) + Quantity Modifier: háátirimi 'how-many'
+ Head: noun
káátirimi kúriki kiaamííyaa 'how-many money do-you-have'.

(2) + Demonstrative Modifier: háána 'which'
+ Head: noun
háána íímina siwáániki 'which canoe arrived'.

(3) + Possessive Modifier: kánʌʌka 'who' / sááká 'what'
+ Head: noun
kánʌʌka yáána táá 'whose possession is-it'.

3.7.2. Interrogative postposition phrases. Interrogative postposition phrases fill the following slots: I-Acc, I-Cause, I-Ref, I-Pur, I-Exch, I-Goal. The basic composite formula for interrogative postposition phrases is

+ Head: interrogative pronoun + Function Signal: postposition

They are subdivided according to different external distribution; that is, one subtype fills each of the interrogative slots listed.

The head of the interrogative postposition goal phrase may be filled by interrogative location word táátí 'where' as well as by an interrogative pronoun.

The following are examples of interrogative postposition phrases: kánʌʌka-hata 'who-with'; sááká áákuhi 'what because-of'; kánʌʌka-ffra 'who-for'; sááká iyikúúra 'what in-exchange-for'; sááká ánuura 'what towards'.

4. Word types. A word is the minimal manifestation of all phrase and clause tagmemes except brackets 2 tagmemes of active clauses (cf. 2.1--their minimal manifestation is a postposition phrase). The grammatically-defined word is coterminous with the phonologically-defined word[5] with the exception of some personal pronoun forms and some postpositions which are phonologically bound but grammatically function as words (i.e., they fill slots that free forms fill).

[5]All forms which can occur in isolation are defined phonologically as words because they are free or potentially free forms. The potentially free forms include most of the words in the language, and all of these contain at least one high tone and have a minimal size, namely CV́V́ or V́CV́. Forms which fill clause or phrase slots and have at least one high tone and qualify as to size even though they have no potentiality for occurrence in isolation, are considered to be phonological words also. Some personal pronoun forms and some postpositions do not qualify as phonologically-defined words (e.g., -hata 'with; nuu- 'he'; kí- 'I'; etc.) and are therefore written as bound forms.

Word types could be grouped on the basis of similar external distribution, in that independent words (see 4.1 - 4.20) fill slots in clauses; dependent words fill slots in phrases only. Independent words may be divided into major (see 4.1 - 4.8) and minor (see 4.9 - 4.20) word types. Major word types are words that fill slots in both clauses and phrases; minor types occur in clauses only. Further groupings on the basis of similar criteria could be made, but none of these groupings are useful for stating the fillers of slots. Therefore the twenty-two word types that have been stated as fillers of slots in clauses and phrases are herewith listed without such groupings.

Word types and subtypes are determined according to internal composition and external distribution.[6]

4.1. Verb. A verb fills predicate slot.

4.1.1. Independent verb. An independent verb fills predicate slot in every clause type except condition and substantive clauses.

The formula for an independent verb is as follows:

± Potential + Stem ± Negative ± Aspect + Tense

± Reportative

See Chart III for fillers of verb slots. In the clause sáníuura tamakíĺkiaana 'the-lady must-be-sleeping-I-said', the verb is composed of ± Potential:ta + Stem:maki 'sleep' ± Aspect:i 'progressive' + Tense:ki 'present' ± Reportative:áána 'as previously said'.

[6] They are not determined according to semantic restrictions. No attempt is made to set up semantic co-occurrence classes. But it must be kept in mind that not every noun may fill subject slot with any verb filling predicate; not every time word may fill time slot with any tense verb filling predicate; and so on.

± Potential	+ Stem	± Neg	± Aspect	+ Tense	± Reportative
ta (observed only in a present progressive verb) 'must be . . . ing'	Transitive stems (simple/complex) Intransitive stems (simple/complex)	hi	áárʌʌ ~ yáárʌʌ* 'inceptive' rʌʌ 'cessative' aa ~ yaa ~ vowel-length** 'progressive' wʌʌ 'up, upriver' kuaa 'down, downriver' kuwʌʌ 'returning' sawʌʌ 'arriving' maa 'at-dawn' maa 'indefinite in time/direction'	(ki ~ zero*) ∞ ra+ 'present, done today' kura 'past' rikʌ ∞ kiaakʌ++ 'ancient past' ri 'incomplete, continuous' (only following maa) kuma 'far distant future'	aana ∞ na+++ 'reportedly' (obligatory if speaker did not see the action) aaha 'pin-pointer of tense' (observed only following present or past)

CHART III-A: INDEPENDENT ACTIVE VERB (all fillers listed except for fillers of stem)

+ Stem	± Aspect ***	+ Tense	± Reportative
t_A ~ t^{++++} 'be'	aa ~ yaa ~ vowel-length** 'progressive'	zero 'present' kura 'past' rik_A ∞ $kiaak_A^{++}$ 'ancient past'	same as above
kuki 'become'	r_{AA} 'cessative'	ki ~ zero* 'present'	

CHART III-B: INDEPENDENT STATIVE VERB (all fillers listed)

*First allomorph occurs following short vowel; the second following long vowel.

**yaa occurs following a long vowel; aa following a short vowel or a consonant, when preceding any tense morpheme except present tense; vowel length occurs following a short vowel, when preceding present tense morpheme.

***Progressive aspect is obligatory to a present tense stative verb.

+ra occurs only in interrogative clause preceding ááha; ki ~ zero elsewhere.

++rik_A occurs only following progressive aspect; $kiaak_A$ elsewhere.

+++áána occurs following present, past, far-distant future; na elsewhere.

++++t occurs preceding vowel; t_A preceding consonant.

Independent verbs are subdivided into intransitive, transitive, and stative.

One difference between intransitive, transitive, and stative is that different morphemes (or hypermorphemes) fill the stem slot, although the intransitive and transitive sets do overlap. Some stems are intransitive only, some are transitive only, and some are both. Of the verbs that belong to both intransitive and transitive subtypes, some show a shift of meaning. Note the following examples: asákí núú 'eat it' and ásaki 'eat'; kuwásikuma 'don't talk' and kuwásikuma núú 'don't scold him'.

The stative verb has only two possible fillers of its stem slot (tʌ 'be'; kuki 'become'); the stem filler is never more than one morpheme; and the inflecting affixes, though structured according to the above formula for independent verb, are restricted (see Chart III).

Another difference between an intransitive and transitive verb is that the stem of an intransitive verb never contains a causativizer and rarely a transitivizer. When an intransitive verb contains a transitivizer, the subject of the clause receives the action. Thus, kísʌmʌ́ʌ́siitaa 'I-am-cooling (myself)' in which -itaa- 'transitivizer' is suffixed to the root sʌmʌʌsi 'to-be-cold' but which nevertheless functions as an intransitive verb; and kísʌmʌ́ʌ́siitaa núú 'I-am-cooling it' in which sʌmʌ́ʌ́siitaa functions as a transitive verb.

Transitive verbs are further subdivided into those that may occur with indirect object and those that may not. Verbs that may occur with indirect object are ones in which the stem contains a causativizer (e.g. nuumiitʌ́ʌ́yaa núú núú 'he-gave it him' in which -tʌ́ʌ́ is causative and the stem mii means 'to have') and a few others such as áátii 'tell', masʌ́ʌ́yaa 'ask, ask for'.

4.1.2. Dependent verb. A dependent verb fills predicate slot in a condition clause (see 2.6).

The formula for a dependent verb is as follows:

+ Stem + Dependency Signal: saa ± Tense: rʌʌ 'cessative'/ kura 'past'

+ Function Signal: kari

Stem is manifested by the same fillers as stem in an independent verb. káá áásí anisáákari 'not rain coming'.

Dependent verbs are subdivided on the same bases as independent verbs into intransitive, transitive, and stative; transitive is further subdivided into those that may occur with indirect object and those that may not.

4.1.3. Verbal. A verbal fills the predicate slot in a substantive clause (see 2.7). Formula:

+ Stem + Function Signal: substantive clause marking suffix

Stem is manifested by the same fillers as stem in an independent verb.

Verbals are subdivided into infinitive, doer, present-receiver, and past-receiver words. Each of these is further subdivided on the same bases as independent verbs into intransitive and transitive; the transitive is further subdivided into those that may occur with indirect object and those that may not.

(1) An infinitive fills predicate slot in a substantive infinitive clause. The function signal of an infinitive is filled by -V́ni 'to' or '-ing' makʌ́ʌ́ni 'to sleep'.

(2) A doer word fills predicate slot in a substantive doer clause; it may fill descriptive modifier slot in a substantive phrase (see 3.1). The function signal of a doer word is filled by -yáána ~ -áána 'one who ... '; or

-yáápʌ ~ -ápʌ 'ones who ...' (the first allomorph of each pair occurs following long vowel, the second allomorph after short vowel). A doer word signifies the one(s) doing the action expressed by the stem. makiáána 'a sleeper'.

(3) A present-receiver word fills predicate slot in a substantive present-receiver clause; it may fill descriptive modifier slot in a substantive phrase (see 3.1). The function signal of a present-receiver word is filled by -sana 'singular receiver' or -sapʌ 'plural animate receiver'. A present-receiver word signifies that which receives the action expressed by the stem. nuasásana 'that-which-he-eats' or more freely 'his-food'. When the action is intransitive, as it is rarely, the receiver word signifies the doer or cause of the action expressed by the stem. iwÁÁrʌsana 'that-which-causes-dying' or more freely 'poison'.

(4) A past-receiver word fills predicate slot in a substantive past-receiver clause; it may fill descriptive modifier slot in a substantive phrase (see 3.1). The function signal of a past-receiver word may be filled by -Vha 'singular receiver', -Vkapʌ 'plural animate receiver', or -Vkami 'abstract receiver'. A past-receiver word signifies that which received the action expressed by the stem; e.g. marúútaaha 'the-one-tied-up'. When the action is intransitive, as it is rarely, the past-receiver word signifies the doer of the past action expressed by the stem, e.g. samÁÁraakápÁ 'the-ones-who-got-tired-out'.

4.2. Substantive word. A substantive word may fill the following slots: subject, object, identification, head slot of any postposition phrase, apposition.

4.2.1. Noun. Nouns are subdivided into possessed and nonpossessed. Some nouns belong to both subtypes; as with verbs, some shift meaning with shift of class, but these

are considered to be the same noun rather than homophonous forms. E.g., nííkí 'bone' and nunníki 'its bone'; ááká 'water, liquid, river' and nááka 'her-breast-milk'.

Nonpossessed noun fills head slot in a nonpossessive noun phrase. It may also fill possessive modifier slot in a possessive noun phrase as well as the slots listed in 4.2. Nonpossessed nouns include items in nature that inherently are not possessed (kásiiri 'moon') and optionally possessed items when the possessive modifier is absent (sináákʌ́ 'cloth').

Possessed noun fills head slot in a possessive noun phrase. Possessed nouns are body part names, kinship terms, and optionally possessed items when the possessive modifier is present (kísinaakʌ 'my cloth, my clothes').

Both possessed and nonpossessed nouns are further subdivided on the basis of different internal composition into nouns that are morphologically simple and those that are morphologically complex. The morphologically complex nouns are (1) pluralizations, (2) diminutives, and (3) nominalizations. E.g. wakáká 'cows'; mʌrahaarʌ́ká 'little-children'; makʌ́kú 'sleeping-place'.

An additional cross-classification of nouns is on the basis of the slots they fill in sentences. Thus, there is a class of nonpossessed person nouns which fills vocative slot, a class of temporal nouns which may fill time slot, and a class of place nouns which may fill location slot.

4.2.2. Personal pronoun. A personal pronoun may fill any of the slots listed in 4.2; it may also fill possessive modifier slot in a possessive noun phrase. Personal pronoun forms are charted in Chart IV.

4.2.3. Quantitative pronoun. A quantitative pronoun may fill any of the slots listed in 4.2; it also fills the

		Possessive-Modifier	Subject in all active clauses except future; Head in postpos. phrases; O when O precedes P	S in stative cl; O except when O precedes P	Ident; App-S; S in noncl 3	S in future active cl
Singular	1	k- (before i, ʌ, u) ku- (before a) kí- (before consonant)	k- (before i, ʌ, u) ku- (before a) kí- (before consonant)	kíîha	kíîha	kúú (before a) kíî (elsewhere)
	2	kiaa-	kiaa-	kiááha	kiááha	kiáá
	3	n- (before vowel) nu- (before consonant)	nu- (before vowel) nuu- (before consonant)	núú	anúúha	núú
Plural	1 (incl)	p- (before vowel) pá- (before consonant)	p- (before vowel) pá- (before consonant)	pááha	pááha	páá
	1 (excl)	kan- (before vowel) kana- (before consonant)	kan- (before vowel) kana- (before consonant)	kanááha	kanááha	kanáá
	2	kin- (before vowel) kina- (before consonant)	kin- (before vowel) kina- (before consonant)	kinááha	kinááha	kináá
	3	naa-	naa-	náá	doesn't occur	náá

CHART IV: PERSONAL PRONOUNS

The personal pronoun forms in each column may fill the slots indicated at the top of the chart.

quantity modifier slot in a substantive phrase. Quantitative pronouns are maasiáána 'many', maasiáápʌ 'many (plural animate)', pʌyʌ́ʌ́ni 'all', sʌʌsáárika 'few', and numbers one through five, ten, and twenty.

4.2.4. Demonstrative pronoun. The demonstrative pronoun fíná 'this' or fípʌ́ 'these (animate)' may fill any of the slots listed in 4.2; it also fills the demonstrative modifier slot in a substantive phrase or in a sequence phrase (see 3.5).

4.2.5. Specifying pronoun. The specifying pronoun táánáʌ 'other' or táápʌ́ 'others (animate)' may fill any of the slots listed in 4.2; it also fills the specifying modifier slot in a substantive phrase.

4.2.6. Indefinite pronoun. An indefinite pronoun may fill any of the slots listed in 4.2, but only when negative is present in the clause. Indefinite pronouns are kánʌʌka 'who, anyone' and sááka or saakáyá 'what, anything' (-ya is plural). káa sáákáʌ masiáákura 'not anything fled', káá nuunakúsii saakáyá 'not he-knows anything'.

4.2.7. Replacive pronoun. The replacive pronoun yáána 'whachacallit' may fill any of the slots listed in 4.2 and also the head of a nonpossessive noun phrase when the speaker has a lapse of memory. Usually it occurs in the last tagmeme of a clause followed by an afterthought construction in which an apposition tagmeme clarifies the difficult-to-remember name. kanasiwáánʌrʌʌkúrá yáána-hina; rááya-hina. 'We-arrived in-whachacallit; Raaya-in.'

The replacive pronoun may fill the head of a possessive

noun phrase to mean 'a thing, a possession'. kíyáána tÁÁ 'my-possession it-is'.

4.3. Adjective.

4.3.1. Descriptive adjective. A descriptive adjective may fill identification slot in a declarative clause; it fills descriptive modifier slot in a substantive phrase and head slot in adjective phrase. Many adjectives end in -na. A few examples of descriptive adjective are suwááni 'good', sÁÁsana 'bad'; úúmáána 'big'; naamísaana 'whole'; kumáku 'old'; tikíraki 'straight'; sasáná 'lightweight, cowardly'; sááná 'long'.

4.3.2. Intensifier adjective. The intensifier adjective húúra 'very, true' may fill identification slot in a declarative clause; it also fills intensive modifier slot in an adjective or manner phrase. húúra tÁÁ 'true it-is'; húúra suwááni 'very pretty'.

4.3.3. Negative-existence word. The negative-existence word áhápaki 'not-in-existence' may fill identification slot in a declarative stative clause. áhápaki táárikana asúraaha 'not-in-existence was manioc'.

4.4. Interrogative word. An interrogative word may fill interrogative slot. Interrogative words are subdivided on the basis of filling different interrogative slots as follows: (1) interrogative time word hÁÁtikari 'when' fills interrogative-time slot; (2) interrogative manner word hÁÁtaráátá 'how' fills interrogative-manner slot and occasionally hesitation slot; (3) interrogative location word tÁÁtí 'where' fills interrogative-location slot; (4) interrogative pronouns may fill interrogative-subject, -object,

and -identification slots and head slot in interrogative postposition phrase.

The interrogative pronouns are further subdivided into interrogative personal pronouns, that fill possessive modifier slot in an interrogative noun phrase as well as I-S, I-O, and I-Ident (namely, kánʌʌka 'who' and sááká 'what'); interrogative quantitative pronoun (hʌ́ʌ́tirimi 'how many'), that fills quantity modifier in an interrogative noun phrase as well as I-S, I-O, and I-Ident; interrogative demonstrative pronoun (háána 'which'), that fills demonstrative modifier slot in an interrogative noun phrase as well as I-S, I-O, and I-Ident.[7]

4.5. Time word. A time word may fill time slot only. Some examples of time words are nʃínaki 'nighttime', taaríkí 'at dawn', áákari 'now, today', háá 'already, now', namʃíni 'first', áámikááka 'tomorrow, yesterday', taakárí 'sometimes', sáámikari 'for the first time', hawáári 'at that point (refers to an antecedent)', hʌ́ʌ́tikari 'very long time' or when negative tagmeme occurs in same clause 'ever'.

4.6. Location word. A location word may fill location slot or head of a goal postposition phrase (see 3.7). Some examples of location words are tʃíra 'that way', káámi 'up, upriver', náámi 'down, downriver', kámí 'up there (refers to an antecedent)', námí 'down there (refers to an antecedent)', tʌ́ʌ́tí 'anywhere' in a clause with negative tagmeme.

4.7. Location-from word. A location-from word may fill location-from slot only. It is composed of any location

[7] It will be noted that some of the interrogative and indefinite pronouns are the same in form. Since there are some forms which are clearly distinct, however, the two types are set up as separate, with certain forms occurring in both.

word plus the suffix -hi 'from'. káámihi 'from upriver', tíírahi 'from over there'.

4.8. Manner word. A manner word may fill manner slot and head slot of manner phrase. Some examples of manner words are úúmááta 'much', iyirákata 'fast', suwáátá 'well', taamáá 'in vain'.

4.9. Negative word káá 'no' fills negative slot only.

4.10. Contrary-to-fact word táá fills contrary-to-fact slot only (cf. comment 14 in 2.1.1).

4.11. Potentiality word kúútá 'maybe' fills potentiality slot only.

4.12. Permissive word páá 'let' fills permissive slot only.

4.13. Emphasis word túú 'indeed' fills emphasis slot only.

4.14. Adversative word kíhá 'but' fills adversative slot only.

4.15. Comparison-contrast word fills comparison-contrast slot. The comparison-contrast words are sákumatáání 'in turn'; naaháá ∞ naahááha 'also'; áhapáá ∞ áhapááha 'although, nevertheless'. The shorter allomorph manifests comparison-contrast in other than clause-final position; the longer allomorph, in clause-final position. áhapáá ∞ áhapááha fills the dependent clause introducer slot in a concessive clause (see 2.5).

4.16. Agreement word kuaasáhá 'all right' fills agreement slot only (see 2.9).

4.17. Affirmation word fills affirmation slot only. One of the fillers of this slot is, strictly speaking, not a linguistic unit but a grunt of various kinds meaning 'yes'. One of these can be written ÁÁhAA. Another filler of this slot, tÁÁni 'no comment', has the same distribution as 'yes' though in meaning it is not affirmative.

4.18. Sequence word fills sequence slot in a sequential sentence. The sequence words are átiihi 'from-there, next', ííya 'being-so', sákumatááni 'in turn'. átiihi and ííya fill the head slot in a sequence phrase as well (see 3.5).

4.19. Dependent clause introducer word fills dependent clause introducer slot in a relative clause (see 2.4). There are four dependent clause introducer words corresponding to the four relative clause types: hÁÁtikari 'when'; tÁÁ 'where'; hÁÁta 'as'; ííná 'that'.

4.20. Subjunctivizer word hÁÁta fills subjunctivizer slot in an interrogative clause (see 2.2.1).

4.21. Reportative word kináhá 'so it is said' fills reportative modifier slot in a verb phrase (see 3.6). This word does not mean to cast doubt as to the truth of the statement, but merely implies that it is a repeated statement. The reportative suffix -na has the same meaning and may be suffixed to any word in the language; every word in a clause may be suffixed by -na. If the statement is not an eye-witness account, the verb in the clause must be suffixed by -na or followed by kináhá. The occurrence of kináhá

rather than -na is probably emphasis on the fact that the statement was previously said and is being repeated.

4.22. Postposition. A postposition fills function signal slot in a postposition phrase. There are ten postposition types corresponding to the ten postposition phrases (cf. 3.7).

6

ARABELA PHONEMES AND HIGH-LEVEL PHONOLOGY

by
Furne Rich

0. Introduction. The purpose of this paper is to dis-

cuss the phonology of Arabela.[1] The discussion will include not only the phonemes but the phonological units discovered at higher levels in the phonological hierarchy including syllable, stress group, phonological word, and phonological phrase.

1. Consonantal contrasts. Consonant phonemes include: stops p, t, k, /'pinyu/ 'to hit', /'tinyu/ 'to fall', /'kinyu/ 'to stay'; fricatives s, š, /'siyokwa/ 'tucuayo bird', /'šiyokwa/ 'grease'; nasals m, n, and h (note the nasal quality of [h̨]), /'miyano/ 'plaything', /'niyano/ 'he is coming', /'hiyani/ 'old woman'; vibrant r, /'riyano/ 'he is breathing'; and semiconsonants w and y, /'tawe/ 'foreigner', /'hayunu/ 'pulling'.

Although /n/ and /r/ are clearly separate as shown in these illustrations: /'ninyu/ 'to come', /'rinyu/ 'to breathe', /'nanu/ 'wild', /'ranu/ 'to give birth', there is some fluctuation of the two phonemes by most speakers in a limited number of morphemes: /'nyuryuku/ or /'ryuryuku/ 'egg'.

2. Consonantal variants. The phoneme /k/ has allophones [k], [x], [g], and [ɡ]. The allophone [k] occurs initial in the phonological phrase (see 8). The other allophones occur progressively and freely more lenis from [k] to [ɡ] as listed, within the phonological phrase, due to

[1]Arabela is a language spoken by some 50 civilized Indians (and a possible unknown number yet untouched) in the northern tip of Peru near the Ecuador border. They are located on the Arabela River, a tributary of the Curaray. Arabela is a member of the Zaparo language family.

I am indebted to my husband, Rolland Rich, for the grammatical materials in this paper; to Viola Waterhouse and especially to Eunice Pike for help in the analysis of the high-level phonology and presentation of the data.

a decrescendo of intensity over this unit. For example, note the variants of the /k/ of [ˈkɪʔ] /ˈke/ 'father', in [ˈnaˈxɪʔ] /ˈnaˈke/ 'his father', [ˈkaˈnaaˈgɪʔ] /ˈkaˈnaaˈke/ 'our (excl.) father'; cf. also [ˈsaaˈgoʔ] /ˈsaaˈko/ 'corn', where this vowel sequence within the word often and optionally leads to [g]. Stress can hinder the progress of this decay of intensity, causing an interruption in the above order; that is, when a stressed syllable occurs within the phonological phrase, a more fortis allophone may occur after a more lenis one: [ˈkʌˈšægʌˈgwar:ˈtuʔ] /ˈkaˈšakaˈkwarˈtu/ 'pants'. The gradation of these allophones varies according to the amount of decrescendo over a phonological phrase (note 8) and also with different speakers.

The phoneme /r/ has both flap [r] and trill [r:] allophones. There is fluctuation between the two in stressed syllables, some speakers using one more than the other. In one of our tapes, an entire narrative totally lacks the trilled allophone. Another speaker had fluctuation between flap and trill especially at the beginning of a phonological phrase. As noted above, in unstressed syllables of type 8 (see 5) the trill occurs (as a lengthened allophone); in other unstressed syllables the flap occurs: [ˈsaˈpar:ˈtuʔ] /ˈsaˈparˈtu/ 'shoulder blade', [ˈtukuruʔ] /ˈtukuru/ 'palm leaf'.

The phonemes /t/, /n/, /š/, /r/, and /k/ have lengthened allophones which occur preceding homorganic consonant[2] and constitute a phonemic syllable of type 8. This syllable is always unstressed: [ˈmwɪ̯ɪ̯ræ̯t:ˈtyɪnɪ̯ʔ] /ˈmwerat'tyenu/ 'cause to be seen', [ˈma̯n:tɪʔ] /ˈmante/ 'moth', [ˈh̯yɪ̯ɪ̯uš:ˈšæno̯ʔ] /ˈhyuušˈšano/ 'where I fished', [ˈsaˈpar:ˈtuʔ] /ˈsaˈparˈtu/ 'shoulder blade', [ˈkarʌk:ˈkoh̯wa̯ʔ] /ˈkarakˈkohwa/ 'type of owl'.

[2] The phoneme /š/ also has a lengthened allophone preceding the cluster /ty/: [ˈmokoš:ˈtyæga?] /ˈmokošˈtyaka/ 'palm fruit'.

Some of the morphemes involved have another--slower and fuller--allomorph in which a vowel occurs between the two consonants, such as /tI/ ~ /t/ 'causative', in /'mwerati'tyenu/ ~ /'mwerat'tyenu/ 'cause to be seen', or /'manate/ ~ /'mante/ 'moth',/'karaka'kohwa/ ~ /'karak-'kohwa/ 'type of owl'. For other morphemes, however, only the allomorph with the lengthened consonant has been noted even in slow speech.

The phoneme /n/ has a further allophone which is lengthened and has a voiced stop release. It occurs only preceding /r/: ['naan:^{d}ri?] /'naanri/ 'type of demon'.

An alternate interpretation of these long consonants which are considered to be phonemic syllables would be to treat them as portmanteau phones, simultaneously representing the consonant plus some one of the vowels which had been lost, leaving compensatory lengthening. This would be an attractive solution had the consonants resulting from loss of different vowels consistently developed contrastive vowel colorings. Since, however, vocalic contrasts are often completely neutralized, the present solution was considered preferable.

When two stressed syllables are contiguous, the consonant in the second stressed syllable may have a half-long allophone; this length is not as long as that of the lengthened allophones described above: ['po'k·onagi?] /'po'konaki/ 'yellow', ['pa'p·an$_{\Lambda}$'ha?] /'pa'pana'ha/ 'hollow'. When only the first of two syllables is stressed, any consonant following it--except semiconsonants or h--may be slightly lengthened but not as much as in the circumstance just described: ['rup·o'honu?] /'rupo'honu/ 'to stick together', ['tin·ya-'kari?] /'tinya'kari/ 'afternoon'. Both of these lengthenings are more likely to be evident near the beginning of the phonological phrase.

Semiconsonants /w/ and /y/ have nasalized allophones

when following nasals, whether contiguously or separated by intervening vowel: [ˈmyæ̨nu̯] /ˈmyanu/ 'swallow', [ˈhu̯wa̯ʔ] /ˈhuwa/ 'a yellow bird'. They have further allophones[3] when they occur final in a syllable which comprises a phonological word at the end of a phonological phrase. In this position the phonological phrase final stress carries over to the semiconsonant giving it a prominence which makes it appear vocalic: [ˈna̯ˈi̯ʔ] /ˈnay/ 'stinging ant', [ˈma̯ˈu̯ʔ] /ˈmaw/ 'mushroom'.

3. Vocalic contrasts. There are five vowel phonemes: i, e, a, o, and u: /ˈniiˈkyaa/ 'is pouring it out', /ˈneeˈkyaa/ 'is lying on its back', /ˈnaˈnee/ 'its half', /ˈnaˈnaa/ 'he is bathing', /ˈmaanu/ 'woodpecker', /ˈnoonu/ 'to be pained', /ˈsowaka/ 'wall', /ˈsuwaka/ 'a type of fish'.

4. Vocalic variants. A vowel, a sequence of vowels, or a sequence of vowels separated by y or w have nasalized allophones when following nasals: [ˈha̯nu̯ʔ] /ˈhanu/ 'to fly', [ˈni̯nyu̯ʔ] /ˈninyu/ 'to come', [ˈmo̯nu̯ʔ] /ˈmonu/ 'to kill', [ˈmaa̯nu̯ʔ] /ˈmaanu/ 'woodpecker', [ˈnu̯wa̯ʔ] /ˈnuwa/ 'partridge', [ˈhi̯yæ̨ni̯ʔ] /ˈhiyani/ 'old woman', [ˈnyæ̨æ̨ˈri̯ʔ] /ˈnyaaˈri/ 'he laid it down'.

Vowels have varying degrees of length depending upon their location in the stress group and in the phonological word. A vowel which is in the margin of the stress group (an unstressed syllable) is very short. A vowel in the nu-

[3] An alternate solution would be to consider that the occurrence of the stress makes it necessary to phonemicize the final segments as vowels /i/ and /u/. This would set up allotypes of syllable type V as follows: allosyllable V_1 consists of vowels of the same quality as the preceding vowel, and is never stressed. Allosyllable V_2 consists of vowels i and u when they occur as final syllables of a phonological phrase final phonological word, and is always stressed. V syllables occur only following CV or CcV syllables.

cleus of the stress group (the stressed syllable) may be slightly longer, [V·]: [ˈpwɪ·tɪnʌˈhwa·naa ˈgi·nyuʔ] /ˈpwetenaˈhwanaa ˈkinyu/ 'all were there'. This length is not as long, however, as a phonemic sequence of two like vowels as shown in the sequence /naa/ of the above example. Phonological words which are not phonological phrase final, especially in slow speech, optionally end in a soft, lengthened vowel which fades in intensity: [ˈnaˈsɪxɪˈri· ˈtɪʔ] /ˈnaˈsekeˈri ˈte/ 'did he say it?'.

When occurring final in phonological phrase type 3, vowels may be weakened to voicelessness (see 8).

The phoneme /a/ has allophones [a], [æ], [ɛ], [ɔ], [ʌ]. The allophone [a] occurs except in the environments now described. The allophone [æ] occurs either immediately following, or in the syllable following /i, e, š, or y/: [ˈniˈtyænuʔ] /ˈniˈtyanu/ 'to carry on the back', [ˈmweræti-ˈtytnuʔ] /ˈmwerati'tyenu/ 'cause to be seen', [ˈhyuuš:ˈšæ-noʔ] /ˈhyuušˈšano] 'where I fished', [ˈmyænuʔ] /ˈmyanu/ 'swallow'. The allophone [ɛ] fluctuates with [æ] especially in short, rapid, unstressed syllables: [ˈniyɛnoʔ] or [ˈniyæ-noʔ] /ˈniyano/ 'he is coming'. The allophone [ɔ] occurs between syllables containing back vowels: [ˈkuwɔxoʔ] /ˈku-wako/ 'hole', [ˈkusɔˈrowʌʔ] /ˈkusaˈrowa/ 'veins'. The allophone [ʌ] occurs in other short, rapid, unstressed syllables: [ˈhiyæ pʌˈhamʌˈhinyɛʔ] /ˈhiya paˈhamaˈhinya/ 'where the sun comes up', [ˈkomʌˈhiʔ] /ˈkomaˈhi/ 'over there'. The allophone [ʌ] also occurs in stressed syllables which are final in the phonological phrase. Note the change of allophones from [a] to [ʌ] in the final stressed syllable of the word /ˈmaˈriyaˈta/ below according to its position in the phonological phrase. The allophone [a] occurs when the word is medial in the phrase, but it is replaced by the allophone [ʌ] when the word is final in the phrase: [ˈmaˈriyɛˈta ˈkyænu ˈpanan:ˈtʌʔ] /ˈmaˈriyaˈta ˈkyanu ˈpananˈta/ 'go to-

gether with the sun', [ˈnąˈstxinų ˈmąˈriyɛˈtʌʔ] /ˈnaˈsekinu ˈmaˈriyaˈta/ 'he says, "together"'. (See 8 on phonological phrase and its decrescendo and effects.)

The phoneme /e/ has allophones [ę] and [ɩ]. [ę] occurs following nasals: [ˈneęnųʔ] /ˈneenu/ 'to turn over', [ˈneyæˈtuʔ] /ˈneyaˈtu/ 'daughter', [ˈhęęgɩʔ] /ˈheeke/ 'termites', [ˈmweęgurːˈhųnųʔ] /ˈmweekurˈhunu/ 'wiggling'. The allophone [ɩ] occurs elsewhere: [ˈkɩroniʔ] /ˈkeroni/ 'deep', [ˈtokwɩʔ] /ˈtokwe/ 'clothes'.

The phoneme /u/ has allophones [ʊ] and [u]. [ʊ] occurs before /r/: [ˈsʊroʔ] /ˈsuro/ 'chorro monkey', [ˈtukʊruʔ] /ˈtukuru/ 'palm leaf'. [u] occurs elsewhere: [ˈnųnųnųʔ] /ˈnununu/ 'light beaming'.

5. Syllable. In Arabela the syllable represents the basic unit of timing; all syllables have roughly the same timing. For the purpose of discussing the distribution of phonemes in syllables, three classes of phonemes are distinguished: consonants (p, t, k, s, š, m, n, h, r) represented by C; semiconsonants (w, y) represented by c; and vowels represented by V. The following syllable patterns occur: CV, cV, ccV, CcV, CVc, cVc, CcVc, C, V, and Vc.

(1) In the data syllable CV is found composed of each consonant and vowel combination except *mu: /ˈpoˈsunaˈha/ 'short person', /ˈpoˈkonaki ˈte/ 'it is yellow?'.

(2) In syllable pattern cV, when the semiconsonant is w the syllables found in the data are we and wa: /ˈtawe/ 'foreigner', /ˈmakiwa/ 'sleep again'. When the semiconsonant is y the syllables found are ya, yo, and yu: /ˈkaya/ 'man', /ˈkwayoˈhwa/ 'small parrot', /ˈhaayunu/ 'pulling'.

(3) In syllable pattern ccV, the only combinations found in the data are ywa and wye: /ˈtyuywa/ 'it is landing (a bird)', /ˈnariwye/ 'its bottom'.

(4) In syllable pattern CcV, when the semiconsonant is

w the syllables found in the data are pwi, pwe, mwe: /'ru-'pwiika/ 'sticky', /'pweya/ 'people', /'mwenu/ 'to strain'; kwa, kwe, hwa: /'kwanu/ 'to swim', /'tokwe/ 'clothes', /'hwaka/ 'ashes'. When the semiconsonant is y the syllables found are mya, tya, nya, kya, hya: /'myanu/ 'to swallow', /'hyanu/ 'to spear'; tyo, ryo: /'ryonu/ 'to fish with a hook'; tyu, nyu, ryu, kyu, hyu: /'tyunu/ 'to close', /'kyuyaka/ 'hawk'; and tye: /'mwerati'tyenu/ 'cause to be seen'.

(5) In syllable pattern CVc, when the semiconsonant is y the syllables found are pay, may, say, tay, kay, hay: /'mayninya/ 'good', /'kaynyu/ 'to choke'. When the semiconsonant is w there is the one sequence kaw: /'see'kaw/ 'finely ground manioc'.

(6) Syllable cVc occurs only as yaw and yay: /'tyuhwe-'yaw/ 'beads', /'kere'yayte/ 'lots'.

(7) Syllable pattern CcVc occurs only as kway, hway, kwaw and kyaw: /'kwayninyu/ 'to hunt', /'hwaynyu/ 'anger', /'suwo'kwaw/ 'ground corn', /'rii'kyaw/ 'finely ground food'.

Certain morphemes in Arabela have allomorphs of two different syllable types, such as CV and CcV, or CVc and CcVc, depending upon the environment. Allomorphs that begin with Cy are found in environments immediately following i or y. Allomorphs that begin with C are found in other environments. The morpheme /ta ~ tya/ 'with', may be seen in /'maa'hi'tya/ 'with the woman' and /'ru'paa'ta/ 'with the mouth'. Some morphemes have allomorphs CwV immediately following u, o, or w and allomorph CV in other environments: /ha ~ hwa/ 'only', in /'saa'mo'hwa/ 'only vultures', /'saa'naana'ha/ 'only trees'.

Single stops do contrast, however, with stops plus y and w in that both the single stops and the sequences occur initially, both C and the sequence Cy occur following pho-

nemes other than i and y, and both C and the sequence Cw occur following phonemes other than u, o, and w: /'kuwako/ 'hole', /'kyuyaka/ 'hawk'; /'ru'pwiika/ 'sticky', /'mwenikya/ 'left hand', /'meni'kyunu/ 'squeezing'; /'ka'hi/ 'axe', /'kwa'hi/ 'my grandmother'; /'ma'kaa'kwa/ 'on the stick', /'nu'kuu'kwa/ 'on the bone', /'ka'hii'kwa/ 'on the axe'.

(8) Syllable pattern C is made up of t, n, r, š, or k and occurs only preceding a syllable that begins with homorganic consonant: /'mwerat'tyenu/ 'cause to be seen', /'mante/ 'moth', /'sa'par'tu/ 'shoulder blade', /'mokoš-'tyaka/ 'palm fruit', /'karak'kohwa/ 'type of owl'.

(9) Syllable pattern V occurs only following CV or CcV. V is always the same vowel as that in the preceding syllable: /'ru'paa/ 'mouth', /'siinu/ 'to raise a creature', /'noonu/ 'to hurt', /'mweeru/ 'younger sister'.

(10) Syllable pattern Vc occurs only as ay: /'sako-'raay'te/ 'bad', /'saaynyu/ 'to bite'.

The borders between these syllables occur as follows (low dot indicates syllable division). When a semiconsonant precedes a consonant, syllable division occurs between them: /'kay.nyu/ 'to choke'. Two semiconsonants in sequence are preceded by syllable division: /'na.ri.wye/ 'its bottom'. Except for these instances, syllable division occurs between V and the following phoneme: /'na.nu/ 'wild', /'ka.ya/ 'man', /'ru.'pa.a/ 'mouth'. When two consonants occur in sequence, the first is a complete syllable: /'ma.n.te/ 'moth'.

6. Stress group. The principal contrastive features of the stress group[4] are an initial stressed syllable and an op-

[4]Stress is not considered a separate phoneme but rather as a feature of the stress group.

tional mild decrescendo. In present data stress groups consist of from one to five syllables. The stressed syllable has stronger intensity and also a slight length of the vowel, plus optional length of the consonant of the following syllable. (See 2 and 4.)

The optional mild decrescendo within the stress group starts with the initial stress and then fades in intensity and sometimes in pitch. This decrescendo may optionally go to voicelessness, even when the stress group contains only one or two syllables. This happens, for example, on the stress group 'kera in /'kera'pašika 'te/ 'is he fat?', and on the stress group 'kya in /'kya'hayniya/ 'you'. When a one-syllable stress group precedes another stress group, the first syllable of the following stress group usually has a sharply different pitch--up or down--from that of the preceding one. When the simple syllables V and C occur within the stress group they take as much time as a more complex syllable, and play the same role in the rhythm dynamics. Stress groups frequently, but not always, coincide with grammatical words.

Syllable types CV, CcV, and cV occur both stressed and unstressed. Syllable type V is the second of a cluster of like vowels and it is never stressed. (There are never more than two like vowels in a vowel sequence.)

Syllable types CVc, CcVc, and cVc occur only stressed whereas syllable types ccV, C, and Vc occur only unstressed in my data.

7. Phonological word. The phonological word has a stronger decrescendo of speed and intensity, and sometimes of pitch than does the stress group. In slow speech the phonological word usually corresponds with a grammatical word so that their decrescendos overlap, but in fast speech several stress groups with their included, mild decrescendos

combine as wavelets within the larger phonological word with its overriding decrescendo wave.

The first syllable of each word which occurs phonological-phrase initial is stressed, and the last syllable of each word which occurs phonological-phrase final (in most phonological phrase types), is stressed. The form of the word that occurs phonological-phrase medial (symbolized here by .. following the word) is considered basic, and has been chosen for the illustrations of the possible stress patterns.

In describing the stress patterns for Arabela words, S. will be used to represent a syllable. One-syllable words in my data are all stressed. Two-syllable words have the following stress patterns: (1) 'S.S /'kama../ 'uncle' (2) 'S.'S /'ka'hi../ 'axe' (3) S.'S /..ri'tya../ 'quick' (4) S.S (only one word noted with this pattern) /..ryunu../ 'boil'. Three-syllable words have the following patterns: (1) 'S.S.'S /'kiya'tu../ 'my daughter' (2) 'S.'S.S /'ki'yatu../ 'a type of fish' (3) 'S.S.S /'tariki../ 'morning' (4) S.'S.S /..ru'paynyu../ 'to stick'. Four-syllable words have the following patterns: (1) 'S.S.'S.S /'koko'taka../ 'a small fruit' (2) 'S.'S.S.S /'pa'neyaka../ 'perspiration' (3) 'S.-'S.S.'S /'na'pana'ha../ 'large partridge' (4) 'S.S.'S.'S /'kowa'tu'ko../ 'voice box'. Five-syllable words have these patterns: (1) 'S.S.S.'S.S. /'mokoši'tyaka../ 'palm fruit' (2) 'S.S.'S.S.S /'kera'pašika../ 'fat' (3) 'S.'S.S.'S.S /'sa'poho'sano../ 'one lied to' (4) 'S.S.'S.S.'S /'saka-'mana'ha../ 'a palm tree'. Six-syllable words have similar patterns to those in five-syllable words, with slight changes depending on whether the additional syllable is stressed or unstressed: /'tukwa'kanu'hwaru../ 'a distant one'.

8. Phonological phrase. The phonological phrase is the highest level of the phonological hierarchy to be handled in

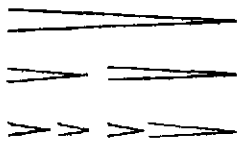
this paper. In some respects it is the simplest unit to identify. It is characterized by an initial stress and in most types of phonological phrases by a final stress and glottal stop. The end of a phonological phrase is usually marked by pause. A decrescendo (see Pike, 1957) occurs in the general intensity of each phonological phrase (except for the strong negative emotion type) resulting in the allophones of k described in 2. The single-consonant syllable, C, occurs only phonological-phrase medial; syllable types V and Vc never occur phonological-phrase initial.

Seven phonological-phrase types have been observed.

(1) Narration: usually with small tone gaps and either level or slightly rising intonation over the whole phrase but with a definite final rise; medium decrescendo and final glottal stop unless the phrase weakens to voicelessness: [ˈmaˈriyaeˈtaˈkaˈnaa naˈnexiˈnyuʔ] /maˈriyaˈta kaˈnaa naˈnekiˈnyu/ 'we saw them together'.

(2) Finality: similar to narration in tone gaps and intonation except that the intonation falls at the end; medium decrescendo; may be the end of a quote, a thought, or a paragraph; (a story ending--suggesting a phonological paragraph or narration--has a stronger decrescendo and gradual pitch drop over the total clause): [ˈkɪrɪˈyaytɪˈsaamegeˈnaˈnuwʌhi ˈniˈnyuʔ] /ˈkereˈyayte ˈsaameka ˈnaˈnuwahi ˈniˈnyu/ 'lots of cool weather came later'.

(3) Hesitation or uncertainty: strong decrescendo, usually fading to voicelessness which eliminates final glottal stop; general falling pitch; laryngealization of some of the vowels:



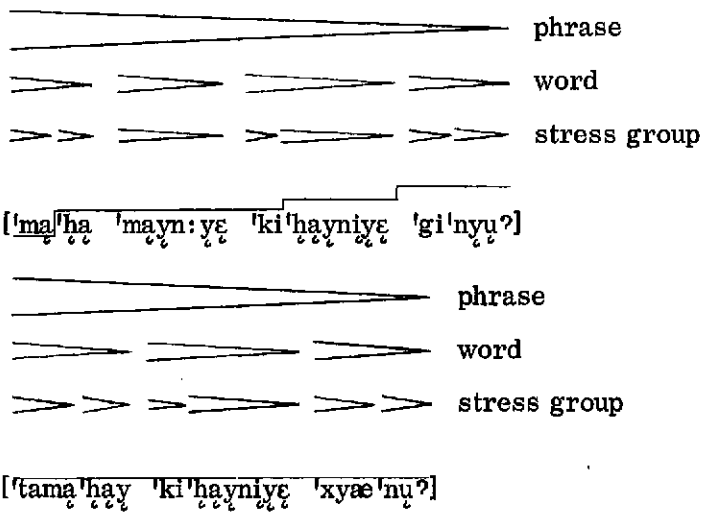
[ˈtaaˈtɪ ˈnaˈsɪxinU] /ˈtaaˈte ˈnaˈsekinu/ 'how did he say (it)?'.

(4) Strong, negative emotion (anger, disgust, threatening): careful speech, usually slow; usually with large tone gaps; very strong, even stresses with very little or no decrescendo on the phonological phrase as a whole; final fortis glottal stop; pitch of stressed syllables on the same pitch level or stepping up: [ˈpaˈšiniyutʊˈhuri ˈgomʌˈhi?] /ˈpaˈšiniyuteˈhuri ˈkomaˈhi/ 'let's cool them off over there'.

(5) Anxiety or disdain: (The preceding phrase usually has rising intonation); at least one or more syllables in a high, falsetto voice; some overall decrescendo and final lenis glottal stop: [ˈmaˈha ˈmaynːyɛ ˈxiˈnyʊ?] [ˈɛɛ ˈsɪˈsɛ ˈxiˈnyʊ?] /ˈmaˈha ˈmaynːya ˈkiˈnyu/ /ˈaa ˈseˈsa ˈkiˈnyu/ 'he's not good; he's bad'.

(6) Surprise: nearly all high falsetto voice; some decrescendo and final lenis glottal stop: [falsetto ˈkʌˈsaaˈtɪ ˈheegɪˈni?] /ˈkaˈsaaˈte ˈheekeˈni/ 'what is that (heeke)?'.

(7) Unification: a double phrase characterized by a unifying intonation. The first phrase has rising intonation and the second is quite low and nearly level. Both phrases have some decrescendo. There may be slight pause or glottal stop but no great break between the phrases. This unification type indicates a special meaning connection or relationship of the phrases to each other:



/ˈmaˈha ˈmayn:ya ˈkiˈhayniya ˈkiˈnyu/ /ˈtamaˈhay ˈkiˈhayniya ˈkyanu/ 'it's not good that you stay here; you go away alone'.

7

THE PHONOLOGICAL HIERARCHY OF CASHINAHUA (PANO)

by
Kenneth M. Kensinger

0. Introduction. The purpose of this paper is to present the contrasts and variants of the segmental and tonal

phonemes of Cashinahua[1] with reference to the larger phonological matrices: the syllable, the phonological phrase, the phonological clause, and the phonological paragraph.

1. Consonantal contrasts. There are fifteen consonants in contrast one with the other: stops p, t, k, b, and d; nasals m, n; affricates ɸ, č; spirants s, š, and ṣ̌ (hereafter written x); and semiconsonants w, y, and h.

The stops p, t, k, b, and d contrast as follows:[2] paka 'bamboo', taka 'liver', kaka 'type of basket', baka 'fish' (generic term), daka 'to rest'.

The nasals m and n contrast as follows: maka 'rat', naka 'to chew'.

The affricates ɸ and č contrast as follows: ɸaka 'to kill, shoot', čaka 'trash, bad'.

The spirants s, š, and x contrast as follows: mʌsu 'swollen hand', mʌšu 'dark, black', mʌxu 'to creep, crawl'.

The semiconsonants w, y, and h contrast as follows: wamaki 'he did not do it', yamaki 'there are none', hamaki 'it is not'.

The bilabials p, b, m, and w contrast as follows: tapa 'floor', taba 'washboard', tama 'peanut', tawa 'sugar cane'.

The alveolars t, d, n, ɸ, and s contrast as follows: bʌtu 'spotted face', bʌdu 'eye', bʌnu 'to forget', bʌɸu 'to be squeezed tightly', bʌsu 'face'.

[1] Cashinahua, classified as Panoan by McQuown (1956), is spoken by about two thousand inhabitants of the state of Loreto, Peru, and of the Territory of Acre, Brazil.

The analysis is based on the speech of informants from the Cashinahua living in villages along the Curanja River, Peru. The speech of an informant visiting from the Embira River, Brazil, revealed no variations from the speech here analyzed. I gratefully acknowledge the help given me by Kenneth and Evelyn Pike.

[2] Forms are written phonemically.

The alveopalatals č, š, x, and y contrast as follows: kuča 'type of arrow', kuša 'to hit', kuxa 'cedar', kuya 'to have pus'.

The velars k and h contrast as follows: kana 'type of macaw', hana 'type of bird' (manacaracu).

2. Consonantal variants. Voiced stops may be lightly prenasalized by a homorganic nasal when the stop is clause initial, or following an oral vowel when filling the onset slot of a phrase nucleus.

Voiceless stops may be lightly prenasalized by a homorganic nasal when the stop follows a nasalized vowel. This optional variant most frequently occurs when the preceding syllable fills the phrase nucleus.

Nasals have an optional, noncontrastive lenis occlusive offglide, preceding oral vowels, occurring more frequently in deliberate speech.

/d/ has allophones [d] and [ř]. Only [d] occurs in the onset slot of the phrase nucleus, as the lengthened consonant following phrase nucleus, or in the onset slot of a syllable preceded by a closed syllable. Elsewhere they alternate freely, with [ř] occurring more frequently.

/b/ tends towards light closure or friction when occurring between vowels, and not filling the onset slot of a phrase nucleus.

/w/ varies from strong vocoid articulation when filling the onset of the phrase nucleus, except when it immediately follows /u/, to lenis bilabial or labiodental friction elsewhere.

/k/ has optional voiced variants [g] and [ɣ] which occur rarely as the onsets of unaccented syllables in the less precise articulation characteristic of the last phrases of a phonological paragraph. It never occurs contiguous to phrase nucleus.

Palatal /š̆/ has an optional, noncontrastive palatal offglide [y] preceding /i/ or /u/ in slow, deliberate speech which somewhat exaggerates the already existing palatal quality.

/y/ has a lenis variant which occurs in phrase-initial (but not clause-initial) position following a syllable ending in /i/.

3. Vowel contrasts. There are four oral and four nasal vowels in contrast one with the other: high front unrounded /i/ and /i̯/, low front unrounded /a/ and /a̯/, high back rounded /u/ and /u̯/, and mid back unrounded /ʌ/ and /ʌ̯/.

The oral vowels contrast as follows: isi 'unending', isa 'bird' (generic term), isu 'spider monkey', isʌ 'head-painting'.

The nasal vowels contrast as follows: isi̯ 'pain, to hurt', isa̯ 'type of palm', isu̯ 'urine', isʌ̯ 'to cut the edge of'.

The oral and nasal vowels contrast as follows: kapa 'squirrel', kapa̯ 'to mix', piši 'ribs', pišı̯ 'palm mat', kanu 'rafters', kanu̯ 'bow', makʌ 'piranha', makʌ̯ 'painted head'.

4. Vowel variants. /a/ and /a̯/ have optional, noncontrastive variants [ə] and [ə̯] which occur in phrase-final syllables.

/u/ and /u̯/ have optional, noncontrastive, freely fluctuating variants ranging from high back to mid back position. Some morphemes, however, have been consistently recorded with one of the variants, i.e. [u/u̯] or [o/o̯], but informants have accepted without hesitation these same morphemes when the alternate variant is used. /uxʌ/ 'moon'

has been consistently recorded [oxʌ], and /u̥pax/ 'water', [u̥pax].

/ʌ/ and /ʌ̥/ have optional, noncontrastive, freely fluctuating variants ranging from high back to mid back position, with the norm for most informants being [ɨ̈] and [ɨ̥̈].

In sequences of vowel plus vowel, noncontrastive glides occur: [ʷ] following /u/ and /u̥/, [ʸ] following /i/ and /i̥/, and [ᵊ] following /ʌ/ and /ʌ̥/, the following vowel being any unlike vowel. For further discussion see 6.

Any vowel receiving phonological-clause accent tends to influence the following syllable, i.e. following back vowels the next syllable tends to be slightly backed, and following front vowels, slightly fronted.

All vowels have allophones differing in length. Each vowel in the phrase nucleus is lengthened, the nucleus of the phrase receiving clause accent being the longest and each succeeding phrase nucleus becoming increasingly shorter.

5. Tonemes. There are two tonemes: high tone and low tone, which though contrastive carry a low semantic load. Only a few grammatical stems contrast with reference to pitch alone, and then only in certain frames, the semantic context indicating which stem is being used. máwáxùkí 'he died', máwáxúkí 'he mimicked something', but ʌ́máwáxùkí 'I died', or 'I imitated something', čánixùkí 'he lied', čánixúkí 'he informed (someone)', but ʌ́čánixùkí 'I lied', or 'I informed someone'.

Analysis of tone perturbations has not been completed. For discussion of tone contours in the phonological clause see 8.

6. Syllable. Each vowel is the nucleus of a phonemic syllable; thus, a sequence of vowels is also a sequence of

an equal number of syllables. Most syllables have a one-consonant onset. More rarely there is a consonant coda which is always manifested by a spirant. The syllable types are as follows: CV: /da.ni/ 'body hair', V: /i.su/ 'spider monkey', VC: /is.ku/ 'oriole', and CVC: /pax.ku/ 'a small stream'.

Any vowel may fill the nucleus of a phonemic syllable; any consonant may fill the onset slot of any nucleus, except /y/ before /i/, /w/ before /i/ and /u/, /x/ before /i/, and /š̆/ before /ʌ/; and any spirant may fill the coda slot except /x/ following /i/ and /š̆/ following /ʌ/.

Consonant clusters occur only over syllable boundaries, and the first member is always a spirant. /s/ and /x/ can occur before any consonant; /š̆/ has not been found before /s/, but before all others. Consonant clusters are rare.[3]

In sequences of two vowels, there is no limitation of occurrence of vowel with vowel if the first syllable is less accented than the second. If the first syllable is more accented than the second, sequences of like vowels have not been recorded, i.e. clusters of like vowels occur only over phonological phrase borders.

In sequences of two unlike vowels, when /i/, /u/, or /ʌ/ is the first vowel, an optional vocoid glide, which moves toward closure, may occur: [i^{y}V], [u^{w}V], and [ʌ^{ə}V], respectively. Glide [^{ə}] is never contrastive in the system and is, therefore, interpreted as an allophonic variant of /ʌ/. Glides [^{y}] and [^{w}], though contrastive with /y/ and /w/,

[3] For an alternate analysis in a related language see E. Scott and E. V. Pike (n.d.). The manner in which informants syllabify utterances with consonant clusters was the deciding factor; buxka 'head' is syllabified as bux.ka, paxku 'small stream' as pax.ku, etc. In mimicking English initial clusters of spirant plus stop, a vowel is added and the syllable break occurs following the spirant. Thus, the informants call Scott /is.ka.di/.

respectively, are also interpreted as allophonic variants of /i/ and /u/, respectively. Sequences [i^{y}V] and [u^{w}V] never contrast with [iV] and [uV]. When either the first vowel or neither vowel is accented, i.e. within the phonological phrase, [i^{y}V] and [u^{w}V] never contrast with [iyV] and [uwV]. These sequences are in contrast, however, when the second vowel is more accented than the first, i.e. across a phonological phrase boundary; badi awa 'a type of tapir', badi yawa 'a type of peccary'; and mapu amiski 'she habitually eats clay (as in cases of infestation by intestinal parasites)', mapu wamiski 'she habitually works clay (as in pottery making)'. In the rapid speech and relaxed voice quality characteristic of clauses not filling the phonological paragraph nucleus, these contrasts often become imperceptible.

When a phrase nucleus consists of a syllable of type V or CV whose nucleus is a nasalized vowel, the vowels of any following syllables of types V and VC, or of types CV and CVC (if the onset slot is filled by a nasal stop or semiconsonant) will be nasalized also, i.e. if the phrase nucleus is nasalized, the velic remains open until a nonnasal stop, affricate, spirant, or phrase juncture occurs.

Vowel sequences in which /a/ or /a̯/ is the first member are phonetically shorter in timing than are other sequences of two vowels except where /a/ or /a̯/ is the final vowel in a phonological phrase. This faster timing raises the possibility that these sequences (ai, aʌ, au, a̯i̯, a̯ʌ̯, a̯u̯) are complex nuclei of a single syllable. This hypothesis is strengthened by the occurrence of allophones [e] and [e̯] which fluctuate with /ai/ and /a̯i̯/.

The hypothesis was rejected, however, for the following reasons: Only /a/ is lengthened when filling the phrase nucleus slot; the tones of the two vowels may be different; and possible contrasts of such a complex syllable nucleus

with a sequence of two vowels given by one informant were always confused or eliminated by another informant.

It seems possible that an additional oral and nasal vowel may be emerging, but as yet has not developed sufficiently to result in consistent contrast.

7. Phonological phrase. The phonological phrase consists of one or more syllables, the onset of which is characterized by change of pitch level from the preceding phrase, and the end point by a juncture of pause, glottal stop, and/or closure of the velic. Borders are often fuzzy, so that the unit is best defined in terms of its nucleus.

The nucleus of the phonological phrase is identified by the length of the vowel of the syllable or of the consonant following the vowel, or of both.

The nucleus of a phrase is always the first syllable of a grammatical stem. The length of this syllable varies; longer length is accompanied by a tendency for the pitch to glide.

8. Phonological clause. The phonological clause consists of one or more phonological phrases. It is characterized by an onset of indrawn breath, a peak of accent on the nucleus of one of the first two phonological phrases, and heavy exhaling or breathiness at closure.

There are two contrastive tone contours in the phonological clause: a high tone contour and a low tone contour. Each clause has at least one high tone contour and may have a second one. The first high contour may be composed of from one to six high tone syllables. The second high contour is composed of only one syllable, the level of which is generally lower than the first high contour. Between the high contours may be a low tone contour of from one to four low tone syllables. The clause may end with no low tone

contour or with a low contour of from one to four low tone syllables.

The high contour may be at times phonetically level high but more frequently the contour gradually rises in pitch so that the end is higher than the beginning of the contour. Conversely, the low tone contour may become progressively lower in pitch, and occasionally occurs as low level pitch. When the low contour is paragraph final it may end with a slight upglide. High tone syllables preceding the nucleus may be phonetically mid.

9. Phonological paragraph. The phonological paragraph consists of one or more phonological clauses which constitute one single speech envelope characterized by a general decrescendo of the pitch level and a relaxing of voice quality so that the final segments are lenis, less precise, and somewhat slurred.

Change of voice quality which conveys the attitude of the speaker, (such as laryngealization for anger, nasal whine for petulance), probably are features of the phonological paragraph also, and need further study.

10. Text.[4]

bá.

ikís mį hani hiwʌ́amʌkai. ʌ mia hąčá bumakaǿis ĩkai.

nįkaidawʌ́. miá hąča bumanų́na.

nukų maʌanú ʌ hiwʌ́ama ikis. manʌyanú ma matʌkʌí. čakábuí. kʌyúaiá.

[4]The text is written phonemically: spaces between forms indicate phonological phrase borders; periods (.) indicate phonological clause borders; indentation indicates phonological paragraph borders; the first acute accent (´) in any phonological clause indicates the last syllable with high tone in the first high contour; the second accent, if any, indicates the second high contour; all unmarked syllables following the first accent are low tone.

nukụ nụ ma maĺkidi huímaki.

nua maikidíxta nụ hiwʌ́akidạ.

mị aíyaí. nụ nĺkaí. dasibi nukụ nábu bʌnimá haidai ma buki.

hau uínubú. iwʌdiwʌ́ ba mị áina.

mị aíya. ʌ bʌnimá haidái.

ʌa ma ʌ bakʌ́ bʌna háya. huni bakʌ́ ʌ háya. aibu bakʌ́ bʌna ʌ haya. hatí ʌ hayáki.

mị ainí hau úinụ. íwʌdiwʌ́ ba.

Translation:

Friend.

now you where living-are-perhaps-? I to-you words carry-away-cause-wish doing-am. (Where are you living now? I want to send you a message.)

listen-well-imperative. to-you words carry-away-intent-topic. (Listen well. I intend to send you a message.)

our village-at I live-not now. manʌya-at now collapse [face-fall-did]. bad-is. finish-is-completely. (I am not now living at our village. Manʌya has now collapsed. It is bad. It is completely finished.)

us we now earth-toward come-do-cause-is. (We have now moved downriver.)

deep earth-toward-little we live-coming. (We live a little below the deep hole.)

you wife-having-are-? we hearing-are. all our people happy very now go-are. (You have married? We have heard. All our people are very happy now.)

her-specific see-intent-us. bring-quickly-imperative friend your wife-topic. (So that we may see her, bring your wife soon, friend.)

you wife-have-complete. I happy very-am. (You have married. I am very happy.)

me now I child new have. male child I have. female child new I have. that-many I have. (I now have new children. I have a son. I have a new daughter. I have that many.)

your wife-with her-specific see-intent. bring-quickly-imperative friend. (Bring your wife quickly, so we can see her, friend.)

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se terminó de imprimir este libro
el día 30 de noviembre, 1963
en los talleres gráficos del
Instituto Lingüístico de Verano, A. C.
Héroes 53, México 3, D. F.