A GRAMMATICAL SKETCH

OF JUANG

A MUNDA LANGUAGE

by

Dan Mitchell Matson

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of the requirements for the degree
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To Professors: Fowler

Zeps

Street

This thesis having been approved in respect to form and mechanical execution is referred to you for judgment upon its substantial merit.

H. A. McCarty

Dean

Approved as satisfying in substance the doctoral thesis requirement of the University of Wisconsin.

Murray Fowler

Major Professor

Valdis J. Zeps

John P. Street

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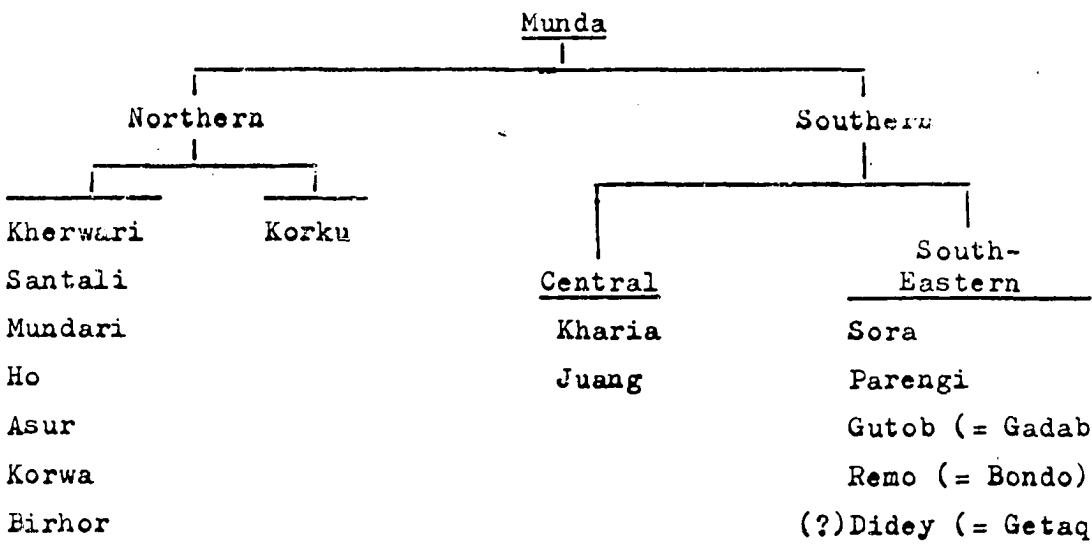
0. General

0.1 The language

Juang (phonemically /juaŋ/) is a language spoken by about 17,000 people in the Indian state of Orissa. There are three principal concentrations of the Juang tribe, in the Orissa districts of Pal Lahara, Keonjhar, and Dhenkanal.

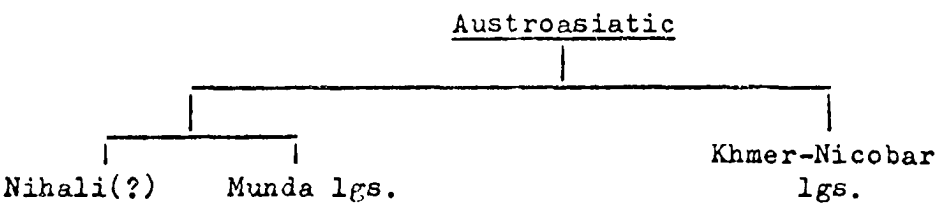
Juang belongs to the Central Group of the Munda family of languages. According to Pinnow (1963:152, and private communication) the affinities between the Munda languages can be charted roughly as follows:



According to Grierson 1927 (pp. 32f), Pater W. Schmidt grouped together the Munda languages, the Mon-Khmer languages, and the Nicobarese languages, as the 'Austro-Asiatic' family; this he in turn classed as a subgroup of the 'Austric' family, along with the 'Austro-Nesian' subfamily.

Sebeok 1942 refuted this, saying that "while genetic connection between Mon-Khmer and Munda cannot be categorically denied, in the absence of proof or even good evidence the latter must be excluded from the Austroasiatic family of languages" (211).

The most recent publication on the subject, Pinnow 1963, arrives at the following situation:



Under Khmer-Nicobar Pinnow places Khasi and the Nicobarese, Palaung-Wa, Mon-Khmer, and Malacca subgroups.

Whatever may be the position of the Munda languages in relation to other languages of the world, it is immaterial to the present descriptive sketch.

0.2 The field-work

This sketch is based on three months' worth of field-work in Orissa, June through August, 1962. The informants were Srimanta Juang (/srimanto/) and Sulia Juang (/sulia/), both residents of Village Phulbadi (/pulobadi/), Keonjhar District.

The field-work was part of a large-scale research-project on Munda languages undertaken by the University of Chicago, supported by a grant-in-aid from the U.S. Department of State.

The purpose of the project was to gather extensive data on Munda languages for use in the establishment of genetic relationships and in reconstruction of Proto-Munda.

0.3 Summary of linguistic literature on Juang

1906 Sten Konow: Vol. VI, "Linguistic Survey of India," pp. 209-16; Sir George A. Grierson, ed. Calcutta, 1906.

1960 Heinz-Jürgen Pinnow: "Beiträge zur Erkenntnis der Juang-Sprache" (Unpub.) Berlin, 1960.

1962 Dan M. Matson: "A Brief Description of Juang"
(Unpub.) Puri, August 1962.
B.P. Mahapatra: "A Note on Juang Phonology"
(Unpub.) Bhubaneswar, November 1962.
-----: "A Note on Juang Morphology"
(Unpub.) Bhubaneswar, December 1962.
-----: "Revised Munda Lexical List (Juang)"
(Unpub.) Bhubaneswar, December 1962.

0.4 Scope of this sketch

Konow's, Pinnow's, my own, and much of Mahapatra's work was done with informants of differing geographical and dialect areas. As a result, though the reports agree rather well in the main (except for Konow's, which is so scanty as to be difficult to consider at all), nevertheless the differences on smaller points are so great that it would seem somewhat precarious to attempt a synthesis of all of them without more time in the field.

This sketch presents analyses of only my own data, except for the lexical list (§6) and the section on causativity (§3.112); these are from data collected by Mahapatra after I left the field.

Stress, intonation, juncture, and phonotactics are not treated.

0.5 Structure of this sketch

It is expected that most of those who consult this sketch will do so for purposes of comparative and historical work in the Munda language family. It will be important for them to be able to generate desired forms for comparison with forms from other Munda languages. This is not difficult to do, once one has acquired a 'feel' for the language; but to impart this feeling requires an order of presentation which is in some ways different from that required for efficient generation of forms.

The result of trying to fill both these needs is the following ordering of chapters: Phonology, Morphophonemics, Morphology, Allomorphy, Syntax (including concord), Lexicon; it serves neither end perfectly, but perhaps adequately.

Regrettably it is not very easy to generate complete utterances from this sketch; several readings and considerable page-thumbing may be necessary; but it is hoped and felt that this will give the reader an acquaintance with Juang at least as good as would an equal amount of re-reading and page-thumbing of a sketch presented along any different lines.

1. Phonology

1.0 General

The tables below (§§1.11, 1.31) constitute the structural definitions of the phonemes of Juang. That is, for example, /i/ is by definition a high vowel, /r/ is by definition an alveolar stop, and so on.

1.1 Consonants

1.11 Inventory

	Bilabial	Dental	Alveolar	Retroflex	Palatal	Velar
Stops vl	p		t	ṭ	c	k
Stops vd	b	d	r	ḍ	j	g
Nasals	m		n	ṇ	ñ	ŋ
Laterals			l	ḷ		
Spirant			s			

1.12 Allophonics

1.120 Terminology

1.120.1 Principal allophone

In what follows, the term "principal allophone" is used in a sense that might be informally defined as the 'elsewhere-allophone.' Often (not always--see fn. 3) it happens that statements of the distribution of the allophones of a phoneme can be simplified by ordering them and stating the distribution of the allophone covered by the last statement as simply 'elsewhere'; this elsewhere-allo-

phone I call the principal allophone.[1] For example, in a dialect of Western Hindi[2] the allophones of /n/ could be stated thus: [ŋ] occurs before velar stops, [ñ] before palatal stops, and [n] elsewhere. To state the distribution of [n] in any other way would clearly complicate the statements needlessly, for it includes initial, intervocalic, prejunctural, and other positions, as well as environments like /#__ h/, etc.; stating all of them would be troublesome and unnecessary. Thus [n] would be the principal allophone of /n/ for this dialect.[3]

1.120.2 Classes and their labels

The phonemes in each column of the table in §1.11 constitute a position-class ('point of articulation'); those in each row constitute a formation-class ('manner of articulation').[4]

The labels used for these classes are borrowed from articulatory phonetics, and are chosen to indicate, in general, the approximate point and manner of articulation of the principal allophone of each phoneme. This in itself is nothing unusual, but it is overtly stated here in order to call attention to and to avert possible confusion with regard to the structural definitions of certain phonemes (namely /c, j, r/ and all the retroflexes), as opposed to the phonetic definition of their allophones.

The use of "retroflex" as a label for a certain position-class of phonemes found in most[5] languages of India can be misleading. In fact, it appears to have been perniciously misleading throughout all investigation of these languages.

For its use in phonemics, the term "retroflex" was

> ". . . borrowed from phonetics . . . , just as the word 'work' was borrowed by physics, and as we borrowed 'plural' from other fields of discussion, where it was a synonym for 'numerous': in linguistics, it is not! In phonetics, 'high, mid, low, front, central, back' refer to tongue-position in the mouth; in phonemics, of course, we have to strip away those denotations of the words, which have now become misleading connotations. Instead, the phonemic categories get whatever denotations may be useful in the further description of the language."[6]

As a result of this characteristic of scientific disciplines, of borrowing words from 'other fields of discussion' and using them as technical terms in often quite new and different senses, the term "retroflex" has come to be thought of by prominent workers in South Asian languages, to denote a point of articulation. Thus Ferguson: "The retroflex consonants [i.e., phonemes] are made with the tip of the tongue placed . . . either on the alveolar ridge or in the full retroflex position [referring to the physiological articulation of the allophones of the phonemes]."[7] And Gleason (in his section on points of articulation): "In retroflex articulation the tip of the tongue is turned back so that the closure is relatively far back on the palate."[8]

In point of fact, retroflexion has nothing to do with point of articulation; it is a manner of articulation, and refers only to the shape of the tongue; anyone with training in phonetics and some practice can learn to produce both plain and retroflex stops at any point accessible to his tongue-tip; even apico-labial retroflex stops can be produced. It is important to make this point clear, not only as a matter of record (for I have never seen or heard these facts stated in discussions of phonetics), but more particularly as a foundation for remarks to be made below regarding /c, j, r/ (see appendix to this chapter).

The two preceding paragraphs show how dangerous it can be to take the position-class labels too seriously with regard to their use in articulatory phonetics; here they are first and foremost only labels.

1.120.3 Homorganicity

All consonants belonging to one and the same position-class (see §1.11) are said to be mutually homorganic. This term is used frequently in speaking of stops and nasals; the expression "homorganic nasal" (symbolized by "N^H") when used in context with a reference to a given stop means 'the nasal which is homorganic to that stop.' For example, if S = /r/, then N^H = /ɳ/.

1.121 Symbols

The following symbols are used for phoneme-classes, phonemes, and phonemic environments in the tabulation of allophonic statements and elsewhere in this paper.

vl	'voiceless'	(used as articulatory-phonetic terms in the "Allophones" column below, and as labels for formation-subclasses in the "Environments" column.)
vd	'voiced'	
C	'any consonant'	
A	'any alveolar consonant'	
P	'any palatal consonant'	
K	'any velar consonant'	
N	'any nasal consonant'	
N^H	'homorganic nasal' (see §1.120.3)	
S	'any stop consonant'	
V	'any vowel'	
#	'silence (either end of an utterance)'	
Ø	'phonemic zero,' that is, 'no phoneme at all'	
bf	'before'	
flg	'following'	
med	'medially'	
V__V	'intervocalic position'	

In the "Allophones" column below, all terms used refer to articulatory phonetics, except for "principal allophone" (for which see §1.120.1); the phonetic symbols (bracketed) are essentially those of IPA 1951, made more precise by parenthesized comments where necessary; exceptions are [_] for IPA [‾] (fronted articulation) and

[ʈ, ɖ, ɭ, ɳ, ɽ, ñ, y]

for IPA [ʈ, ɖ, ɭ, ɳ, ɽ, ɲ, j].

1.122 Statements

Formation-class	Members	Environments	Allophones
Voiced stops	all	(1)bf #	rapid-decrescendo-voiced fortis stops with coarticulated glottal closure; for point of articulation, see principal allophones.
		(2)med bf vl S	rapid-decrescendo-voiced fortis stops
		(3)med bf vd S	vd lenis stops
	/b/	(4)elsewhere	[b]
	/d/		[d̲] (apico-alveolodental)
	/r/		[r] (single tap)[9]
	/j/		[ʄ͡j] (lamino-palatal affricate)
	/g/		[g]
			(/j,g/ very lenis in V__V)
	/ḍ/	(5) V__V	[ɽ] (back-to-front apico-alveolar retroflex flap)
		(6)elsewhere [but cf. (1-3)]	[ḍ] (apico-alveolar retroflex stop)
Voiceless stops	/p,t,ṭ,k/	(7)all	[p, t̲, ṭ, k]
	/c/	(8)bf S	[c] (vl fortis lamino-palatal stop)
		(9)elsewhere	[c͡ç] (vl fortis lamino-palatal affricate)
Nasals	/m,ñ,ŋ/	(10)all	[m, ñ, ŋ]
	/n/	(11)bf /t, d/	[n̲]
		(12)elsewhere	[n] (apico-alveolar)

	/ɳ/	(13) V__V	[ɾ̃] (nasalized back-to-front apico-alveolar retroflex flap)
		(14)elsewhere	[ɳ] (apico-alveolar retroflex nasal continuant)
Laterals	/l/	(15)flg /i, P/	[ʎ] (lamino-palatal lateral)
		(16)elsewhere	[l]
	/ɭ/	(17)bf or flg /ʈ, ɖ/	[ɭ] (apico-alveolar retroflex lateral)
		(18)elsewhere	back-to-front apico-alveolar retroflex lateral flap
Spirant	/s/	(19)flg /i/	[ɕ] (vl fortis lamino-alveolopalatal rill spirant)
		(20)elsewhere	[s]

1.2 Nasalization

A phoneme of nasalization is abstracted for Juang. The considerations involved are discussed in §1.321.

1.3 Vowels

1.31 Inventory

High	i		u
Low	e	a	o

The classification of the vowels as high and low is based on the morphophonemic rules for vowel-harmony ([18,19], §2.3); it happens also to correspond to the relative tongue-heights involved in the articulation of their principal allophones.

1.32 Allophonics

1.321 Nasalization

Any vowel is nasalized (i.e., has a nasalized allophone) either bf or flg /ɳ/; such nasalization may occur as a freely-variant

feature also bf or flg any other N.

In the speech of some Juangs, all vowels are nasalized bf #. (This habit is however not characteristic of all speakers in a single village or social group.)

In a small number of cases, nasalization of vowels is not predictable. [ĩ, ã̲, ɔ̃, ɔ̃:, ũ] are attested (indeed, it is possible to contrive a minimal pair for vowel-nasalization: [t̲ɔ:rɔ] 'I fastened', [t̲ɔ̃:rɔ] 'elephant's trunk'). Analyzing each of these phones as a separate phoneme would result in a vowel-system half of whose members were of most extremely low frequency and restricted distribution. This can be avoided by abstracting nasalization and positing it as a phoneme, /˜/, which then has distribution and frequency equal to the sum of those of the nasal-vowel phonemes just discussed. This is the solution adopted here. (See the appendix to this chapter for a discussion of a means of further increasing the distribution and frequency of /˜/.)

1.322 Length

A set like [bɔ̃n̥ɔ] 'wasp', [mɔ̃:n̥ɔ] 'beeswax' makes it necessary to posit phonemic length for Juang.

Sets like

[kɛr̥a̲bkɛ]	'he bites'	[git̲ɔkɛ]	'he sings'
[kɛ:r̥a̲bkɛ]	'I bite'	[gi:t̲ɔkɛ]	'I sing'

show that vowel-length is sometimes also morphemic; this would suggest as a useful analysis the abstraction of a phoneme of length /:/, which could also function as a morph for first-person-singular.

The solution adopted here, however, is to phonemicize long vocoids [i:, ɛ:, ...] as geminate vowels /ii, ee, .../. This is partly because it permits excising /:/ from the phonemic inventory, but more importantly because it simplifies the morphemic statements necessary to describe the person and number affixes. For example, [unkɛ] 'he keeps', [mu:nkɛ] 'thou keepest' would either entail a discontinuous morph /m__:/ for second-person-singular, or else require the use of unorthodox descriptive machinery like a preposed

length-phoneme such that /m:u/ = [mu:]. It seems preferable to adopt the binary interpretation for long vocoids.

Thus, all geminate vowels are, phonetically, long vocoids.

1.323 Color

Phonemes	Environments	Allophones and examples
all	(1) bf P$\{^{S}_{\#}\}$	palatal off-glide
		[niyñ] /niñ/ 'we'
		[ɔl̥ɛyʃ̂ʔ] /ol̥ej/ 'cow'
		[a̲yñ] /añ/ 'I'
		[kɔmpɔyñ] /kompoñ/ 'my basket'
		[guycd̥a̲g̲ʔ̂] /gucd̥ag/ 'wash-water'
	(2) flg P	palatalized onset
		[miyc̆ɕyɔ] /mico/ 'false'
/i/	(3) /k/__V_1 , V_1__V_2 ,	[y]
	where	[a̲rɔkya̲] /arokia/ 'they'
	$V_1 \neq$ /i/ $\neq V_2$	[t̲u:ye] /tuuie/ 'I will float'
/u/	(4) K__V, #__/a/,	[w]
	S__V$\{^{C}_{\#}\}$, where	[wal̥i] /ual̥i/ 'child'
		[gwɔ] /guɔ/ 'feces'
	$V \neq$ /u/	[tutwinɔm̲an] /tutuinoman/
		'he was floating'
		[ʃ̂jʮa̲ŋga̲t̲a] /juaŋgata/ 'Juang
		language' (see (2) above:
		palatalized [w] = [ʮ].)
/i/		[i]
/e/		[ɛ]
/a/	(5) elsewhere	[a̲]
/o/		[ɔ]
/u/		[u]

1.4 Appendix

1.41 The classification of /c, j, r/

An objection might be raised as to the classification of /c, j, r/ as stops, running something like this: 'You can call them stops if you like, but the fact is that they're not stops; /c, j/ are affricates, and /r/ is a tap.'

In answering this objection it should first be pointed out, as a corollary to the above quotation from Joos (§1.20.2), that calling a phoneme (note: not a phone) a stop, ipso facto makes it a stop. Thus what is at issue here in the first instance is not unconventional use of phonetic terminology, but rather using a term (albeit borrowed from phonetics) in the way conventional to phonemics: ". . . the phonemic categories get whatever denotations may be useful in the further description of the language" (Joos 1950, ibid.).

The above objection is untenable also with respect to its latter half, which refers not to the phonemes themselves but to their allophones. In point of fact, /c, j, r/ all do have allophones which are phonetically stops (see table, §1.122)--though this statement may lose some of its lustre due to the fact that these are not their principal allophones.

Neither of these arguments, however, is the most compelling one in favor of classifying /c, j, r/ as stops. The main reason for doing so is that they obey the same rules of morphophonemic alternation as do other phonemes which are unquestionably classifiable as stops (see rules [6], §2.1, and [15], §2.2). The fact that morphophonemic alternation rules pair up stops /b, g/ with their homorganic nasals /n, ŋ/ urges the analysis of /r, j/ as the homorganic stops of nasals /n, ñ/, with which they are paired by the same type of alternation. And once this is done, the further step of interpreting /c/ also as a stop is much less difficult.

It will have been noticed that this analysis results in two 'holes' in the array of stops and nasals, both of which could be avoided by adopting a different analysis. We may dismiss from consideration the unquestionable fact that arguments based on this

sort of 'phonemic patterning' are probably as much appeals to purely esthetic desiderata as they are appeals to the claim that languages tend to have symmetrical phonemic-systems; for there is a stronger reason for disregarding phonemic-level 'structural pressure.' It is that by doing so, we find that the 'irregularity' on the phonemic level corresponds to a "deeper underlying regularity"[10] of rather greater significance, on the level of morphophonemics.

1.42 The distribution and frequency of /˜/

It would be possible to increase the distribution and frequency of /˜/ by reinterpreting the vocoid-nasalization previously described as allophonic (§1.321)--by rephonemicizing it as /N/ + /˜/. This would be an application of the time-honored "once a phoneme, always a phoneme" principle for achieving transcriptional bi-uniqueness. (More accurately, this maxim should read "once phoneme A, always phoneme A," for in its strongest interpretation it asserts that if a given phone is assigned to a particular phoneme in one environment, its occurrence in all other environments must be analyzed as an occurrence of the same phoneme.)

Robert B. Lees, in his review of Chomsky's "Syntactic Structures," speaking of what he calls the "troublesome assumption" of bi-uniqueness, says

> "By this is meant that for a transcription to be phonemic, it is necessary that it be unique in two directions: not only must each string of phonemic symbols be pronounceable in one and only one way, but also every utterance must be transcribable in one and only one way, in terms of the phonemes. This latter condition of unique transcribability not only is superfluous for linguistics, it does not even render properly the desired condition of natural, automatic transcribability (for every sound type in every environment there should be some one transcription), since bi-uniqueness may be achieved in any number of trivial ways. One need only set up a scheme to reject all but some one possible transcription for any utterance, say the first one in any ordered list of all possible ones."[11]

Though elegantly demonstrating here that the once-a-phoneme principle is not the only theoretically possible means of achieving bi-uniqueness (should this be a desirable goal), Lees does not make

it clear that this non-ambiguity should not really be demanded of phonemic transcription, or that it may in some cases even be undesirable.

In the first place, no amount of fretting will resolve the ambiguity of the single stretch of speech corresponding to "The sons raise meat" and "The sun's rays meet," or of that in "Martin found the boy studying in the library" (either 'Martin found that the boy was studying...,' which tells what he discovered that the boy was doing, or 'Martin found the boy, who was studying...,' which tells what the boy was doing, in addition to stating that Martin found him, or again 'Martin found the boy who was studying ...,' which tells which boy he found [this example inspired by Chomsky 1957:81]). Thus we cannot always say that knowing the phonemes in an utterance will automatically enable us to identify its morphemes or syntactic structure. And this is not essentially different from not always being able to identify the phonemes by knowing the phones.

Secondly, in some cases it may be <u>desirable</u> to set up a phoneme-system which does not show bi-uniqueness. For example, in my speech the phone-sequence *[ns] never occurs, and [t] is the only contoid which occurs in the environment [n__s]. Thus "dense" and "dents" are identical, [dɛnts]. One could therefore state that this occurrence of [t] is environmentally conditioned, and that [nts] = /ns/. This would result in economy in the average number of phonemes per utterance (e.g., "glance" would be /glæns/ instead of /glænts/), though the phonemic status of /t/ is clearly established by such sets as "ton, dun, nun, son." But the once-a-phoneme principle would outlaw such transcriptions as /glæns/.

As a matter of fact it is <u>not</u> desirable to phonemicize <u>all</u> occurrences of [nts] as /ns/: the set "cent, cents" [sɛnt, sɛnts] would of course best be phonemicized as /sent, sents/--but "sense" [sɛnts] can still be written /sens/ if bi-uniqueness is relinquished, thus achieving both morphological convenience (for "cents") and phonemes-per-utterance economy (for "sense").

Returning to the problem of vocoid-nasalization in Juang, it should be clear that I am content to leave matters as they now stand, with certain occurrences of nasalized vocoids predicted as allophonic and others 'occasioned by' or 'attributed to' (depending on the point of view) the occurrence of the nasalization phoneme. This analysis results in no morphological convenience such as was achieved in the English example, but it does result in phonemes-per-utterance economy, and, most essential point of all, it does account for the phonetic facts. And in fact it does preserve bi-uniqueness, though in a different sense from that of the once-a-phoneme principle just laid to rest. If the analyst hears a nasalized vocoid [$\tilde{V}$], he still can transcribe it automatically and unambiguously: if it is preceded or followed by a nasal contoid, he phonemicizes it simply as /V/; if not, he phonemicizes it as /$\tilde{V}$/.

2. Morphophonemic alternations

2.0 Symbols

→	'is replaced by'
||	'in the environment ...'
V^H	'any high vowel'
V^L	'any low vowel'.

Thus X → Y || __A means that "XA" changes to "YA"

Z → W || P(Q)__ means that "PZ" changes to "PW" and "PQZ" changes to "PQW".

2.1 Verb-base modification

When certain morphemes are juxtaposed with verb-bases of certain class and phonemic shape, alternations of the phonemic shape of the bases occur, which are described by formulas [1-6].

[1] /e/ → Ø || __{-e} (future tense)

[1] applies to final /e/ of class-I bases.

Example:

{ba-}{leke-}{-e}

[1] ba- lek- -e

ba-lek-e 'we two will write'

[2] /o/ → /oi/ || __{-o} (past tense)

[3] /a/ → /ai/ || __{-o} (past tense)

[2,3] apply to finals of class-I bases.

Examples:

{gito-}{-o}

[2] gitoi- -o

gitoi-o 'he sang'

{gata-}{-o}

[3] gatai- -o

gatai-o 'he spoke'

[4] /Se/ → /Si/ || __{-an} (past tense)

[5] /So/ → /Su/ || __{-an} (past tense)

[4,5] apply to finals of class-II bases.

Examples:

{ḍake-}{-an}

[4] ḍaki- -an

ḍaki-an 'he called'

{ḍoko-}{-an}

[5] ḍoku- -an

ḍoku-an 'he sat'

[6] /S/ → /N^H/ || __/m/

[6] applies to finals of class-I and class-II bases.

Example:

{oṇog-}{-mi}{-na}

[6] oṇoŋ- -mi -na

oṇoŋ-mi-na 'it will be possible to bend'

2.2 Alternations in other morphemic contexts

[7] /Se/ → /Si/ ‖ __{-a} (case morpheme)

[8] /So/ → /Su/ ‖ __{-a} (case)

[9] /i,a/ → Ø ‖ __{-a} (case)

[10] /e,o/ → Ø ‖ __{-a} (case)

[7,8] apply to all nouns and pronouns except /ere/ 'that' and /aro/ 'he, she, it'.

[9] applies to {-ki} (third-person number suffix), and to all pronouns except /ni/ 'this', /ini/ 'this one', and /maṇḍi/ 'what? which? who?'.

[10] applies to /aro/, {-ḍe} (article), and {-ḍo} (third-person possessor).

Examples:

{ape}{-a}

[7] api -a

api-a 'your' (you-of)

{srimanto}{-a}

[8] srimantu -a

srimantu-a 'Srimanta's'

{kuḷi}{-ki}{-a}

[9] kuḷi -k -a

kuḷi-k-a 'of berries'

{suḷia}{-a}

[9] suḷi -a

suḷi-a 'Sulia's'

{oḷej}{-ḍe}{-a}

[10] oḷej -ḍ -a

oḷej-ḍ-a 'of the cow'

{aro}{-a}

[10] ar -a

ar-a 'his, hers, its'

[11] /e/ → /o/ || __/m/

[12] /Ce/ → /Ci/ || __/ñ, k/

[11, 12] apply to the article morpheme {-ḍe} and to class-I suffixes {-ke} (present tense) and {-e} (future tense). [12] also applies to {-se}(perfect aspect).

Examples:

{ba-}{ḍiñ-}{-e}{-m} (second-person-singular object suffix)

[11] ba- ḍiñ- -o -m

ba-ḍiñ-o-m 'we two will give to thee'

{jo-}{-ke}{-ñ} (first-person singular object suffix)

[12] jo- -ki -ñ

jo-ki-ñ 'he sees me'

{jo-}{-ke}{-ki} (third-person plural subject suffix)

[12] jo- -ki -ki

jo-ki-ki 'they see'

[13] /s/ → /c/ || /A, P/__

[14] /e/ → /er/ || __/V/

[13, 14] apply to {-se} (perfect aspect).

Examples:

{gar-}{-se}{-ke} (present tense)

gar- -ci -ke

[13,12] gar-ce-ke 'he has begged'

{gar-}{-se}{-e}

[13,14] gar- -cer -e

gar-cer-e 'he will have begged'

[15] /Sn/ → N^H

[16] /n/ → Ø || N__

[15, 16] apply to the first /n/ in:

continuous aspect	{-nom$_1$}	
class-II future tense	{-na}	
possessor suffixes	{-niñ}	(1-Sg.)
	{-niñba}	(1-Dl.)
	{-neniñ}	(1-Pl.)
	{-nom$_2$}	(2-Sg.)

Example:

	{ba-}{uag-}{-nom$_1$}{-na}
[15]	ba- uaŋ- -om {-na}
[16]	ba- uaŋ- -om -a
	ba-uaŋ-om-a 'we two will be bathing'

[17] /ḍ/ → /r/ || V__

[17] applies to:

class-II present tense	{-ḍe}
article	{-ḍe}
injunctive	{-ḍeme}
third-person possessor	{-ḍo}

Example:

	{kako}{-ḍo}
[17]	kako -ro
	kako-ro 'his armpit'

2.3 Vowel-harmony

The vowels of certain of the person and number morphemes exhibit vowel-harmony of two types. These vowel-alternations are described below by means of two vowel morphophonemes, V2 and V5.[12]

V^5 is the more protean of the two, taking on the exact identity of its neighbor; V^2 assumes only the 'height' of its neighbor. The following three rules state this less figuratively.

[18] $V^2 = /i/ \parallel \_\_(C)V^H$

[19] $V^2 = /e/ \parallel \_\_(C)V^L$

[20] $V^5 = V_1 \parallel \_\_(C)V_1$

Examples:

[18]	nV²-gito-ke	ni-gito-ke	'we sing'
[19]	nV²-gata-ke	ne-gata-ke	'we speak'
[20]	g-V⁵-ito-ke	g-i-ito-ke	'I sing'
[20]	g-V⁵-ata-ke	g-a-ata-ke	'I speak'
[20]	j-V⁵-eg-ke	j-e-eg-ke	'I weep'
[20]	j-V⁵-o-ke	j-o-o-ke	'I see'
[20]	b-V⁵-ug-ke	b-u-ug-ke	'I beat'

Another phenomenon, which also may be considered a case of vowel-harmony, is the following restriction on vowel-sequences: there are no 'overlong' vowel-sequences. This is the only known case of automatic alternation[13] in Juang;

[21] $V_1 \rightarrow \emptyset \parallel V_1V_1\_\_$.

Example:

	{-V⁵-}{cooli-}{-ke}		
	c-V⁵-ooli-	-ke	(see §3a, §4, for infixation rule)
[20]	c-o-ooli-	-ke	
[21]	c-o-oØli-	-ke	
	c-o-oli-ke		'I stir'

3. Morphology

3.0 Form-classes

Three major form-classes are recognized for Juang: verbs, nominals, and invariants.

The verbs consist of finite verbs and the non-finite imperative and negative verbs and gerundive.

The nominals consist of pronouns and nouns.

All verbs and nominals are defined by the formulas given in §§3.121, 3.213, 3.226.

There are three subclasses of morphologically invariant forms: postpositions (PP), adjectives (Adj), and adverbs (Adv). As these classes have not been well investigated, they are represented only by suggestive lists.

The class-membership of any given form is open to question, as there are at least a few examples of multiple class-membership: /jaliŋ/ functions as an Adj in

aro jaliŋ 'he is tall',

but in aro jaliŋ-ke 'he is growing'

it functions as a verb-base, and in

aro jaliŋ te asi-ke 'he is on a high place'

it functions as a noun. This situation indicates that further work on Juang may turn up a classification-scheme quite different from that adopted here.

3.1 Verb morphology

3.11 Composition of the finite verb

3.110 General

Every Juang finite verb is a sequence of from two to six morphemes. Each finite verb contains at most one morpheme from each of the following seven classes.

1. Base
2. Causativity
3. Person (of subject)
4. Number (of subject)
5. Aspect
6. Tense
7. Object

/jaliŋ-ke/ 'he is growing' is an example of the 'minimal' Juang finite verb, containing only two morphemes, base and tense.

3.111 Base

3.111.1 Classes

Juang verb-bases are divided into two major classes, class I and class II (corresponding roughly to a 'transitive/intransitive' semantic distinction, which is common among Munda languages, but which in Juang does not perfectly fit the structural categories). Class81 bases take one set of tense-suffixes, and class-II bases take a different set (see §3.116).

Membership of individual bases can change from one major class to the other.

(1) To every verb-base there corresponds a second base (called the gerundive base; see §3.111.3), which may be looked on as the output of a morphophonemic transformation; all gerundive bases belong to class II.

(2) Certain class-II bases shift to class I with the addition of the causative affix (these are class-IIC bases; see below).

(3) And finally, there is a small group of about a dozen bases (called class III) which apparently can occur with either class-I or class-II tense suffixes; there seems to be no change in meaning attendant upon this shift of class.[14] It is useful to consider these class-III bases as belonging to both class I and class II: class I when used with class-I tense suffixes, otherwise class II. Only classes I and II will enter into subsequent discussions.

Class-I bases fall into two non-overlapping subclasses, IA and IB. Certain verb-forms built on class-IA bases can contain certain object morphemes; no form built on a class-IB or a class-II base can.

Mahapatra 1962c, from which my §6 was prepared, does not make this distinction. My own corpus includes the following list of class-IA bases, which probably is not exhaustive.

Class-IA Verb-bases

absoŋ-	sell	lej-	scold
aitog-	scratch	lobtor-	burn
baṇḍe-	lie, cheat	loŋ-	look at
bar-	beat	maje-	rinse
botae-	command	mane-	obey
dolae-	shake	ojae-	lose
ḍake-	call	roj-	milk
ḍiñ-	give	saḍe-	leave
gaj-	fry	secej-	give a haircut to
gata-	speak, say	sob-	hold
goḷa-	cook	taḷam-	caress
goṇe-	count	taŋ-	measure
gose-	rub	tice-	carry on head
jan-	lick	tin-	bury
jim-	eat	tiñtar-	carry on shoulder
jiŋ-	ask	tom-	throw
jo-	see	ṭaṇe-	pull
juḷi-	copulate	ṭeke-	lift
keḍab-	bite	ṭele-	push
keñ-	cut	uci-	wipe
koŋ-	know	un-	keep

Crosscutting the classifications discussed above, is the classification of verb-bases on the basis of their privileges of occurrence with the causative morpheme.[15]

Class-C bases can occur with the causative morpheme; class-N bases cannot.

In the lexical list (§6), class-membership of verb-bases will be indicated in brackets, thus:

[IC, IN]
[IIC, IIN]
[IIIC, IIIN].

Eight class-I verb-bases which are loans from Oriya lie outside this scheme of classification, for they are paired with the Oriya

causative forms, which were also borrowed into Juang. These bases will be marked [IO] in the lexical list.

Example:

poḷe- [IO] 'read', poḷae- 'cause to read'

3.111.2 Shapes

Every verb-base occurs in two shapes, called the simple base and the gerundive base (abbreviated "sb" and "gb" respectively, plural "sb's, gb's"). The shape of the gb is in general derivable from that of the sb (see §3.111.3). For this reason only the sb's are given in the lexical list.

3.111.3 Gerundive bases

3.111.30 General

Because of the consistent occurrence of (fully or partially) reduplicated and nonreduplicated forms of a large number of verb-bases in several different morphological and syntactic constructions, the concept of gerundive base has been adopted, and generalized to cover all verb-bases.

The gb can be regarded as an allomorph of the sb, an allomorph which occurs before the continuous aspect morpheme {-nom$_1$}, the negative morpheme {jena}, and the gerundive morpheme {-mi}. The relationship between the sb and the gb is described below by the expression "base Y is the gerundive form of (simple) base X".

3.111.31 Class

All gb's are hereby defined to be class-II bases.

3.111.32 Derivation of the gb from the sb

(1) The gerundive form of any polysyllabic sb is identical in phonemic shape (homophonous) with the sb.

(2) The gerundive form of any monosyllabic sb is given in canonical form [16] by the table below, opposite the canonical form of the sb.

Simple Base	Gerundive Base	Examples sb	gb	gloss
V-	VV-	i-	ii-	'be'
VA-	VAVA-(a)	ur-	urur-	'drink'
VK-	VVK-	iɡ-	iig-	'open'
CV-	CVCV-	jo-	jojo-	'see'
CVS-	CVCVS-	sob-	sosob-	'hold'
CVN_1-	CVN_2CVN_1-(b)	ḍiñ-	ḍiñḍiñ-	'give'
CV_1V_2-	$CV_1CV_1V_2$-	kui-	kukui-	'get'

Notes to the table:

(a) The gerundive form of /on-/ 'go' is /oŋgor-/.

(b) /rim-/ 'be able' has no gerundive form.

If N_1 = /m/, then N_2 is homorganic to C. Otherwise, $N_2 = N_1$.

Examples:

tom-	tontom-	'throw'
kam-	kaŋkam-	'pluck'
jim-	jiñjim-	'eat'

3.112 Causativity[15]

The causative morpheme occurs only with class-C verb-bases. It has seven allomorphs, three of which occur with list-classes; the occurrence of the other four is phonologically determined.

The causative morpheme will not be found in any of the formulas given elsewhere in this sketch: it is not known what restrictions are exercised upon its co-occurrence with members of the other morpheme-classes listed in §3.110.

In view of this peripheral nature of the treatment here given to causativity, it seems desirable to include in this section the statements of distribution of the allomorphs of the causative morpheme.

(1) /-b-/ occurs flg the first vowel in

ari-	[IIC]	'go out (of a house)'	a-b-ri-	'cause to go out'
bulur-	[IIC]	'get up (from lying)'	bu-b-lur-	
batuŋ-	[IIC]	'rake'	ba-b-tuŋ-	
kosor-	[IC]	'dry up (as does water)'	ko-b-sor-	
lage-	[IIIC]	'burn'	la-b-ga-	(irregular)

(2) /u-/ occurs bf

duir-	[IIIC]	'go in, enter'	u-duir-
gur-	[IIIC]	'fall down'	u-gur-
pij-	[IC]	'abandon'	u-pij-
tij-	[IC]	'carry on head'	u-tij-

(3) /o-/ occurs bf

boi-	[IC]	'blow (as wind)'	o-boi-
jan-	[IC]	'lick; splash'	o-jan
ñog-	[IC]	'swallow'	o-ñog-
tej-	[IIIC]	'break (as a rope)'	o-tej-

Elsewhere,

(4) /a-/ occurs bf /b/	bug-	[IC]	'play'	a-bug-
(5)/ap-/ occurs bf /p/	pete-	[IC]	'strike'	ap-pete-
(6)/am-/ occurs bf /m/	maje-	[IC]	'rinse'	am-maje-
(7)/ab-/ occurs bf all other phonemes	dim-	[IC]	'pinch'	ab-dim-

3.113 Person

Juang finite verb-forms can be divided into two groups, called verbs of the non-third person (abbreviated "$\overline{3}$") and verbs of the third person (abbreviated "3").

Third-person verb-forms marked for the future tense (/-e/ in the examples given here) also obligatorily contain the 3-person morpheme {-V5m-}; it occurs nowhere else.

gito-ke	'he sings'
g-im-ito-e	'he will sing'

The occurrence of {-V5n-} is usually redundant: ∅- and 3-person verb-forms are always clearly distinguished from one another by their number affixes, but see now footnote 16a.

3.114 Number

Verb-forms of the ∅ person fall into six number categories, each marked by a different prefix (or, as in one case, infix). On the basis of the behavior of these ∅-person number affixes in the formation of imperatives (see §§3.141.1, 3.141.2), they can be separated into two classes, which are called first-person number-affixes and second-person number-affixes.

Nonthird-person number-affixes

First person			Second person		
∅a.	{-V5-}	'1-Sg.'	∅d.	{mV2-}	'2-Sg.'
∅b.	{ba-}	'1-Dl.'	∅e.	{a-}	'2-Dl.'
∅c.	{nV2-}	'1-Pl.'	∅f.	{V2-}	'2-Pl.'

(The numerals "1, 2" in the above glosses denote 'first, second person' respectively, in the traditional sense; the letters "Sg., Dl., Pl." denote 'singular, dual, plural' respectively, in the traditional sense, and are part of the glosses only--there are no morphemes of singularity, duality, or plurality in ∅ verbs.)

The morphemes ∅a through ∅c constitute class n11 (first person), and ∅d through ∅f, class n12 (second person). ∅a-∅f are class n1.

Verb-forms of the third person fall into three categories, one unmarked for number and the other two marked for it by suffixes.

Third-person number affixes

3a.	(unmarked)	'3-Sg.'
3b.	{-kia}	'3-Dl.'
3c.	{-ki}	'3-Pl.'

The morphemes 3a through 3c constitute affix-class n2 (third person).

There follows a conjugation of the verb /gito-/ 'to sing' in the present tense, showing all number affixes.

	Sg.	Dl.	Pl.
1st	g-i-ito-ke	ba-gito-ke	ni-gito-ke
2nd	mi-gito-ke	a-gito-ke	i-gito-ke
3rd	gito-ke	gito-ki-kia	gito-ki-ki

3.115 Aspect

There are three aspects, one unmarked and two marked by suffixes immediately following the base.

Imperfect	(ip)	(unmarked)
Perfect	(pf)	{-se}
Continuous	(ct)	{-nom$_1$}

The names of the aspect suffixes have two-letter abbreviations; those of the tense suffixes (§3.116) have three-letter abbreviations.

Examples:

gelo-na 'he will play'
gelo-se-na 'he will have played'
gelo-nom-a 'he will be playing'

3.116 Tense

There are four tenses:

		Class I	Class II
Present	(prs)	{-ke}	{-ḍe}
Past	(pst)	{-o}	{-an}
Future	(fut)	{-e}	{-na}
Conditional	(cnd)	{-tan}	{-tan}

Examples:

gito-ke	'he sings'	gelo-re	'he plays'
gitoi-o	'he sang'	gelo-an	'he played'
g-im-ito-e	'he will sing'	g-em-elo-na	'he will play'
gito-tan	'if he sings'	gelo-tan	'if he plays'

3.117 Object

Under certain conditions a verb of Class IA may contain a morpheme showing concord with the object of the verb (see syntax, §5.23). The morphemes showing this concord constitute affix-class o1; they are

	First	Second
Sg.	{-ñ}	{-m}
Dl.	{-ñba}	{-pa}
Pl.	{-neniñ}	{-pe}

For examples, see §5.23.

3.12 Structure of the finite verbs

3.120 General

Juang finite verbs are of nine distinct structural types, which can be compactly and revealingly described by the use of tagmemic formulas.

In regard to the use of the term "tagmeme," it is well to quote immediately Longacre's warning:

> "The reader should be alerted here not to confuse Pike's use of tagmeme with Bloomfield's earlier use of the same term. Pike's use has almost nothing in common with Bloomfield's--except that both men, at the time they began to use the term, were searching for an operational concept that would prove basic to grammar just as the phoneme had proved basic to phonology and the morpheme to the lexicon."[17]

The tagmemic model of grammatical description was inspired by Pike 1954, 1955, 1960; in Elson and Pickett 1962:57-91 (and in earlier versions now out of print) the model is explained and exemplified at some length; and in Waterhouse 1962 the model is used in a grammar of "nearly total" scope (4), for which purpose it is ramified well beyond Elson and Pickett's characterization of it. For present purposes the following discussion of the model will suffice.

> "The tagmeme . . . is a substitution point along with the class found at that point. Of considerable importance here is the correlativity of substitution point and class. A substitution point does not exist apart from the occurrence of some linguistic item or sequence belonging to some class. On the other hand, class itself has no reality apart from occurrences of items and sequences at certain substitution points. Pike therefore refers to the tagmeme as a 'slot-class correlation' " (Longacre, ibid.).

The terminology used in this sketch follows Elson and Pickett, who view the tagmeme as a correlation between a slot and a filler. A slot is a grammatical category which is morphologically marked in a linguistic form (or, in the case of an optional or zero-commutable tagmeme, a category which can be so marked--see below for these terms). A filler is a morpheme or a class of mutually commutable or substitutable morphemes [18] which can occur to mark a given category in a given construction.

A filler is said to fill a slot. Thus pf, the perfect aspect morpheme, may fill the Aspect slot in a given verb, and o1, the class of affixes given in §5.117, may fill the Object slot.

In citing a tagmeme, the name of the slot is written at the left of the name of (or the label for) the filler, and separated from it by a colon (:). For example, a typical tense-tagmeme is

Tense:prs ,

which states that the Tense slot in a particular verb can be filled (only) by the present tense suffix.

When a particular slot may be filled by several (morphemes or) morpheme-classes, this can be indicated by writing the names of (or labels for) all of them, separated by commas for clarity if necessary.

Examples:

Tense:prs,pst,fut	
Verb:V123	("V123" = 'V1, V2, V3')
Nominal:P3,P3,NAB	("NAB" = 'NA, NB')

Suppose that there are two tagmemes T_1 and T_2 in a language, and suppose that there are two constructions K_1 and K_2 in the corpus

for that language, K_1 consisting solely of tagmeme T_1, and K_2 consisting of tagmemes T_1 and T_2, in that order. This situation might be symbolized as follows:

((1)) $K_1 = T_1$

((2)) $K_2 = T_1 \cdot T_2$,

where " · " is used as a symbol of concatenation.

Note that ((1, 2)) are not tagmemic formulas; they are merely being used to explain the tagmemic formulas.

These two formulas can be collapsed into a single formula by means of the symbols "+, $\pm$, $\overline{\pm}$" together with the following corresponding terms and expressions, and rules for their use.

If a certain set of constructions of a language have certain tagmemes in common and it is desirable to state the structure of all those constructions in a single, generalized formula, those tagmemes are called <u>obligatory</u> which are common to all the constructions in the set; those which are not, are called <u>optional</u> tagmemes.

Obligatory tagmemes are always immediately preceded by " + "; optional tagmemes, by either "$\pm$" or "$\overline{\pm}$". "$\overline{\pm}$" is a special case of "$\pm$", and is discussed below.

If a given form is derived from a tagmemic formula containing an optional tagmeme, the slot of that tagmeme is said to be <u>filled</u> or <u>not filled</u> according as the form in question does or does not contain a member of the filler-class of that tagmeme. These expressions are used frequently in the sections on concord, §5.2.

With the aid of the shorthand thus far developed, ((1)) and ((2)) can now be combined, as follows:

((3)) $K_x = +T_1 \ \pm T_2$;

that is, one kind of construction in the language in question consists of an obligatory tagmeme T_1 and, optionally, a tagmeme T_2.

As a final step now in this development of the tagmemic model, consider the following two forms from English, together with their

tagmemic representations:

((4)) 'dog' /dɔg/ N_{sg} = +Nuc:nst

((5)) 'dogs' /dɔgz/ N_{pl} = +Nuc:nst +Num:$\{Z_1\}$;

that is, an English singular noun consists of an obligatory Nucleus slot filled by a noun stem, and an English plural noun consists of an obligatory Nucleus slot filled by a noun stem and an obligatory Number slot filled by the plural morpheme, $\{Z_1\}$.

Now one could combine ((4)) and ((5)) just as ((1)) and ((2)) were combined into a single formula in ((3)); but this would not make clear the fact that $\{Z_1\}$ is the marked member of a binary opposition whose other member is everywhere manifested by ∅--English has no morpheme for "singularity" in nouns.

The existence of this opposition in the structure of English could be shown in the tagmemic formula by positing a zero morpheme of singularity for English nouns, and making the Number tagmeme obligatory:

((6)) N = +Nuc:nst +Num:$\{\emptyset\},\{Z_1\}$.

There are many arguments on both sides of the question of zero morphemes, but they need not be considered here. The position taken here and in Elson and Pickett 1962 is that it is sometimes desirable to have the tagmemic formula show in a special way that a given tagmeme may be systematically absent; that is, "its absence may be as meaningful to the construction as its presence"(60). Elson and Pickett offer no term to be applied to a tagmeme which is subject to systematic absence; for this I suggest zero-commutable, the idea here being that the members of the filler-class of such a tagmeme are commutable with a zero in the sense of commutability discussed in footnote 18--a zero because there can be zeros of many kinds, e.g.: the zero of number here under discussion; phonemic zero, such as occurs as the plural morph in "sheep"; and the zero of case which might be set up for English nouns to make their structure parallel that of pronouns (pronouns are marked for objective case: "he came, I saw him"; nouns are not: "the man came, I saw the man").[19]

It is important to maintain the distinction between phonemic zero and the various types of grammatical zeros. Both are devices used to broaden the generality of descriptive statements, but whereas phonemic zero is posited as the manifestation of morphemes whose presence is not overtly marked in certain environments (such as "three sheep-Ø" versus "three cat-s"), grammatical zeros are posited as the manifestations of grammatical categories which are not overtly marked (as in the other two examples discussed in the preceding paragraph).

In order to make it clear which type of zero is meant, separate symbols will be used for them in this sketch:

Ø = phonemic zero
Ø = grammatical zero.

Zero-commutability, a special case of optionality, is symbolized by "$\pm$" immediately preceding the zero-commutable tagmeme. Thus ((6)) would be rewritten as

((7)) N = +Nuc:nst $\pm$Num:{Z_1} .

3.121 Formulas

It must be understood that the formulas given here will generate verbs such as might be elicited in isolation from an informant; when the verbs appear in sentences, certain tagmemes which in the formulas are optional, may be obligatory or forbidden, and a given filler may be reduced from a whole class to a single member of that class. For a description of these phenomena (concord), see §5.2.

Third Future Continuous

(V1) +Person:{-V^5m-} +Base:gb +Aspect:ct +Tense:fut $\pm$Number:n2

That is, a third-person future continuous verb contains: the person morpheme; the gerundive base; the continuous aspect morpheme; the future tense morpheme; and, commuting with a grammatical zero, a member of the n2 number affix class--in that order.

Examples:

t-om-ontom-om-a	'he will be throwing' (from /tom-/)
k-im-ikim-om-a-kia	'they two will be doing' (/kib-/)
g-am-agan-om-a-ki	'they will be begging' (/gar-/)

Third Future Noncontinuous

(V2) +Person:{-V^{5}m-} +Base:sb ± Aspect:pf +Tense:fut ± Number:n2

That is, a third-person future noncontinuous verb contains: the person morpheme; the simple base; either the perfect aspect-morpheme or no aspect-morpheme at all; the future tense morpheme; and, commuting with a grammatical zero, a member of the n2 number affix class--in that order.

Examples:

k-em-eḍab-e	'he will bite' (/keḍab-/)
k-em-eḍab-ser-e	'he will have bitten'
k-em-eḍab-e-ki	'they will bite'

(V3) +Person:{-V^{5}m-} +Base:sbA^{20} ± Aspect:pf +Tense:fut +Object:o1

Examples:

b-am-ar-o-m	'X will beat thee' (/bar-/)[21]
b-am-ar-cer-o-m	'X will have beaten thee'
k-om-oŋ-e-ñba	'X will know us two' (/koŋ-/)

Third Nonfuture Continuous

(V4) +Base:gb +Aspect:ct +Tense:pst ± Number:n2

Examples:

tontom-om-an	'he was throwing' (/tom-/)
kikim-om-an-kia	'they two were doing' (/kib-/)
gagan-om-an-ki	'they were begging' (/gar-/)

Third Nonfuture Noncontinuous

(V5) +Base:sb ± Aspect:pf +Tense:prs,pst,cnd ± Number:n2

Examples:

kẹdab-ke	'he bites'	
kẹdab-si-ke	'he has bitten'	
kẹdab-ser-c	'he had bitten'	
gar-cer-an-ki	'they had begged'	
gito-tan-kia	'if they two sing'	(/gito-/)
gito-se-tan-kia	'if they two have sung'	

(V6) +Base:sbA ± Aspect:pf +Tense:prs,pst +Object:o1

Examples:

bar-ko-m	'X beats thee'	
bar-o-m	'X beat thee'	
bar-ce-ko-m	'X has beaten thee'	
bar-cer-o-m	'X had beaten thee'	

Nonthird Continuous

(V7) +Number:n1 +Base:gb +Aspect:ct +Tense:pst,fut

Examples:

me-tontom-om-an	'thou wilt be throwing'	(/tom-/)
mi-kikim-om-an	'thou wilt be doing'	(/kib-/)
ne-kẹdam-om-a	'we were biting'	(/kẹdab-/)

Nonthird Noncontinuous

(V8) +Number:n1 +Base:sb ± Aspect:pf +Tense:prs,pst,fut,cnd

Examples:

g-i-ito-si-ke	'I have sung'
ba-kẹdab-e	'we two will bite'
ni-kib-tan	'if we do'
a-gar-ce-na	'you two will have begged'
e-tom-o	'you threw'

(V9) +Number:n1 +Base:sbA ± Aspect:pf +Tense:prs,pst,fut +Object:o1

Examples:

me-jo-ki-ñ	'thou seest me'	(/jo-/)
ba-joi-o-pa	'we two saw you two'	
e-jo-e-neniñ	'you will see us'	

3.13 /asi-/

Verbs built on the verb-base /asi-/ 'to be' are quite common in Juang, and as it is defective it is given special consideration here.

Verbs built on /asi-/ occur in all persons and numbers, but only in the imperfect aspect and only in the present, past, and future tenses, as follows:

Prs:	asi-ke	(Class-I tense suffix)	'he is'
Pst:	asi-an	(Class-II tense suffix)	'he was'
Fut:	ma-asi-na	(Class-II tense suffix)	'he will be'.

For constructions involving verbs built on /asi-/, see §5.173 (18), (19), where the symbol "ASI" is used to mean 'the class of verbs built on /asi-/'.

3.14 Imperative verbs

3.140 General

There are three imperative forms, one each for the first, second, and third persons. There are two imperative particles, /kuu/ and /ḍe/, either or both of which may occur along with the second- and third-person imperatives (/ḍe/ implying a higher degree of insistence and politeness than /kuu/); though such a construction is, strictly speaking, syntactic, it is included here because /kuu/ and /ḍe/ occur both as free forms and as affixes (e.g.: /niñba ba-kuu-gito-e/ 'let's us two sing!' [prefix], /kuu/ 'okay, go ahead and sing!' [free form]), and there seems to be no criterion for deciding which part they play in the second- and third-person imperatives.

In the second-person imperative (§3.141.2), a unique class of number affixes occurs; it is called affix-class n12a, and consists of

-pa 'dual'
-pe 'plural'.

3.141 Formulas

For clarity, the subject tagmemes are also given in the following formulas, although they are not part of the imperative forms.

3.141.1 First-person imperative

(Vi1) ±Subject:P1 +Number:n11 +Particle:/kuu/ +Base:sb +Tense:fut[22]

Examples:

(añ) k-u-u-gito-e	'let me sing!'
(niñba) ba-kuu-gito-e	'let's (both) sing!'
(niñ) ni-kuu-gito-e	'let's (all) sing!'

For concord between a Subject and a Vi1, see §5.223.

3.141.2 Second-person imperative

(Vi2) ±Subject:P2 ±Particle$_1$:/kuu/ +Base:sb +Tense:fut ∓Number:n12a ±Particle$_2$:/ḍe/

Examples:

(am) (kuu) gito-e	'sing thou!'
uaŋ-a-pa (ḍe)	'take a bath, you two!' (/uag-/)
kuu sob-e-pe (ḍe)	'hold, all of you!'

For number concord, see §5.224.

3.141.3 Third-person imperative

(Vi3) ±Subject:P3,NAB ±Particle$_1$:/kuu/ +Base:sb +Inj:{-ḍeme} ∓Number:n2 ±Particle$_2$:/ḍe/

Examples:

(aro) uag-ḍeme (ḍe)	'let him take a bath!'
(aro) kob-ḍeme	'let him eat!'
(aro-ki) gito-reme-ki (ḍe)	'let them all sing!'

{-ḍeme} (/-ḍeme/ ~ /-reme/) is here analyzed as a single morpheme, called the injunctive morpheme. When a larger corpus can be brought to bear on the problem, it may be possible to cut it, perhaps identifying /ḍe ~ re/ with the class-II present tense morpheme (see §4, and rule [17], §2.2), or with the article

morpheme (ibid.); again, it may be that /-dem ~ -rem/ is some type of auxiliary verb and /-a/ is the future tense. These suggestions are not of the nature of fanciful speculation; rather, they are made here in order to point up an area which needs further investigation.

3.15 Negative verbs

(VN1) +Number:n1 +Negator:{ama-} +Base:sb +Tense:prs ± Object:o1

(VN2) +Negator:{ama-} +Base:sb +Tense:prs ± Object:o1 ± Number:n2

Negative verbs never occur in isolation.

For the use of negative verbs in the future negation construction, see §5.132; for number concord, see §§5.221, 5.223; for temporal concord, see §5.21.

3.16 Gerundive

The gerundive (here so called simply because the term was not being used for anything else) is an impersonal verbal form which occurs in three tenses: present, past, and future. The gerundive morpheme is {-mi}, and means roughly 'it is possible to ____'.

(It will be remembered that all gerundive bases are class-II bases.) See §4 for the allomorphy of the gerundive morpheme.

(1) +Base:gb +Gerundive:{-mi} +Tense:prs,pst,fut

Examples:

ṭeke-i-an	'it was possible to lift'	(/ṭeke-/)
gogog-i-re	'it is possible to take'	(/gog-/)
urun-mi-na	'it will be possible to drink'	(/ur-/)

3.2 Nominals

3.20 General

The term "nominal" is used, in tagmemic formulas, to refer to certain classes of nouns and pronouns; elsewhere, it refers to any member of the class of all nouns and pronouns (that is to say, to any noun or pronoun).

3.21 Pronouns

3.210 Case

Juang pronouns occur in two cases, straight and oblique. The oblique case is analyzed as a sequence of straight case (lexical form, or base) and (oblique) case morpheme; see the table in §3.212 and the formulas in §3.213.

3.211 Classes

On the basis of their privileges of occurrence with verbs of the third and nonthird persons, the pronouns are divided into two classes, third and nonthird, symbolized by P3 and P$\not3$ respectively.

The nonthird pronouns are divided into first (P1) and second (P2), on the basis of their privileges of occurrence with verbs of the first and second persons, respectively.

The third-person pronouns are divided into personal (Pers) and demonstrative (Demo), on the basis of the participation of the latter in the locus construction (see syntax, §5.15).

All of these symbols for pronoun subclasses (P3, Pers, Demo, P$\not3$, P1, P2) are used in the chapter on syntax.

3.212 Bases

For convenience, the pronouns are given here in both cases.

Class	Subclass	Straight Case	Oblique Case	Gloss
$\not3$	P1	añ	añ-a	'I'
		niñba	niñb-a	'we two'
		niñ	niñ-a	'we all'
	P2	am	am-a	'thou'
		apa	ap-a	'you two'
		ape	api-a	'you all'
3	Pers	aro	ar-a	'he, she, it'

Demo	ni	nan	'this'
	ini	enan	'this one; this'
	ere	er-a	'that'
	mandi	mandi-a	'what? which? who?'
	auri	aur-a	'that low or distant object or person'
	airi	air-a	'that high person or object'

Only one third personal pronoun is given in the table above, /aro/, which is singular. The third dual and third plural personal pronouns /aro-kia/, /aro-ki/ are derived from /aro/ by formula (3) below.

3.213 Formulas

The symbols "P∅" and "P3" are used to refer to the classes of pronouns described by the following formulas, respectively.

(2) +Base:∅ ±Article:{-de} ∓Case:{-a}[23]

(3) +Base:Pers,Demo ±Article:{-de} ∓Case:{-a} ∓Number:n2

The symbols "P1, P2" are used to denote the classes of pronouns generated by formula (2) when the Base slot is filled by members of the 'first' and 'second' subclasses, respectively.

3.22 Nouns

3.220 General

Every Juang noun is a sequence of from one to four morphemes. Each noun contains at most one morpheme from each of the following five classes: Base, Possessor, Article, Number, and Case. The 'minimal' noun contains only one morpheme, Base.

3.221 Base

3.221.1 Classes

Noun-bases can be divided into two semantic classes (i.e., class-membership is not determined by form), on the basis of a

marked tendency on the part of informants to observe special concord-restrictions in regard to kinship-terms and the names of body-parts.

(By a 'marked tendency' is meant that the longer the informant thinks about a form which violates these rules, the more convinced he is that it is a bad form.)

All noun-bases denoting kinship-relations or body-parts are here grouped into class A, and all other noun-bases into class B.

The symbol "N" denotes 'the class of all nouns'. The symbols "NA, NB" denote 'the class of all nouns built on class-A (or class-B) bases,' or, more briefly, 'the class of all class-A (class-B) nouns.'

The expressions "a NA" and "a NB" are read, 'a class-A noun' and 'a class-B noun' respectively.

A second semantic classification of noun-bases cross-cuts that just described: in order to describe certain features of concord shown by the number suffixes (affix-class n2; see §3.114), it is necessary to recognize animate (symbolized by "m") and inanimate symbolized by "i") subclasses.[24]

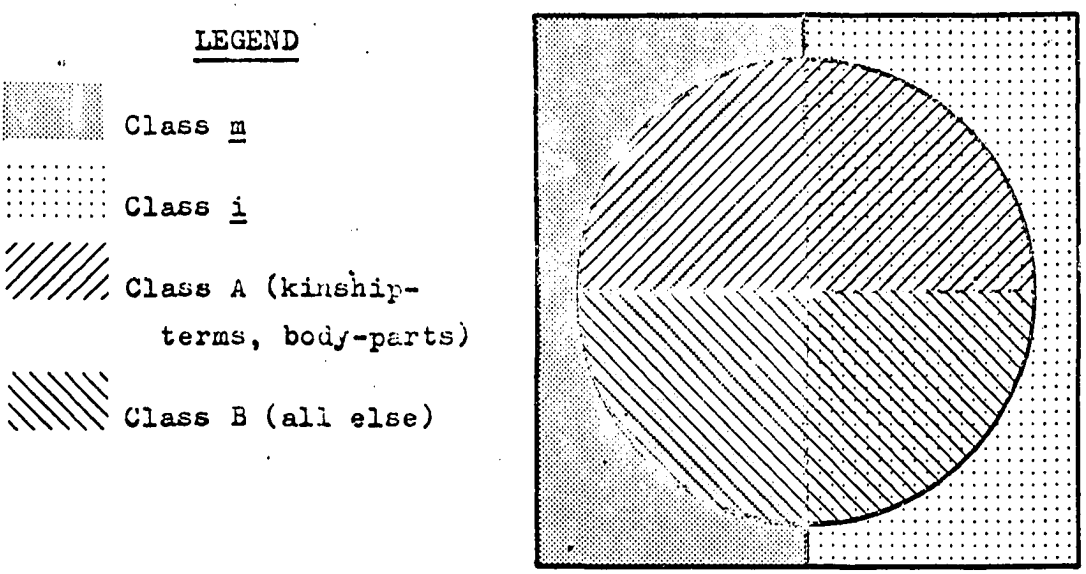
Class m contains all noun-bases denoting humans, animals, and spirits; class i contains all else, including plants.

The symbols "Nm, Ni" are used similarly to "NA, NB" (see above).

The diagram on the next page shows how these four subclasses overlap.

Everything in the upper half of the circle (kinship-terms, body-parts) belongs to class A; everything in the lower half of the circle belongs to class B.

Everything in the left half of the square belongs to class m (animals, spirits, and humans--including kinship-terms); everything in the right half of the square belongs to class i (body-parts and all else).



NOUN-BASE CLASS-INCLUSION

In the lexical list (§6) each noun will be marked for its class membership, for example

baḷoe	[Bi]	'pumpkin'	(class B, inanimate)
bokob	[Ai]	'head'	(class A, inanimate)
kamulog	[Bm]	'man'	(class B, animate)
oba	[Ai]	'father'	(class A, animate)
kuro	[?,i]	'hoof'	(inanimate; A/B classification unknown)

The rules of concord for nominal number affixes are given in §§5.221, 5.222.

3.221.2 Occurrence without affixes

The noun-base can occur alone, without affixes. In this form a class-A base has a 'singular' meaning:

selan gito-ke 'a girl is singing'.

The 'singular/dual/plural' meaning of a class-B base without affixes depends on the number of the verb:

kuḷi seṭog-o 'a berry went bad'
kuḷi seṭog-o-kia 'two berries went bad'

kuḷi seṭog-o-ki '(all) berries went bad'.

3.222 Possessor

In what follows, the term "to be possessed" means 'to occur following a noun or pronoun which is in the oblique case'.

Under certain conditions a possessed noun shows, or can show, concord with the nominal which possesses it. This concord is shown by a possessor suffix in the noun. The possessor suffixes constitute affix-class p1. They are

(First)	(Second)	(Third)
a. {-niñ}	d. {-nom$_2$}	g. {-ḍo}
b. {-niña}	e. {-pa}	
c. {-neniñ}	f. {-pe}	

Examples:

am-a laŋrui-m[25]	'thy rooster'
niñ-a oḷeñ-neniñ	'our cow' (/oḷej/ 'cow')
ar-a oba-ro	'his father'

For possessor concord see §5.24.

Five kinship-terms show special behavior before certain possessor suffixes: /ba/ 'father', /ka/ 'elder brother', /na/ 'parent's mother' vary freely with the reduplicated forms /baba, kaka, nana/ everywhere except before the possessor suffixes, where only the reduplicated forms occur.

Examples:

añ-a kaka-ñ	'my elder brother'
ka-re	'the elder brother'
kaka-re	'the elder brother'

{bokorae} 'younger sister' and {saḍirae} 'wife's younger sister' have the allomorphs

bokora- saḍira- }	before {-nom$_2$}
bokorae saḍirae }	elsewhere.

3.223 Article

Under certain conditions, nominals can contain the article suffix, {-ḍe}. This morpheme is quite frequent in Juang texts, but carries practically no semantic load, it would seem; its essential meaning appears to be that the speaker in some way takes special note of the noun or pronoun containing it. (Perhaps it is in some way culturally significant that /añ-ḍe/ 'I-special' is more frequent than /añ/ 'I'.)

In this sketch the article morpheme is glossed as 'the' when it occurs in nouns, and ignored when it occurs in pronouns. Frequently English grammar requires an (English) article to be used in the gloss of a Juang form which does not contain {-ḍe}; in such cases the English word "a" is used.

Examples:

uaḷi-re bojaro bo oṇ-ḍe	'the child is going to market'
uaḷi bojaro bo oṇ-ḍe	'a child is going to market'

For more examples and a statement of article concord, see §5.25.

3.224 Number

With the exception of the case noted in §3.221.2 (where a noun unmarked for number stands in construction with a verb), a noun unmarked for number has a 'singular' meaning; 'dual' and 'plural' meanings are expressed by the number affixes n2.

Examples:

kuḷi	'a berry'
kuḷi-kia	'two berries'
kuḷi-ki	'(several) berries'

For number concord, see §§5.221, 5.222.

3.225 Case

Like the pronouns, Juang nouns occur in two cases, straight and oblique. The oblique case is marked by the case morpheme, {-a}.

A noun in the oblique case not followed by a postposition has

a meaning roughly equivalent to the possessive in English (sometimes only very roughly).

Examples:

koŋger-a bokob-ḍo	'a young man's head'
jolo-a kiḍog-ki	'tigers in a forest'
	(lit: 'a forest's tigers')

There is no case cohcord.

3.226 *Formulas*

The tagmemic structure of the Juang noun can be stated in two formulas; the only difference between them is in the positions of the Number and Case tagmemes, which appear to be interchangeable.

(4) +Base:A,B ±Possessor:p1 ±Article:{-ḍe} ∓Number:n2 ∓Case:{-a}

(5) +Base:A,B ±Possessor:p1 ±Article:{-ḍe} ∓Case:{-a} ∓Number:n2

It will be noted that formulas (4) and (5) permit the generation of nouns containing five morphemes, whereas it was stated in §3.220 that no noun can contain more than four. The reason why these formulas must be so misleading is that the restrictions on co-occurrence of the various constituent morphemes are such that to indicate them in the formulas would so complicate the formulas as to destroy their utility. These restrictions are stated below, where the symbols "p, a, n, c" are used to denote 'a possessor, article, number, case morpheme', respectively.

1. If n occurs, then a and c cannot both occur.
2. If p and n both occur, then neither a nor c can occur.

Examples:

silitom-ḍo-kia	'his two lips'	(pn)
iti-m-ḍe	'the hand of thine'	(pa)
koŋger-di-kia	'the two boys'	(an)
konon-k-a	'of two sons'	(nc)
mamu-m-a	'of thy mother's-brother'	(pc)
oba-ñ-ḍ-a	'of the father of mine'	(pac)
bokob-ḍ-a	'of the head'	(ac)

3.227 Symbols

In citing particular noun- and pronoun-structures elsewhere in this sketch, the following symbols are used:

P1, P2, P3: see §3.213

N = class of nouns
A = belonging to class A
B = belonging to class B
m = animate
c̃ = in the straight case ('unfilled' Case slot)
c = in the oblique case
p̃ = with 'unfilled' Possessor slot
p = with 'filled' Possessor slot
a = with 'filled' Article slot
n. = with 'filled' Number slot.

Thus

NAp̃ means 'a noun of class A with an unfilled Possessor slot'
NBc means 'a noun of class B in the oblique case'
NAan means 'a noun of class A with filled Article and Number slots'
Nmp means 'an animate noun with filled Possessor slot'.

3.3 Postpositions

The postpositions of Juang (form-class PP) have not been investigated enough to give more than a few hints at their nature; even their exact number is not definite, for their semantic behavior is manifold.

Some govern the straight case and some govern the oblique; some apparently govern both, with some elusive difference in meaning. The best that can be done here is to chart some of them along with what is known or suspected about their structural and semantic significance.

This chart can be no more than a hint as to the nature of this form-class. As so little is known about the postpositions, it is

felt better to give only a sketchy presentation than to say more and give the impression that more is certain. For this reason no account is taken here of certain words in Mahapatra's lexical list (§6) which probably are postpositions.

PP	Case governed	Possible meaning	Examples	
bo_1	st.	'to, in, toward'	/bojaro bo oṇ-ḍe/	'he's going to market'
			/jolo bo oṇ-ḍe/	'he's walking in a forest'
bo_2	st.	'by means of'	/kolomo bo leke-ke/	'he's writing with a pen'
saŋe	ob.	'with'	/añ-a saŋe/	'with me'
te_1	st.	'to, in'	/jolo te asi-ke/	'he's in a forest'
te_2	ob.	'in'	/ḍag-a te asi-ke/	'it's in water'
ta_1	st.	'from'	/jolo ta oṇ-ḍe/	'he's going from a forest'
ta_2	ob.	'from'	/am-a ta gog-an/	'he took from you'

3.4 Adjectives and adverbs

These words have not been searchingly investigated as have the nouns and verbs; they are classified largely on the basis of meaning. although there are indications that a larger corpus would show significant differences in distribution for the two classes.

Among the adjectives are such words as

ḍio	'good, nice, fine, correct, etc.'
bagi	'bad, wrong, etc.'
kuba	'big'
sano	'small'

Among the adverbs are /coñcoḷo/ 'quickly' (an Oriya loanword), and the special subclass of temporals.

3.41 Temporals

The temporal adverbs are divided into three subclasses, on the basis of their privileges of occurrence with verbs of the various tenses. The classes are called present (PRS), past (PST), and future (FUT).

PRS:	misiñ	'today'
PST:	aṇḍeka	'yesterday'
	aciŋka	'day before yesterday'
FUT:	teraˊ	'tomorrow'
	moiaŋ	'day after tomorrow'
	moreŋ	'two days after tomorrow'

The class of all temporals is called "T". For temporal concord see §5.21.

4. Allomorphy

Name of morpheme	Symbol	Allomorphs	Environments
Third Person	$\{-V^5m-\}$	$/mV^5-/$	bf vowel-initial verb-bases
		$/-V^5m-/$	bf first vowel of other verb-bases
∄ Number			
First			
∄a.	$\{-V^5-\}$	$/(-)V^5/$	bf first V of all verb-bases
∄b.	{ba- }	/ba-/	all
∄c.	$\{nV^2-\}$	$/nV^2-/$	__C
		$/nV^5-/$	__V
Second			
∄d.	$\{mV^2-\}$	$/mV^2-/$	__C
		$/mV^5-/$	__V

∄e.	{a-}	/a-/	all
∄f.	{V²-}	/V²-/	all
3 Number	{-kia}	/-kia/	all
	{-ki}	/-ka/	{-a}___ (case morpheme)
		/-k/	___{-a} (case morpheme)
		/-ki/	elsewhere
Pf aspect	{-se}	/-se/	all
Gt aspect	{-nomɹ}	/-nom/	all
Prs tense	{-ke}	/-ke/	with class-I verb-bases
	{-ḍe}	/-ḍe/	with class-II verb-bases
Pst tenst	{-o}	/-o/	with class-I verb-bases
	{-an}	/-an/	with class-II verb-bases
Fut tense	{-e}	/-e/	with class-I verb-bases
	{-na}	/-na/	with class-II verb-bases
Cnd tense	{-tan}	/-tan/	all
Object suffixes	{-ñ}	/-ñ/	all
	{-ñba}	/-ñba/	all
	{-neniñ}	/-neniñ	all
	{-m}	/-m/	all
	{-pa}	/-pa/	all
	{-pe}	/-pe/	all

Negator	{ama-}	/ama-/	flg members of n1
		/a-/	elsewhere
Gerundive	{-mi}	/-mi/	bf {-na} (class-II future tense)
		/-i/	elsewhere
Article	{-ḍe}	/-ḍe/	all
Possessor suffixes			
a.	{-niñ}	/-niñ/	C___
		/-ñ/	V___
b.	{-niñba}	/-niñba/	C___
		/-ñba/	V___
c.	{-neniñ}	/-neniñ/	flg /V, r, n/
		/-eneniñ/	flg /ñ/
		/-nneniñ/	elsewhere
d.	{-nom$_2$}	/-nom/	flg C and flg /bui/ 'mother'
		/-m/	elsewhere flg V
e.	{-pa}	/-pa/	all
f.	{-pe}	/-pe/	all
g.	{-ḍo}	/-ḍo/	all
Negative	{jena}	/jena/	all
Injunctive	{-ḍeme}	/-ḍeme/	all

5. Syntax

5.0 General

This chapter describes (1) the basic structures of common Juang constructions longer than a single word, and (2) the modifications and restrictions (here lumped together under the general name of concord exercised on the structures of individual words when they occur together in the syntactic construction.

Lines drawn beneath the tagmemic formulas for various constructions show which filler show concord with one another.

The constructions discussed in §5.1 cannot be regarded as anything but very sketchy indications of what Juang syntax may be like; most certainly do they permit the generation of utterances which the informants refused to accept, such as "That man is my horse." However, though their conception of acceptibility was clearly based on realism and meaningfulness, the linguist's is based on grammaticalness,[26] and it is believed that at least most of what is said in the following sections will prove to be true when the Juang language is researched more thoroughly.

5.1 Some common syntactic constructions

5.10 A degenerate construction

One possible sentence-type in Juang consists of just a verb:

+Verb:V1-V9,Vi1-Vi3.

Because of this 'ability' of the verb to stand alone as a complete utterance, the fillers of the slots in the verb are taken as the determining members of morpheme-pairs showing concord with one another in longer utterances; see §5.2.

5.11 Possessive

The possessive construction consists of a nominal in the oblique case (the 'possessor') followed by a noun (the 'head' of the construction).

(6) +Possessor:Nc,PZc,P3c +Head:N

Examples:

koŋger-a iña	'a young man's house'
am-a oba-m	'thy father'
ḍag-a koraŋ	'a fish in water'
	(lit: 'water's fish')

For concord in possessive constructions see §5.24.

5.12 Attributive

Numerals, adjectives, and demonstratives can function as modifiers in attributive constructions.

(7) +Attribute:Adj,Demo,Num +Head:N

Examples:

sunduru kote	'red cloth'
ni iña	'this house'
auri konter	'that bird up there'

Less commonly (probably for emphasis) the Head precedes the Attribute, thus:

(7a) +Head:N +Attribute:Num,Adj

Examples:

añ-a nana-Ñ muñṭo asi-ke	'I have one grandmother'
	(see §5.173 (18))
ini iña kuba	'this is a big house'

The latter example is derived from formula (16), §5.172, by means of expansion (§5.16).

In attributive constructions there is concord between Numeral and Head; see §5.225.

5.13 Negation

5.130 General

There are two syntactic constructions which because of their meanings are called negations. Both involve the negative morpheme {jena}. These two constructions show temporal concord similar to

that shown by the finite verbs in the past and future tenses (see §5.21), and accordingly are called the past negation and the future negation.

5.131 Past netagion (PN)

(8) ±Subject:Nominal +Verb-base:gb +Negative:{jena}

Examples:

baḷoe seṭog jena	'a pumpkin isn't spoiling; a pumpkin didn't spoil'
·añ koŋkoŋ jena	'I don't know; I didn't know'

There is no concord <u>within</u> this construction; for temporal concord where a negation occurs within a predicative construction, see §5.21.

The symbol "PN(8)" is used elsewhere (see formula (17), §5.173) to denote the class of all past negation constructs.

5.132 Future negation (for VN1, VN2, see §3.15)

(9) ±Subject:P3 +Verb:(VN1) +Negative:{jena}

(10) ±Subject:P3,N. +Verb:(VN2) +Negstive:{jena}

Examples:

niñba ba-ama-gito-ke jena	'we two don't sing, shan't sing'
am ma-ama-gito-ke jena	'thou singest not, shalt not sing'
aro a-ur-ke jena	'he isn't drinking, won't be drinking'
aro-ki aitog-ki-ki jena	'they aren't scratching, won't be scratching'
aro am te jo-ko-m jena	'he doesn't see thee, won't be seeing thee'

For temporal concord, see §5.21; for number concord, see §§5.221, 5.223.

5.14 Transitive

The transitive construction has the tagmemic formulas

(11) +Subject:Nominal +Nominal:Nmč, PƷč, P3č +PP:{te} +Verb:VIA[27]

(12) +Subject:Nominal +Nominal:Nič +PP:{te} +Verb:VIA

Examples:

kamulog am te ḍake-o-m	'a man called thee'
aro ualị te uci-ke	'he's drying a child'
aro ṭebulu te uci-ke	'he's wiping a table'
aro ṭebulu uci-ke	'he's wiping a table'

For object concord in transitive constructions, see §5.23; for subject/verb concord, see §§5.221, 5.222, 5.223.

5.15 Locus

Various spatial relationships are expressed by locus constructions consisting of a nominal and a postposition.

Very little is known about which postpositions can occur with which nominals or the exact meanings of the resulting constructs.

(13) +Nominal:Ni, Place-name,Demo +Postposition:PP

Examples:

bojaro bo	'to market'
jolo te	'in a forest'
maṇḍi te	'where?'
nan te	'here'
ḍag-ḍ-a te	'in the water'

5.16 Expansion

Any unpossessed noun in the straight case which occurs in an utterance generated by the formulas given in this chapter, may be syntactically expanded by making it the head of an attributive construction, provided that the rules of concord (§5.2) are observed. For example

ni oḷej 'this is a cow'

(from formula (16), §5.172) can be expanded to

ni ḍio oḷej 'this is a good cow'

or to

ni añ-a oḷej 'this is my cow'

or to

ni ar-a oba-r-a oḷej-ḍe 'this is the cow of his father'

and so on.

Expansion is freely used in the exercises given for Topic/comment constructions, §5.17.

5.17 Topic/comment

5.170 General

Under this heading are included a number of structurally similar sentence-types which in a grammar of greater scope would be treated differently--separately and much more fully--but which it is felt are adequately enough described by the formulas given in this section, though these are far from being individually complete or jointly exhaustive.

Three types of topic/comment constructions are described here: locative, descriptive, and predicative.

5.171 Locative

(14) +Topic:Nominal +Comment:Locus(13)

Examples:

añ-a paunṭon maṇḍi te	'where's my pen?'
ere ṭebulu te	'it's on the table'
konter airi te	'a bird is up there'
iña-m puri te	'thy house is in Puri'

5.172 Descriptive

(15) +Topic:Nominal +Comment:Adj

(16) +Topic:Nominal +Comment:Nc,PØc,Nc̃

Examples:

ini bagi	'this one is bad'
ni ḍio	'this is good'
am-a kote-ro-m sunduru	'thy cloth is red'
niñba kala	'we two are deaf'
ni oḷej	'this is a cow'
ere oḷej-ḍe oba-ñ-ḍ-a	'that cow is my father's' (neither occurrence of {-ḍe} is translated)

5.173 Predicative

The predicative sentence-type consists of a Subject slot filled by a nominal (type (18) contains as subject a possessive construct, which is an expanded nominal), and a Predicate tagmeme which can be expanded to

+Complement +Verb,

as in (19), or to

±Temporal ±Adv ±Locus +Verb,

as in (17).

(17) +Subj:Nominal ±Temporal:T ±Adverb:Adv ±Locus:(13)
+Verb:[V1-V9,VN1,VN2,PN(8)]

Examples:

aro-ki aṇḍeka ḍio gitoi-o-ki	'they sang well yesterday'
añ tera coñcoḷo puri bo o-on-a	'I'll go quickly to Puri tomorrow'
aro aciŋka puri te asi-an	'he was in Puri day before yesterday'

(18) +Subject:Possessive(6) +Predicate:ASI

Examples:

añ-a kuṭumo-ñ asi-ke	'I have a wife'

ar-a kaka-ro ombaṭo asi-ki-kia 'he has two brothers'

(Compare this with similar constructions in Oriya and Hindi, e.g. Hindi /mere do bhai hɛ̃/ 'I have two brothers'.)

(19) +Subject:Nominal +Complement:N,Adj +Verb:ASI

Examples:

añ-a kuṭumo-ñ sano asi-ke 'my wife is small'

ni añ-a iña-ñ asi-na 'this will be my house'

5.2 Rules of concord

5.21 Temporal concord

In a predicative construction of type (17), only certain of the temporals (see §3.41) can occur with a negation in a given tense and aspect. The table below gives the names of the subclasses of temporals that can occur with verbs of each tense and aspect, and with negations of each tense.

	Imperfect Aspect	Perfect Aspect	Continuous Aspect	Negation
Present Tense	PRS	PRS		
Past Tense	PRS PST	PRS PST	PRS PST	PRS PST
Future Tense	PRS FUT	PRS FUT	PRS FUT	PRS FUT
Conditional Tense	PRS FUT	PRS PST		

5.22 Number concord

5.221 Subject/Verb, third person

In a sentence of the following structure

(20) +Subject:P3,Nm +... +Verb:V1-V6

(21) +Subject:P3,N +... +Verb:Vi3

there is number concord between Subject and Verb, as follows:

If the Number slot in the Verb is filled by:	then the Number slot in the Subject must be filled by:
Ø	Ø
-kia	-kia
-ki	-ki

Examples:

aro urun-om-an	'he was drinking'
aro-kia urun-om-an-kia	'they both were drinking '
aro-ki urun-om-an-ki	'they were drinking'
kamulog gito-ke	'a man is singing'
kamulog-kia gito-ki-kia	'two men are singing'
kamulog-ki gito-ki-ki	'men are singing'

5.222 Subject/Verb, inanimate

In a sentence of the structure

(23) +Subject:Ni +... +Verb:V1-V6

the Number slot in the Subject is optional; if it is filled, then the concord rules of §5.221 must be observed.

Examples:

baḷoe-ki seṭog-ki-ki	'pumpkins are spoiling'
baḷoe seṭog-ki-ki	'pumpkins are spoiling'

5.223 Subject/Verb, nonthird person

In sentences of the structures

(24) +Subject:P3 +... +Verb:V7-V9

(25) +Subject:P3 +... +Verb:(VN1)

(26) +Subject:P1 +... +Verb:(Vi1)

there is again number concord between Subject and Verb:

If Number slot in Verb is filled by:	then Subject slot must be filled by:
{-V5-}	añ
{ba- }	niñba
{nV2-}	niñ
{mV2-}	am
{a-}	apa
{V2-}	ape

Examples:

añ g-i-ito-ke	'I am singing'
niñba ba-gito-ke	'we two are singing'
niñ ni-gito-ke	'we are singing'
am mi-gito-ke	'thou art singing'
apa a-gito-ke	'you two are singing'
ape i-gito-ke	'you are singing'

5.224 Second-person Subject/imperative

In a sentence of the structure

(27) +Subject:P2 +... +Verb:(Vi2)

there is concord between the Subject and the filler of the Number slot in the verb, as follows:

If Number slot in Verb is filled by:	then Subject slot must be filled by:
Ø	am
-pa	apa
-pe	ape

Examples:

am kuu gito-e	'sing thou!'
apa kuu gito-e-pa	'sing, you two!'
ape kuu gito-e-pe	'sing, all of you!'

5.225 Numeral/noun concord

In an attributive construction of type (7) or (7a), there is concord between the Head and the Attribute when the latter slot is filled by a numeral. This conforms with the singular/dual/plural distinction found elsewhere in the language:

If the Numeral slot is filled by:	then Number slot in noun must be filled by:
muñṭo 'one'	Ø
ombaṭo 'two'	-kia
(any other numeral)	-kí

5.23 Object concord

In a transitive construction of the type described by formulas (11,12), if the following tagmemes occur,

(28) +Nominal:Nč,P3č,PǯČ +PP:{te} +Verb:(V3,6,9)

then the Object tagmeme in the Verb becomes optional; if the Object slot is filled, then the following concord situation obtains:

If Nominal slot is filled by:	then Object slot in Verb must be filled by:
añ	{-ñ}
niñba	{-ñba}
niñ	{neniñ}
am	{-m }
apa	{-pa}
ape	{-pe}
P3č	Ø
Nč	Ø

Examples:

am	añ	te	me-jo-ki-ñ	'thou seest me'
kamulog	niñba	te	gatai-o-ñba	'a man talked to us two'
selog	niñ	te	kedab-o-neniñ	'a dog bit us (all)'
añ	am	te	j-o-o-ko-m	'I see thee'
aro	apa	te	jo-ke-pa	'he sees you two'
aro	ape	te	jo-ke-pe	'he sees you (all)'
añ	aro	te	j-o-o-ke	'I see him'
añ	iña	te	j-o-o-ke	'I see a house'

5.24 Possessor concord

When a noun is possessed by a noun or pronoun, the following concord situations obtain:

5.241 3-person pronoun possessing a class-A noun

In a sentence containing the tagmemes

(30) +Pronoun:P3c +... +Noun:NAp

there is concord between the fillers of the Pronoun slot, and the Possessor slot in the Noun:

If Pronoun slot is filled by:	then Possessor slot must be filled by:
añ[28]	{-niñ}
niñba	{-niñba}
niñ	{-neniñ}
am	{-nom$_2$}
apa	{-pa}
ape	{-pe}

Examples:

bokoḷob; oba	'nephew; father'
añ-a bokoḷom-iñ, ona-ñ	'my nephew, my father'
niñb-a bokoḷom-iñba, oba-ñba	'our (Dl.) nephew, our father'
niñ-a bokoḷom-neniñ, niñ-a oba-neniñ	'our nephew, our father'
am-a bokoḷom-om, oba-m	'thy nephew, thy father'
ap-a bokoḷob-pe, oba-pe	'your (Dl.) nephew, father'

5.242 3-person nominal possessing a class-A noun

In a sentence containing the tagmemes

(31) +Nominal:P3c,Nc +Noun:NAp

the Possessor slot (contained in the NAp) must be filled (by {-ḍo}). That is, the Noun slot in (31) cannot be filled by a NAp̃.

Examples:

ar-a oba-ro	'his father' (lit: 'him-of father-his')
oḷej-a bokob-ḍo	'a cow's head' (lit: 'cow-of head-its')

5.243 Nominal possessing a class-B noun

In a sentence containing the tagmemes

(32) +Nominal:PØc,P3c,Nc +Noun:NB

the Possessor tagmeme within the Noun is optional, but if it is filled it must be filled in accordance with the rules given in §§5.241, 5.242.

Examples:

añ-a iña-ñ	'my house'
añ-a iña	'my house'
ar-a-kia juiŋ-ḍo	'their (Dl.) straw'
ar-a-kia juiŋ	'their (Dl.) straw'
ḍag-a roŋgo-ro	'color of water'
ḍag-a roŋgo	'color of water'

5.25 Article concord[29]

5.251 Class-a noun possessed by nonthird pronoun

In a possessive construction of the type

(33) +Pronoun:PØc +Noun:NA

both the 'possessor' and the 'possessed' can contain optional Article tagmemes, subject to one restriction.

The full formula for such a construction is

(34) +Pronoun:P3 ±Article$_1$:{-ḍe} +Case:{-a} +Noun-base:A
±[+Possessor:p1 ±Article$_2$:{-ḍe}],

and there is concord between Article$_1$ and Article$_2$: if the Article$_1$ slot is filled, then the Article$_2$ slot must be filled also.

Examples:

añ-a	oba	
añ-a	oba-ñ	
añ-a	oba-ñ-ḍe	'my father'
añ-ḍ-a	oba-ñ-ḍe	

but *añ-ḍ-a oba-ñ

5.252 Noun possessed by 3-person nominal

A noun possessed by a 3-person nominal cannot contain the article morpheme; thus the tagmemic formula for such a construction is

(35) +Nominal:P3c,Nc +Noun:[+Base:NAB ±Possessor:p1
∓Number:n2 ∓Case:{-a}].

Examples:

ar-a oba-ro	(not *ar-a oba-re)	'his father'
iñ-a tuḷi	(not *iñ-a tuḷi-re)	'roof of a house'

6. Lexical list

6.0 General

This list is taken from Mahapatra 1962c, which was based on a standard word-list compiled for the Munda Language Research Project by Mr. David Stampe, of the University of Chicago.

All noun- and verb-bases are followed by bracketed symbols indicating their class membership, for which see §§3.221.1 and 3.111.1. All and only verb-bases end in hyphens (-).

Mahapatra's phonemic system for Juang is the same as mine, except that wherever I have /-r#/ he has /-ḍ#/. Thus for 'bird' I have /konter/, while he has /konteḍ/; he then writes a morphophonemic

rule to provide the /r/ in /kɔnter-a/ 'of a bird'. If a contrast between /ḍ, r/ in word-final position exists, this practice will obscure it; as far as I know, such a contrast does not exist.

The following abbreviations are used in the list:

caus.	'causative'
interrog.	'interrogative'
intr.	'intransitive'
pl.	'plural'
sg.	'singular'
tr.	'transitive'.

An asterisk (*) at the left of an entry indicates that it is correctly spelled but incorrectly alphabetized.

The alphabetical order used is basically Latin; nasalized vowels follow plain ones, retroflex stops and laterals follow plain ones, and the nasals are arranged as in the chart in §1.11, reading from left to right:/m, n, ṇ, ñ, ŋ/.

Footnotes to the Juang-English list are collected separately from the footnotes to the body of this sketch, and are found at the end of the list.

-a		of, at
abgog-	[IN]	send
absoŋ-	[1IN][1]	sell
abtoŋ-	[IC]	threaten
abṭuŋ-	[I,?]	break, as a stick, tr.
aceta		after
aciŋka		day before yesterday
aclaŋ	[Ai]	tongue
aḍa-	[IC]	drive (cattle)
aḍa-	[IN]	lead (animal)
aḍa	[Bi]	ladle
aḍi		who (interrog.)
aḍo	[Ai]	bone
aeḷa	[Ai]	flesh
aeḷa	[Bi]	meat
agila		before
agoḍ	[Bi]	carrying-pole
aja-	[IC]	chew (food)
aja	[Am]	grandfather
ajguḷiaŋ-	[IIC]	cling to
aji	[Am]	elder sister
ajikaḍ	[Am]	wife's elder sister
ajoḍ		sour
akaso	[Bi]	sky
akimo	[Bm]	govt. officer
akob	[Bi]	ashes
alaraitom	[?,i]	saliva
aliŋa		above
alo		light (adj.)
aluŋ		in, inside
aḷaŋ-	[I,?]	plaster
aḷo	[Bi]	bamboo
aḷobog	[Bm]	orphan
am		you (sg.)
añ		I
aṇḍeka		yesterday
aṇḍia	[Bi]	beer
aṇḍij-	[IIC]	put on, wear
aṇḍra		white
aṇḍramoḍ	[Ai]	white of eye
aṇṭokoḷob	[Ai]	calf (of leg)
aṇṭu	[Ai]	knee
aṇṭue-	[IIC]	kneel
aṇu	[Bm]	white-faced monkey
aŋatom-	[IIN]	yawn
aŋguḷi	[Ai]	finger, toe
aŋkusi	[Bi]	hook
aoji-	[IIN]	lean
aoḷe	[Ai]	lung
apa		you two
ape		you pl.
aposa-	[IN]	jerk
aram	[Am]	son-in-law
ardi	[Bi]	hunting
are-	[IIIN]	defeat
ari-	[IIC]	go out of (a house)
ari-	[IIC]	be defeated, lose
ariga	[Bi]	vegetable; curry
aro		he; she
aroki		they (all)
arokia		they two
arub	[Bi]	piece of broken earthen pot
asi-	[IIIN][2]	be
asimoḍ	[Ai]	eyelid
aso		near
asoŋ		bitter
atan	[Ai]	liver
ati	[Bm]	elephant
aticiṇḍae	[Am]	younger brother's daughter
aṭiḍ	[Am]	father's elder brother
atikon	[Am]	younger brother's son
atirae	[Am]	mother's elder sister
atma	[?,?]	soul
aṭa	[Bi]	gum; flour
aṭaaṭa		sticky
aṭaḍ	[?,i]	tail
aṭakuro	[Bi]	idol
aṭasoḍ	[Bi]	grinder
aṭaṭa		sticky
aṭia	[Bi]	mat
aṭika	[Bi]	pot
*ato	[Bi]	key
aṭo	[Bi]	market
au		and; also
auci-	[IIN]	reach for
auri		yonder
auta		beyond
ba	[Am]	father
babe-	[I,?]	think
babuŋ	[Bm]	snake
bace-	[IC]	choose (out of several)
badi	[Bi]	dispute
bagi		bad; evil; wrong
bagi luko	[Bm]	bad person

bago	[Bi]	plowshare	biḷiki	[Ai]	hair (eyebrows)
baia		insane	biḷim	[Bi]	anthill
baici	[Bi]	pregnancy (illegitimate)	biñci-	[IC]	scatter
			bir-	[IN]	sow
baido	[Bi]	drum	biri		what (interrog.)
baigoṇo	[Bi]	brinjal	bisi		many
baitaḷu	[Bi]	kind of potato	biso	[Bi]	poison
bakso	[Bi]	box	bisuaso	[Bi]	faith
bali	[Bi]	sand	bo-	[IC]	blow (as wind)
baḷeko	[?,m]	baby	bo-	[IN]	flow
baḷi	[Bi]	feces	bo		to (direction)
baḷisiŋ	[Bi]	wall; fence	bodoḷa-	[IC]	change, alter
baḷoe	[Bi]	pumpkin	boḍe-	[IIN]	grow
bamoṇo	[Bm]	brahman	boḍi-	[IIIN]	increase
bana-	[IC]	build (a house)	boḍokaṭo	[Bi]	big drum
banae	[Bm]	bear	boge-	[IC]	command
banog		both	bogo	[Bm]	crane (bird)
baṇ-	[IIIC]	forget	boi	[Bi]	book
baṇiji	[Am]	sister's daughter	boiŋa	[Bi]	edible root
			boĩsi	[Bi]	flute
baŋaḷia	[Bm]	naked person	boj-	[IC]	wash (clothes)
baŋguria	[Bm]	short person	bojari	[Bm]	prostitute
baŋḷij	[Bm]	naked person	boka	[Bi]	stupidity
bar-	[IC]	knock (on door)	boko	[Am]	wife's younger sister's husband; younger brother
bar-	[I,?]	kill			
bardo	[Bi]	gunpowder	bokob	[Ai]	head
barta	[Bi]	message	bokoḷab	[Am]	grandson
basa	[Bi]	place	bokorae	[Am]	younger sister
bata	[Bi]	split bamboo	bokosen	[Am]	granddaughter
baṭuŋ-	[IIC]	rake	boḷaj	[Bi]	twig
bau	[Am]	sister's husband	boḷe-	[IN]	excel
			boḷo	[Bi]	banyan tree
bejeḷa	[Bi]	fungus	boḷo	[Bi]	strength
bejeraŋ	[Bi]	tobacco	boḷoj	[Bi]	bamboo sprout
bela	[Bi]	metal bowl	bona-	[IC]	make (produce)
beleḍ	[?,i]	feather	bonduko	[Bi]	gun
beḷa		during	boṇḍari	[Bm]	barber
beḷo	[Bi]	sun	boṇo	[Bm]	wasp
beḷo oṇḍe	[Bi]	sunset	boṇoja	[Am]	sister's son
beḷoḍeṇḍe	[Bi]	sunrise	boñ	[Am]	mother
ben-	[IC]	spread out; set (a trap)	boñce-	[IN]	live
			boŋga-	[IC]	change
betoŋ	[Bi]	fear	bor	[Bi]	kind of berry
betoŋ-	[II,?]	fear	bor-	[IC]	smear
beṭi-	[IIN]	meet	boro	[?,m]	bridegroom
bidesi	[Bm]	foreigner	boron	[Bi]	unripe fruit
bidiṇi	[Bi]	chisel	boron		alive
biite		why (interrog.)	boronlag		green; blue
bijuḷi	[Bi]	lightning	borso	[Bi]	year
bilei	[Bm]	cat	boso	[Bi]	fat
bilim	[Bi]	ripe fruit	bota-	[IN]	guide
bilim-	[IC]	ripen	bou	[Am]	son's wife
bilua	[Bm]	jackal	bõõro	[Bi]	whirlpool
biḷi-	[IC]	tighten	bua	[Bi]	paddy

bualog	[Bi]	planted field
bubukaḍ	[Bi]	foam
buclug	[Bi]	salt
budianto		intelligent
buḍa	[Bm]	old man
buḍaki	[Bm]	male elders
buḍi-	[II,?]	drown; sink
bug-	[IC]	play (musical instrument)
bug-	[IN]	bark
buga		foolish
bugudug	[?,m]	illegitimate child
bui	[Am]	mother
bui aŋguḷi	[Ai]	thumb
buita	[Bm]	chief
buitaṇi	[?,m]	chief's wife
buituŋ-	[I,?]	spit
buituŋkaḍ	[Bi]	saliva
buja-	[IO]	explain
buji-	[I,?]	understand
buka		foolish
buku	[Ai]	chest
bularia	[Bm]	tramp
buli-	[IO]	wander
bulu	[Ai]	thigh
buliŋkag	[Bi]	bowstring
buḷi	[Bi]	sacrifice
buḷug	[Bi]	drill
buḷu	[Bi]	evening
buḷur-	[IIC]	get up
busuṇḍi		weak
butae	[Bm]	pig
buto	[B]	ghost
buṭua	[Bi]	bag
buutu	[Bi]	vote
ca	[Bi]	tea
cadri	[Bi]	divorce
cai	[Bi]	shadow
cake	[I,?]	taste (eat a sample)
cakro	[Bm]	servant
calaki		clever
calia-	[IC]	skin
calo	[Bi]	leather
calo	[Ai]	skin
caṇi-	[IC]	strain
caŋgu	[Bi]	drum (with dance)
caŋu	[Bi]	" " "
capo	[Bi]	button
cari pako		around
carikuṇia	[Bi]	square
caro	[Bi]	kind of berry
cata	[Bi]	umbrella
cendra	[Bi]	rag
cini	[Bi]	sugar
cini-	[IC]	know (a person)
cino	[Bi]	radish; sign
ciog-	[IC]	drop (tr.)
cipa		tight
cipi-	[IC]	press
cipḷi-	[IC]	squeeze out; wring (clothes)
ciraj-	[IIC]	bounce
cita	[Bi]	cheetah
coḍa		without
coḷe-	[II,?]	be angry
condi-	[I,?]	tangle
cooli-	[IC]	stir
couti	[Bi]	carton (for curry)
cucuḍ	[Bi]	kiss
cucur-	[IC]	kiss
cudi	[Bi]	border (on cloth)
cuki	[Bi]	bead
cuno	[Bi]	lime
cuñci	[Bi]	needle
curi	[Bi]	knife
curo	[Bm]	thief
cuṭa	[Bm]	lame person
cuṭia-	[I,?]	limp
dadi	[Am]	father's younger brother
dagtoṇo	[Bi][3]	rice broth
dam	[Bi]	price
damika		expensive
damṇa	[Bm]	rattlesnake
danto	[Ai]	tooth
dao	[Bi]	sickle
dauḷa	[Bi]	rope
dauṇi-	[IC]	run
dibiria	[Bm][4]	left-handed person
digaḍkania	[?,m]	bride (by force)
dipo	[Bi]	lamp
doia	[Bi]	kindness
dokiṇo	[Bi]	south
doripoḷa	[Bi]	elopement
dorpoṇo	[Bi]	mirror
douri	[Bm]	priest
duara		by
duaro	[Bi]	door
ducari	[Bm]	adulterer
dudo	[Bi]	milk
duko	[Bi]	sorrow
duḷi	[Bi]	dust
duni	[Bi]	fire inside the guest-house

duŋki	[IC]	fan
dupo	[Bi]	incense
durobolo	[Bi]	weakness
dusi		guilty
duso	[Bi]	guilt
ḍaaṇi	[B,?]	witch
ḍag	[Bi]	water
ḍaiŋ-	[IC]	walk
ḍaj-	[IIC]	ascend; climb
ḍake-	[IC]	call; summon
ḍaktro	[Bm][5]	doctor
ḍakua	[Bm]	postman
ḍali	[Bi]	dal
ḍalo	[Bi]	branch
ḍan-	[IC]	cover
ḍaŋkra		selfish
ḍegamia	[Bi]	infection
ḍegan		identical
ḍej-	[IC]	clean
ḍeleŋ	[Bi]	bell
ḍen-	[IN]	come
ḍeṇa	[?,i]	wing
ḍeñ-	[I,?]	shimmer
ḍibiri		left (side)
ḍigaḍ	[Bi]	marriage (by force)
ḍigar-	[IC]	pull; draw (water)
ḍim-	[IC]	pinch
ḍiñ-	[IC]	give
ḍiŋki	[Bi]	rice-husker
ḍio		right; good
ḍio		right (side)
ḍio luko	[Bm]	good person
ḍioti	[Ai]	right arm
ḍogora-	[IC]	search for; find
ḍoko-	[II,?]	sit (on ground)
ḍoḷej		short; low
ḍorua		cowardly
ḍuḍra	[Bi]	hallow[6] tree
ḍuir-	[IIC]	enter
ḍukeito	[Bm]	burglar
ḍukuḍ	[Bm]	ground-frog
ḍuḷa	[Bi]	bouquet
ḍumburi	[Bi]	fig tree
ḍuṇḍuḷijiñ	[Ai]	heel
ḍuṇiŋḍaŋañ	[Bi]	polygon
ḍuŋ-	[IN]	go away
egeḍ	[Bi]	stone
egoṭa		three
ejaŋ	[Bi]	seed
ejelaŋ	[Bi]	thirst
ekan	[Bi]	paddy field
ekca		near
ekeca		near
ekeḷoŋ		now
ekuḍia		together
emaṇo		cold
endaro	[Bi]	night
eṇṭej		little
erag-	[IN]	bloom
ere		that
ese	[Bm]	louse
esoḍ	[Bi]	rice-husking hole
gaaṇo	[Bm]	singer
gaḍra	[Bm]	ram
gaḍua	[Bi]	anklet
gaj-	[I,?]	fry
galo	[Ai]	cheek
gaṇḍami		four
gañjia	[Bi]	purse
gar-	[IC]	reap
gar-	[IIC]	beg
gargaria		striped
gasaj	[Bi]	charcoal
gaso	[Bi]	grass
gata	[Bi]	language
gata-	[1C]	say
gaṭoḍ	[Bi]	pool
gauduṇi	[Bi]	cradle
gaũtia	[Bi]	village god
gão	[Bi]	village
gelegeṇḍag	[Bi]	eggshell
gelo-	[1IC]	joke
gelo-	[IIN]	play
gelo	[Bi]	joke
geṇḍa	[Bm]	snail
geṇḍoŋ		crooked
geregeṇḍa-	[I,?]	tickle
gikũari	[Bi]	cactus
gima	[Bi]	cloud; rain
gir-	[1C]	roast
giri	[Ai]	brain
girido	[Bm]	vulture
girub-	[IN]	belch
gito	[Bi]	song
gito-	[IC]	sing
giṭi	[Bi]	mountain-range
gõãg	[Bm]	crow
gocoḍoŋa	[Bm]	tree-snake
gocomerag	[Bm]	firefly
goda	[Bi]	stalk
godamo	[Bi]	guava
godo	[Bm]	donkey
goḍag	[Bi]	pasture
goḍaṇia	[Bi]	slope
goj-	[IC]	die

goji-	[IIN]	roar
goḷa-	[IC]	cook
goḷa-	[IN]	thread
goḷgoḷi	[Bi]	thunder
gombari	[Bi]	gambari tree
gomojta		dead
gon-	[IC]	weave
gonda-	[IN]	smell
gondo	[Bi]	odor
gonta-	[I,?]	string
goṇḍej	[Bm]	squirrel
goṇe-	[IC]	count
goṇṭa	[Bi]	cymbal
goṇṭamiñ		early
goṇṭi	[Bi]	knot
goṇṭi-	[IC]	tie (a knot)
goṇṭra	[Bi]	snoring
goŋgei	[Bi]	millet
gope-	[IN]	tell
goribo		poor
goroḷo	[Bi]	venom
gose-	[IC]	rub
gosore-	[IIC]	crawl (as a baby)
goṭaŋ	[Bi]	path
goṭaŋkania	[?,m]	bride (by agreement)
goṭe-	[IN]	happen
gouḍa	[Bm]	milkman
grobobaso	[Bi]	pregnancy
gualo	[Bi]	cowshed
guca	[Bi]	bush
guca-	[I,?]	move (tr.)
guci-	[II,?]	move (intr.)
gucti-	[IIC]	wash (hands)
guguj-	[IC]	wash (utensils)
guḷi	[Bi]	cartridge (gun)
guḷo	[Bi]	jagrin
gumpa	[Bi]	cave
guṇa	[Bi]	nosering
guṇḍra-	[IC]	carry (on back)
guṇiḍ	[Bm]	fly
guṇṭa-	[IC]	wrap up
guṇṭiti	[Ai]	elbow
guṇuguṇe-	[IIN]	hum
guo	[Bi]	feces
gurita	[Bm]	married woman
gur-	[IIIC]	fall down
guṭi	[Bi]	cliff
guṭia	[Bi]	axe
guṭukire	[Bi]	thunder
i-	[IIN]	be (exist)
ibalaŋ		bare
ica	[Ai]	buttock
ictaŋ	[Bi]	cowdung
ijgor-	[IIIN]	commit suicide
ijiñ	[Ai]	leg
ini		it
iṇi	[Ai]	body
iṇibo	[Am]	wife's younger brother
iñ	[Bm]	gadfly
iña	[Bi]	house
iñam	[?,i]	blood
irira	[Bi]	earring
isin-	[IC]	boil
iskulu	[Bi]	school
iti	[Ai]	hand
itib	[Ai]	belly
itoro		this year
iṭa	[Bi]	brick
ĩsa	[Bi]	cruelty
jaci-	[IC]	offer
jakocte		until
jaliŋ		high
jaliŋ	[Bm]	tall person
jaliŋa		up
jaliŋjeg-	[IIN]	itch
jalo	[Bi]	web
jalua	[Bm]	liar
jan-	[IC]	lick; splash
jaoṇa	[Am]	twin
jati	[Bi]	castes
jeele	[Bi]	jail
jeg-	[IC]	cry; weep; mourn
jejeg	[Bi]	weeping
jela-	[I,?]	finish
jelejecsoŋ	[Bi]	soot
jenog	[Bi]	broom
jete-	[IC]	win
jetej	[?,i]	eye-sand
jiasuṇi	[Bm]	married woman
jib-	[IN]	touch
jilimilae-	[IIC]	blink
jiloḍ		long
jiluŋ		deep
jim-	[IC]	eat (fruits)
jintu	[Bm]	animal
jiṇṭi-	[IC]	spill
jiŋ-	[IC]	ask (a question
jiŋḷae	[Bm]	porcupine
jo-	[IC]	see
joborodos-	[IN]	rape
jobra	[Bi]	moss
joge-	[IC]	watch; guard
jogoḷa	[Bi]	argument
jojog-	[I,?]	sweep
jolo	[Bm]	friend
jolo	[Bi]	bushy forest

jolom		smooth
jole-	[IO]	fall off
jontu	[Bm]	animal
joŋko	[Bm]	leech
joote		empty
jore-	[IN]	leak
jorka	[Bi]	window
joro	[Bi]	fever
joroṇa	[Bi]	spring (water)
joropoṭa	[Bi]	swamp
jorua	[Bm]	sick person
jualị	[Bi]	yoke
juaṇi	[Bi]	maize
juaŋḍae	[Bm]	woman
juaro	[Bi]	salute
judo	[Bi]	fight
juiŋ	[Bi]	straw
juli-	[IIC]	hang up; swing
julạg	[Bi]	thorn
julị-	[II,?]	copulate
juni	[Bi]	kind of vegetable
juṇṭa	[Ai]	hair (on head)
jupro	[Bi]	drizzle
juri-	[IC]	long for
ka	[Am]	elder brother
kabra	[Bi]	white spots on the body
kaco	[Bi]	glass (drinking)
kaḍa-	[IN]	lead
kaḍa-	[IC]	escort
kaḍu	[Bi]	bracelet
kagojo	[Bi]	paper
kai	[Bm]	tree-ant
kajdoŋ	[Bi]	mud
kajirimamaḍ	[Bm]	centipede
kakag	[Bi]	bow
kako	[Ai]	armpit
kakoro	[Bi]	dew
kala	[Bm]	deaf-mute
kalob	[Bi]	bark (of tree)
kalạḍ	[Bm]	crab
kalạsamoŋgo	[Bm]	lizard
kalạtatutukaḍ	[Bm]	scorpion
kalịa		black; dirty
kalịa	[Bi]	cigar
kalịamoḍ	[Ai]	pupil (of eye)
kalụŋ-	[IN]	urinate
kalụŋtoḍ	[Bi]	urine
kam-	[IC]	pick (fruit)
kamṇa-	[IN]	bore (a hole)
kamoj	[Bm]	ant
kamulog	[Bm]	man
kanda	[Am]	elder brother's son
kaniarae	[?,m]	bride
kanto	[Bi]	wall
kaṇa	[Bi]	hole
kaṇḍae	[Bm]	old woman
kaṇḍaeki	[Bm]	female elders
kaṇḍria	[Bi]	marriage (arranged and attended by the whole community)
kaŋgalọ	[Bm]	beggar
kapuni	[Bi]	loincloth
kapuri	[Ai]	skull
kara	[Bi]	sunlight
karabelọ	[Bi]	noon
karoŋ	[Bm]	fish
kasu-	[IC]	hurt
kasu-	[I,?]	act (drama)
kaṭi	[Bi]	firewood
katiḍ	[Bm]	mosquito
kaṭo	[Bi]	comb
ke		none
keḍab-	[IC]	bite (as a dog)
kelạg	[Ai]	knee-bone
kelẹñ	[Bi]	wound
kelẹñ-moḍ	[Bi]	eye-disease
kelọ	[Bi]	game
kelọnelọ	[Bi]	intercourse
kendamoṇo	[Bi]	sweet potato
keṇḍa	[Bi]	jackfruit skin
keṇḍlaŋ	[Bm]	hawk
keṇṭa		stingy
keñ-	[IC]	chop (firewood)
keñci-	[IC]	spear
keñcua	[Bm]	earthworm
keŋgra	[Bi]	cucumber
kerab-	[IIC]	sing (as a bird)
kereḍ	[Bm]	swallow
kesoḍ	[Bi]	egg-yolk
kiaŋteḍ	[Bm]	sparrow
kib-	[IC]	do
kici		some
kijiŋ-	[IC]	step on
kilọg	[Bm]	tiger
kimiṇḍae	[Am]	grandson's wife
kindore-	[IIIN]	ambush
kindu	[Bi]	kind of fruit
kinob	[Ai]	back
kiñcoŋ	[Bi]	cage
kir-	[IC]	kick
kiram	[Bi]	hilly path
kirasini	[Bi]	kerosine
kire-	[IIN]	scream
kiti		how much (interrog.
ko-	[IC]	shave
koa	[Bi]	mist
kob-	[I,?]	peck

kob-	[IC]	eat (nuts)
koboro	[Bi]	message
koclon	[Bi]	god
kodilo	[Bi]	plantain
koda		strong
kodumali	[Bi]	ornament
koiom	[Bi]	cough
koiom-	[IN]	cough
kojon	[Bm]	blacksmith
kokom	[Bi]	arrow-point
kolej	[Bi]	disagreement
kolen	[Bm]	mouse
kolerai	[Bi]	silence
kolo	[Bi]	mist
kolo danto	[Ai]	molar
kologoro	[Bi]	barn
kolsa	[Bi]	jar
komdod	[Bi]	honey
komdodbui	[Bm]	bee
komdorata	[Bi]	bee-hive
kome-	[II,?]	decrease
komla	[Bi]	orange
komlo	[Bi]	blanket
komodta		covered
komomia		industrious
komosa	[Bi]	cold (disease)
komotra	[Bm]	married man
kompo	[Bi]	basket
kompo	[Bi]	tuberculosis
kon	[Bi]	scaffold
konda	[Bm]	dumb person
konoe	[Bi]	razor
konon	[Am]	son
kontan	[Bm]	calf
konted	[Bm]	bird
koñcelan	[Am]	daughter
koñcelandae	[Am]	elder brother's daughter
koñci	[Bi]	key
koñcio	[Bm]	turtle
koñje-	[IC]	arrange; sort
kon-	[IN]	check; stop
konged	[?,m]	boy
konko	[Ai]	neck
konkolankia	[Bm]	squint-eye
koroka	[Bm]	lame person
kosi	[Bi]	unripe fruit
kosi-	[IIN]	slide
kosod	[Bi]	dry fruit
kosor-	[IC]	dry up (intr.)
kosto		difficult
kote	[Bi]	cloth
kotas	[Bm]	wildcat
kotolud	[?,i]	ear-wax
kualeson	[Bi]	smoke
kuba		fat; thick; big
kudu	[Bi]	kind of gram
kudia		notorious
kuili	[Bm]	quail
kuja	[Bm]	hunchback
kulari	[Bi]	edible green
kuli	[Am]	elder brother's wife
kuli-	[IC]	open
kula-	[IC]	pound (grain)
kulai	[Bm]	buffalo calf
kuli	[Bi]	hoe; berry; bud
kulij	[Ai]	female genitals
kulo	[Bi]	bank (river)
kulto	[Bi]	kind of gram
kulua		jealous
kumbiro	[Bm]	crocodile
kuni	[Bm]	murderer
kuni	[Bi]	murder
kunta-	[IN]	mimic
kundug	[Bi]	embrace
kundug-	[IC]	embrace
kunia	[Bm]	guest
kuno	[Bi]	corner
kunti	[Bi]	necklace
kunto	[Bi]	stump; post (in a building
kuñ-	[IC]	fold (cloth]
kuñimdag	[Bi]	star
kuñkad	[Am]	father-in-law
kunkulan	[Bm]	butterfly
kuo	[Bi]	well
kupuri	[Bi]	pond
kuri-	[IN]	scrape
kurim-	[IIC]	fight (with. each other)
kuro	[?,i]	hoof
kusu	[Bi]	injury
kutom	[Ai]	chin
kutumali	[?,?]	family (primary)
kutumo	[Am]	wife
la-	[IC]	dig (a hole)
lage-	[IIIN]	continue (an action)
lage-	[IIC]	burn (intr.)
lai	[Ai]	navel
lajo	[Bi]	shame
laku-	[IN]	bear (fruit)
lalaj	[Bi]	fire
landa	[Am]	son
landi	[Am]	daughter
lanka		far
lanrui	[Bm]	rooster

lara	[Bi]	laughter	matalo		drunk
lara-	[IC]	laugh	melai-	[IIN]	dissolve
latob	[?,i]	wrinkle	menda	[Bm]	sheep
lebed	[Bi]	sleep	merom	[Bm]	goat
leber-	[IC]	sleep	mesad	[Bi]	day
leke-	[IC]	write	mese-	[II,?]	include
lende-	[IN]	find guilty	mesi-	[IIIN]	mix
lerab	[Bi]	sprout	mico		false
leraŋ	[Bi]	moon	mico	[Bi]	lie
liba-	[IC]	erase	mirigo	[Bm]	deer
lila-	[IC]	tease	misiñ		today
limbu	[Bi]	lemon	mobled	[Bi]	lightning
lo	[Bi]	creeper	modo	[Bi]	wine
loa	[Bi]	iron	moduro		sweet
lode-	[IC]	load	modagosa	[Bi]	courtship
loka	[Bi]	land cleared for plowing	moiaŋ		day after tomorrow
loka		down	moidan	[Bi]	cholera
lomba-	[IC]	stretch	moĩsi	[Bm]	buffalo
loŋ-	[IC]	look at	moja		funny
lor-	[IIC]	hide (oneself)	mokodoma	[Bi]	lawsuit
losomo joro	[Bi]	cold (disease)	mole-	[IC]	twist
lotob	[Bi]	soil	mondog	[Bi]	guest house
loudi	[Bi]	wave (water)	moñco	[Bi]	earth
lubo	[Bi]	greed	moŋga-	[IC]	seduce
lujid		heavy	mooŋo	[Bi]	beeswax
luko	[Bm]	people	moreŋ		two days after tomorrow
lulur-	[IC]	roll; wind			
luŋgi	[Bi]	lungi; dhoti	mosani	[Bi]	cemetery
lutud	[Ai]	ear	motej	[Ai]	nose
luti	[Bi]	shrub	motej	[?,i]	nasal mucus
luti-	[IC]	plunder	motai-	[IIN]	thicken
lutuni	[?,i]	chignon	mudi	[Bi]	ring
maajon	[Bm]	merchant	muduŋ	[?,i]	boil (on skin)
mabdug-	[IC]	nod	mugo	[Bi]	green gram
maduli	[Bm]	bat	mujia		amidst
maganta	[Bm]	beggar	muko	[Ai]	face
magana	[Bm]	beggar	mukule-	[IO]	defend oneself
mai	[Bm]	eligible female	mulia	[Bm]	worker
maiguli	[Bm]	eunuch	muliani	[Bm]	worker (woman)
maje-	[IC]	rinse	muluko	[Bi]	world
malid		blunt	mulutib	[Ai]	rectum
maliko	[Bm]	master	munun	[Bi]	kind of berry
mala	[B,?]	corpse	muñto		one
mali	[Bi]	necklace	muta		dense; thick
mami	[Am]	mother-in-law	muta	[Ai]	fist
mamu	[Am]	mother's brother	muta-	[IC]	grip
mane-	[I,?]	accept	na	[Am]	grandmother
mane-	[IN]	obey	nagom	[Bm]	chief
mano	[Bi]	greeting	nalo	[Bi]	drain
manta		next year	nao	[Bi]	name
marag	[Bm]	peacock	natua	[Bm]	dancer
maso	[Bi]	month	neulo	[Bm]	mongoose
mastro	[Bm]	teacher	ni		this

nicopo	[Bi]	silence
nidusi		innocent
nije		self
niñ		we (pl.)
niñba		we two
nisaso	[Bi]	breath
niso	[Ai]	hair (mustache)
noa		new
noi	[Bi]	river
noko	[Ai]	fingernail
noḷo	[Bi]	pipe
noṇo jintu	[Bm]	wild animal
noñca	[Bi]	small hut in a field
nŏuka	[Bi]	boat
nõb-	[IIN]	stick to
nukuti	[Ai]	fingernail
nunu	[Ai]	breast
nuṇiñ		like
ñog-	[IC]	swallow
caruŋkub	[Bi]	rice from unboiled paddy
oba	[Am]	father
obḷeb-	[IC]	cool (as food)
obo	[Bi]	ceremony
obtej-	[I,?]7	break (as a rope; tr.)
oceṇa	[Bi]	thatch (both ends)
ocoḷor-	[IIC]	overflow
ocore		back
oda		wet
oda	[Bi]	ginger
odiga		more
odo		half
odromia		impious
og-	[IN]	carry (a baby)
oiag	[Bi]	nest
ojaŋ	[Bi]	potato
oji-	[II,?]	stray
ojon	[Bi]	oil
okta	[Bi]	offering
ola-	[IN]	wave (the hand)
olag	[Bi]	leaf; letter
ole	[Bi]	mango
olei		vain
ologa		different
oḷag	[Bi]	cake
oḷeb-	[IC]	scorch (food while cooking)
oḷej	[Bm]	cow
oḷen	[Bi]	hail
oḷog-	[IIN]	alight (as a bird)
oḷomiñ		pair
*koŋ-	[IN]	know (a fact)
oḷondu	[Bi]	room-dust
oḷoŋ	[Bi]	forage
oḷoŋ	[Bm]	rabbit
oḷsua		lazy
ombaṭo		two
omisa	[Bi]	new moon
omoḍ	[Ai]	eye
omoḍag	[?,i]	tears
omoḷo	[Bi]	harvest
on-	[IIN]	go
ondaro poko	[Bi]	dark half of month
ondo	[Bm]	blind person
onosore-	[IC]	aim at
oṇdira	[Bm]	eligible male
oṇdoṇdo		empty
oṇog-	[IIC]	bend
oṇosom	[Bi]	jackfruit
oṇṭa	[Ai]	waist
oŋ-	[IC]	hear; listen
oŋga-	[IC]	peel
oŋgarua	[Bm]	locust
oŋgi	[Bi]	shirt
oŋso	[Bm]	duck
oraj-	[IC]	plant; transplant
ordaṇi	[Bi]	cliff
oren-	[IC]	bring
orto	[Bi]	meaning
osaro		broad
oso	[Bi]	medicine
osto	[Bi]	peepal tree
otoro	[Bi]	perfume
oṭeckaḍ	[?,i]	pus
paaḍo	[Bi]	hill
paantia	[Bi]	dawn
paci	[Bi]	beer
pada	[Bi]	field
padoijiñ	[Ai]	foot
pag-	[I,?]	separate
page-	[IIIN]	break (as a pot; intr.)
pago	[Bi]	turban
pakea-	[IN]	cross
palaṭi-	[IIN]	take off
paḷa	[Ai]	shoulder-blade
pamag		brittle
paṇia	[Bi]	egg-white
paṇiḍuŋ	[Bm]	water-snake
pañce-	[IN]	conspire
pañcogoṭa		five
papo	[Bi]	sin
para	[Bm]	pigeon

pardi	[Bi]	hunting
paso	[Bi]	trap
pasodia	[Bi]	falling star
paṭa	[Bi]	board
paṭi	[Ai]	mouth
paṭi	[Bi]	sound
per-	[IN]	blow (a flute)
pere-	[IN]	return
peṭe-	[IIIN]	untie (a knot)
peṭe-	[IC]	strike
piajo	[Bi]	onion
pij-	[IC]	abandon
piṇḍa	[Bi]	veranda
pitoḷo	[Bi]	brass
pobono	[Bi]	wind
pocimo	[Bi]	west
poisa	[Bi]	money
pokia	[Bi]	rain-hat
polonga	[Bi]	carton (for rice)
polora	[Bi]	hollow[6] tree
poḷe-	[IO]	read
poḷsa	[Bi]	palas tree
pompoḷo		loose
poñjora	[Ai]	rib
poñjuri	[Ai]	spine
porboto	[Bi]	mountain
porca		broad
pore		after
pore-	[IIIN]	fill
pori		like
poroki-	[IC]	examine
potoka	[Bi]	banner
potoḷa		thin
põõre-	[IN]	swim
prubo	[Bi]	east
prubo puruso	[?,m]	ancestor
puala	[Bi]	tattoo
puci-	[IC]	wipe off
pucuka	[?,i]	boil (on skin)
puḍui	[Bi]	kind of berry
puja	[Bi]	worship
puli-	[IIC]	swell (as a wound)
pulo	[Bi]	bridge
pulsi	[Bm]	policeman
puluṭi	[Bi]	funnel
punui	[Bi]	full moon
puṇṭa	[Ai]	intestines
pura		full
purti	[Bi]	world
pusiã jintu	[Bm]	tame animal
pusĩã	[?,m]	adopted child
putuḷa	[Bi]	toy
puṭi-	[IO]	boil (intr.)
puṭo	[Bi]	mud
rag-	[IC]	pour out
rag-	[IC]	tear (intr.)
rag-	[II,?]	tear (tr.)
rago		sharp
rago	[Bi]	anger
raj-	[IIC]	collapse (as a house)
raja	[Bm]	king
raji	[Bi]	agreement
ramaj		torn
ramtiḷa	[Bi]	kind of gram
rampoḷe-	[IC]	scratch (an itch)
randuṇi	[Bm]	cook
rani	[Bm]	queen
raṇḍo	[Bm]	widow
raṇaṭab		rough
raṇkuṇi	[Bm]	greedy ghost
rasiŋ	[Bi]	flower
rasta	[Bi]	road
rati	[Bi]	night
raulia	[Bm]	sorcerer
rectag-	[IC]	comb (hair)
resuṇo	[Bi]	garlic
rigḷi	[Bi]	gravel
rim-	[II,?]	be able
riṇo	[Bi]	debt
rir-	[IC]	grind
ririb	[Bm]	grasshopper
roe-	[II,?]	dwell
roi-	[IIIN]	stay
roj-	[IC]	milk (a cow)
rokote-	[IC]	gnaw
roŋgo	[Bi]	paint
roŋko	[Bi]	gluttony
rosa	[Ai]	marrow
rosomiñ		late
rugo	[Bi]	disease
ruṇḍo-	[II,?]	assemble; gather together)
ruŋkub	[Bi]	uncooked rice
ruo	[Bi]	beam (in building)
rupa	[Bi]	silver
saasi		brave
sabnu	[Bi]	soap
sabroñ		whole
sabroĩ		all
saḍe-	[IC]	leave
saebo	[Bm]	sahib
sagecti	[Ai]	left arm
sai poḷisa	[Bm]	neighbor
saito-	[IIC]	save
sakoe	[Bm]	monkey (red-faced)

= L-10 =

saḷaŋsaŋ		yellow	soja-	[IC]	decorate
saḷikote	[Bi]	sari	soḷe-	[IIN]	ferment
saḷirae	[Am]	wife's younger sister	soḷoko		straight
			sompti	[Bi]	property
sanobui	[Am]	mother's younger sister	somudro	[Bi]	sea; ocean
			somundi	[Am]	father-in-law (of son/daughter) [sic.]
saŋe		with	soṇḍa	[Bi]	corn ear
saŋgo	[Am]	wife's elder brother; younger sister's husband	soŋ-	[Il,?]	buy
			soŋkog	[Ai]	Adam's-apple
saŋsaŋ	[Bi]	termeric	soojo		easy
sariga	[Bi]	sal tree	sooro	[Bi]	town
saru	[Bi]	kind of edible root	sopa		clean
			sopuri	[Bi]	pineapple
sasu	[Am]	father's sister	sore-	[IO]	graze
sat-dino	[Bi]	week	sorgo	[Bi]	heaven
satobaia	[Bm]	citi[8] snake	soro	[Bi]	arrow
sau	[Am]	husband	soru		small
seḍag	[Bi]	door	sosta		cheap
sej-	[IC]	cut	soto		true
sejgon	[Bi]	incense	sotru	[Bm]	enemy
sejo	[Bi]	bed	sõi-	[IIN]	wither
sekaḷo	[Bi]	morning	sõpe-	[IC]	curse
selan	[?,m]	girl	su-	[IN]	lay (an egg)
selañjib	[Bm]	hen	sua	[Bm]	parrot
selog	[Bm]	dog	suaḍo		sweet
semoḍ	[Bi]	sheath-knife	suḍu	[Am]	wife's elder sister's husband
seṇae	[Bi]	kind of gram			
seŋkoe	[Bm]	chicken	sugei		too much; very much
seram	[Bm]	antelope			
seṭog	[Bi]	rotten fruit	sug-	[IC]	mend (a garment)
seṭog-	[IN]	decay; rot; spoil	sui-	[IN]	hatch
sẽsẽr-	[I,?]	blow (nose)	suko	[Bi]	happiness
siaḷo	[Bm]	jackal	sukuḍag	[Bi]	gourd; bowl made from a gourd
sikaria	[Bm]	hunter			
silib	[Bm]	bison	sula	[Bi]	kind of gram
silitom	[Ai]	lip	suluiḍ	[Bi]	red gram
silug	[Bi]	plow	suḷita	[Bi]	wick
simbog	[Bi]	plant	sumusiŋ	[Bi]	tree
simo	[Bi]	bean	suna	[Bi]	gold
simoṭo	[Bi]	cement	sunduru		red
sini	[Bi]	plow	suṇṭ-	[IIC]	freeze
siṇḍug		hollow	suñḍo		how (interrog.)
siṇḍuki	[Bi]	kind of berry	surupi-	[IC]	suck
siŋkuḷi	[Bi]	window shutter	surur-	[IC]	smoke
siŋo	[?,i]	horn (of animal)	surusu	[Bi]	mustard
siro	[Ai]	blood-vessel	susu	[Ai]	testicle
so-	[IN]	endure (suffering)	susuteḍ	[Bi]	egg
sob-	[I,?]	catch (something thrown)	suta	[Bi]	thread
			sutilo		slow
sobar-	[IC]	hide (tr.)	sutorom	[Bi]	thread
sobdo	[Bi]	sound	ta		through; from
soj-	[I,?]	teach	taḷa	[Bi]	seedbed
soj-	[IC]	learn	taḷi	[Bi]	metal dish

talo	[Bi]	date palm	tuglad	[Bi]	pressed rice
tamui	[IC]	sneeze	tupog	[Bm]	owl
tag-	[IC]	measure	turali	[Bi]	sword
tara	[Bi]	star	turui	[Bm]	shrimp
taro	[Bi]	wire	tuso	[Bi]	chaff
tarom	[Ai]	shoulder	tane-	[IC]	drag (the feet)
tasa	[Bm]	farmer	tano		hard
tasi		rich	tanggra	[?,?]	bald head[10]
tata-	[IN]	heat	tare-	[IC]	beckon
tata-	[IC]	bake	teke-	[IC]	lift up
tatia	[Bi]	cup (metal)	tega	[Bi]	staff
te		to	tiki		right; correct
tej-	[IIC]	break (as a rope; intr.)	tinggi	[Ai]	spine (lower part)
teli	[Bm]	oilman	tipa-	[IC]	drip (as water)
temoñ	[?,i]	wrinkle	tipitipia		spotted
teñke		hot	titta		few
teñtrag	[Bm]	spider	toke-	[IN]	cheat
tera		tomorrow	tokob		hard
teren	[Bi]	kind of berry	tokolog	[Bi]	circle
tij-	[IC]	carry (on head)	togobua	[Bi]	hill field
tilaj	[Bi]	hunger	togkae	[Bi]	load
tilug	[Bi]	thatch	togkaitij	[Bi]	marriage (arranged by members of the family only)
tin-[illegible]	[IC]	bury (a thing)	tula-	[IC]	pick up
tinkunia	[Bi]	triangle	tulia-	[IC]	collect
tintini	[Bi]	tamarind	tunta	[Bi]	leprosy
tiñtar-	[IC]	carry (on shoulder)	tug-	[IIC]	break (as a stick; intr.)
tio	[Bm]	worm	tupa	[Bi]	drop
tir-	[IIN]	stumble	tupi	[Bi]	cape (garment)
tiurae	[Am]	mother-in-law (of son/daughter)	ua-	[IC]	disappear
to-	[IN]	whistle	uag-	[IIC]	bathe
tokod	[Bm]	hyena; salamander	uali	[?,m]	child
tolo	[Bi]	floor	ubtir-	[IIN]	jump
tom-	[IC]	throw	udo	[Bm]	otter
tomba	[Bi]	copper	udi-	[IIIN]	fly (as a bird)
tomgon-	[IC]	prop up	ugula		loose
tomod	[Ai]	mouth	ujolo poko	[Bi]	light half of month
tonti	[Bm]	weaver	uku	[Bi]	fireplace
tono	[Bi]	cooked rice	ukusog	[Bi]	kitchen
togon-	[II,?]	stand	ulaso	[Bi]	wave (water)
tor-	[IC]	fasten; bind	ulid	[Bi]	hanger
tori-	[IIN]	shake (tr.)	uluj	[Ai]	male genitals
toroka		cautious	uli	[Bi]	peak
toroli-	[IC]	melt	ulo	[Bi]	hail
totola	[Bm]	stammerer	uluso	[Bm]	bug; bedbug
tota	[Bi]	orchard	un-	[I,?]	put
tota	[Bi]	joke	un-	[IC]	keep
tõõro	[?,i]	trunk (elephant's)	undia	[Ba]	bull
tugdid	[Bm]	white ant	untilag	[Bm]	cricket
tui-	[I,?]	float	uggi	[Bi]	shirt
tukunidag[9]	[Bi]	muddy water	upaso	[Bi]	fasting
tula	[Bi]	cotton			
tuga	[Bi]	kind of edible root			

upuḷir-	[IC]	blow (with mouth)	usrubaŋ	[Bm]	cockroach
			usumae-	[IIC]	warm
ur-	[I,?]	drink	usun	[?,i]	comb (of bird)
ur-	[IC]	eat (rice)	usuṇij	[Ai]	navel
uruṇa		old	utoro	[Bi]	north
usaso		light (weight)	ũḍ	[Bi]	mushroom

6.11 Notes

1. caus. of /soŋ-/
2. cf. §3.13
3. probably /ḍ---/; cf. /ḍaŋ/ 'water'
4. sic.; cf. /ḍibiri/ 'left (side)'
5. sic.; one would expect /-ṭro/
6. sic.; = 'hollow'?
7. caus. of /tej-/
8. sic.
9. sic.; cf. /ḍaŋ/ 'water'
10. From its position in Mahapatra's list, it seems that /ṭaŋgra/ probably means 'bald-headed person' rather than 'bald head'; it is preceded by 'lame person' and 'hunchback', and followed by 'eunuch' and 'prostitute'.

6.20 English-Juang list

(Numbers refer to the special pagination of the Juang-English section; these page-numbers are prefixed by "L", and are found at the lower right of the pages.)

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bison 11a
bite 6b
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buttock 5a
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garlic 10b
gather together 10b
genitals 7b, 12b
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ghost 3a, 10b
ginger 9a
girl 11a
give 4a
glass 6a
gluttony 10b
gnaw 10b
go 1b, 4a, 9b
goat 8b
god 4b, 7a
gold 11b
good 4a
good person 4a
gourd 11b
government officer 1a
gram 7b, 8b, 10b, 11a, 11b
granddaughter 2b
grandfather 1a
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gravel 10b
graze 11b
greed 8a
greedy ghost 10b
green 2b, 7b
greeting 8a
grind 10b
grinder 1b
grip 8b
ground frog 4a
grow 2b
guard 5b
guava 4b
guest 7b
guest house 8b
guide 2b
guilt 4a
guilty 4a, 8a
gum 1b
gun 2b
gunpowder 2a
hail 9a, 12b
hair 2b, 6a, 9a
half 9a
hallow tree 4a, 10a
hand 5b
hang up 6a
hanger 12b
happen 5a
happiness 11b
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harvest 9b
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hatch 11b
hawk 6b
he 1b
head 2b
hear 9b
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heaven 11b
heavy 8a
heel 4a
hen 11a
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I 1a
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idol 1b
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intercourse 6b
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it 5b
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jackal 2a, 11a
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jar 7a
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jerk 1b
joke 4b, 12a
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kerosine 6b
key 1b, 7a
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kill 2a
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kiss 3b
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knee bone 6b
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lip 11a
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little 4b
live 2b
liver 1b
lizard 6a
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lose 1b
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maize 6a
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male 9b
male elders 3a
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man 3a, 6a, 7a
mango 9a
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marrow 10b
master 8a
mat 1b
meaning 9b
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meat 1a
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meet 2a
melt 12a
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message 2a, 7a
metal bowl 2a
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milkman 5a
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monkey 1a, 10b
month 8a, 9b 12b
moon 8a, 9b
more 9a
morning 11a
mosquito 6b
moss 5b
mother 2b, 3a
mother-in-law 8a, 12a
mother's brother 8a
mother's elder sister 1b
mother's younger sister 11a
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mountain range 4b
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mouse 7a
mouth 10a, 12a
move 5a
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musical instrument 3a
mustache 9a
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night 4b, 10b
nod 8a
none 6b
noon 6b
north 13b
nose 8b
nose ring 5a
notorious 7b
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obey 8a
ocean 11b
odor 5a
of 1a
offer 5b
offering 9a
officer 1a
oil 9a
oilman 12a
old 13a
old man 3a
old woman 6b
one 8b
onion 10a
open 7b
orange 7a
orchard 12a
ornament 7a
orphan 1a
otter 12b
overflow 9a

owl 12b
paddy 2b
paddy field 4a
paint 10b
pair 9a
palas tree 10a
palm 12a
paper 6a
parrot 11b
pasture 4b
path 5a, 6b
peacock 8a
peak 12b
peck 6b
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peepal tree 9b
people 8a
perfume 9b
person 1b, 2a, 3b, 4a, 5b
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pigeon 9b
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pipe 9a
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plantain 7a
plaster 1a
play 4b, 3a
plow 11a
plowshare 2a
plunder 8a
point 7a
poison 2b
pole 1a
policeman 10a
polygon 4a
pond 7b
pool 4b
poor 5a
porcupine 5b
post 7b
postman 4a
pot 1b
potato 2a, 9a
pound 7b
pour out 10b
pregnancy 2a, 5a
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price 3b
priest 3b
produce 2b
property 11b
prop up 12a
prostitute 2b
pull 4a
pumpkin 2a
pupil 6a
purse 4b
pus 9b
put 12b
put on 1a
quail 7b
queen 10b
rabbit 9b
radish 3b
rag 3b
rain 4b
rain hat 10a
rake 2a
ram 4b
rape 5b
rattlesnake 3b
razor 7a
reach for 1b
read 10a
reap 4b
rectum 8b
red 11b
red-faced monkey 10b
return 10a
rib 10a
rice 9a, 10b, 12a, 12b
rice broth 3b
rice husker 4a
rice husking hole 4b
rich 12a
right 4a, 12b
right arm 4a
right side 4a
ring 8b
rinse 8a
ripe fruit 2a
ripen 2a
river 9a
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roar 5a
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rooster 7b
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rub 5a
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sal tree 11a
salamander 12a
saliva 1a, 3a
salt 3a
salute 6a
sand 2a
sari 11a
save 10b
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scaffold 7a
scatter 2b
school 5b
scorpion 6a
scorch 9a
scrape 7b
scratch 10b
scream 6b
sea 11b
search for 4a
seduce 8b
see 5b
seed 4a
seedbed 11b
self 9a
selfish 4a
sell 1a
send 1a
separate 9b
servant 3a
set 2a
shadow 3a
shake 12a
shame 7b
sharp 10b
shave 6b
she 1b
sheath knife 11a
sheep 8b
shimmer 4a
shirt 9b, 12b
short 4a
short person 2a
shoulder 12a
shoulder blade 9b
shrimp 12b
shrub 8a
shutter 11a
sick person 6a
sickle 3b
side 4a
sign 3b
silence 7a, 9a
silver 10b
sin 9b
sing 4b, 6b
singer 4b
sink 3a
sister 1a, 2b
sister's daughter 2a
sister's husband 2a
sister's son 2b
sit 4a
skin 3a
skull 6b
sky 1a
sleep 8a
slide 7a
slope 4b
slow 11b
small 11b
small hut 9a
smear 2b
smell 5a
smoke 7b, 11b
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sneeze 12a
snoring 5a
soap 10b
some 6b
son 7a, 7b
son-in-law 1b
son's wife 2b
song 4b
soot 5b
sorcerer 10b
sorrow 3b
sort 7a
soul 1b
sound 11a, 10a
sour 1a
south 3b
sow 2b
sparrow 6b
spear 6b
spider 12a
spill 5b

spine 10a, 12b
spit 3a
splash 5b
split bamboo 2a
spoil 11a
spotted 12b
spread out 2a
spring 6a
sprout 8a
square 3a
squeeze out 3b
squint eye 7a
squirrel 5a
staff 12b
stalk 4b
stammerer 12a
stand 12a
star 10a, 12a, 7b
stay 10b
step on 6b
stick to 9a
sticky 1b
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stir 3b
stone 4a
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straight 11b
strain 3a
straw 6a
stray 9a
strength 2b
stretch 8a
strike 10a
string 5a
striped 4b
strong 7a
stumble 12a
stump 7b
stupidity 2b
suck 11b
sugar 3b
suicide 5b
summon 4a
sun 2a
sunlight 6b
sunrise 2a
sunset 2a
swallow 6b, 9a
swamp 6a
sweep 5b
sweet 8b, 11b
sweet potato 6b
swell 10a
swim 10a
swing 6a
sword 12b
tail 1b
take off 9b
tall person 5b
tamarind 12a
tame animal 10a
tangle 3b
taste 3a
tattoo 10a
tea 3a
teach 11a
teacher 8a
tear 10b
tears 9b
tease 8a
tell 5a
termeric 11a
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that 4b
thatch 9a, 12a
they (all) 1b
they (two) 1b
thick 7b, 8b
thicken 8b
thief 3b
thigh 3a
thin 10a
think 1b
thirst 4a
this 8b
this year 5b
thorn 6a
thread 5a, 11b
threaten 1a
three 4a
through 11b
throw 12a
thumb 3a
thunder 5a
tickle 4b
tie 5a
tiger 12b
tight 3b
tighten 2a
to 2b, 12a
tobacco 2a
today 8b
toe 1a
together 4b
tomorrow 12a
tongue 1a

too much 11b
tooth 3b
torn 10b
touch 5b
town 11b
toy 10a
tramp 3a
transplant 9b
trap 10a
tree 2b, 4a, 9b, 10a, 11b, 11a
tree ant 6a
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triangle 12a
true 11b
trunk 12a
tuberculosis 7a
turban 9b
turtle 7a
twig 2b
twin 5b
twist 8b
two 9b
two days after tomorrow 8b
umbrella 3a
uncooked rice 10b
understand 3a
unripe fruit 2b, 7a
untie 10a
until 5b
up 5b
urinate 6a
urine 6a
vain 9a
vegetable 1b, 6a
venom 5a
veranda 10a
very much 11b
vessel 11a
village 4b
village god 4b
vote 3a
vulture 4b
waist 9b
walk 4a
wall 2a, 6b
wander 3a
warm 13b
wash 2b, 5a
wasp 2b
watch 5b
water 4a, 6a, 12a
water snake 9b
wave 8a, 9a, 12b
we 9a
we two 9a
weak 3a
weakness 4a
wear 1a
weave 5a
weaver 12a
web 5b
week 11a
weep 5b
weeping 5b
well 7b
west 10a
wet 9a
what 2b
whirlpool 2b
whistle 12a
white 1a
white ant 12a
white faced monkey 1a
white of eye 1a
white spots on the body 6a
who 1a
whole 10b
why 2a
wick 11b
widow 10b
wife 7b, 2b, 6b, 3a
wife's elder brother 11a
wife's elder sister 1a
wife's elder sister's husband 11b
wife's younger brother 5b
wife's younger sister 11a
wife's younger sister's husband 2b
wild animal 9a
wildcat 7a
win 5b
wind 8a, 10a
window 6a
window shutter 11a
wine 8b
wing 4a
wipe off 10a
wire 12a
witch 4a
with 11a
wither 11b
without 3b
woman 5b, 5a, 6b
worker 8b
world 8b, 10a
worm 12a
worship 10a

wound 6b
wrap up 5a
wring 3b
wrinkle 8a, 12a
write 8a
wrong 1b
yawn 1a
year 2b, 8a
yellow 11a
yesterday 1a
yesterday (day before) 1a
yoke 6a
yonder 1b
you (singular) 1a
you (dual) 1a
you (plural) 1b
younger brother 2b
younger brother's daughter 1b
younger brother's son 1b
younger sister 2b
younger sister's husband 11a

F O O T N O T E S

1 The use of the term "principal allophone" is similar to, but not the same as, the use of "norm" in Pike 1947. Pike says "If two segments are submembers of a single phoneme, the NORM of the phoneme is that submember which is least limited in distribution and least modified by its environments"(62a). This term is not an altogether satisfactory one, for it can lead to outright circularities in definition. Consider the /ḍ/ phoneme of Oriya, which in intervocalic position has a flapped allophone [ṛ], and a plosive one [ḍ] elsewhere. The problem arises in determining which allophone is less modified by its environments: one must first decide which allophone is to be considered 'basic', or what-have-you; from one point of view, the flapped allophone would be the more modified, 'changing' as it does from a static to a dynamic articulation in an environment of phonetic oral or oralo-nasal continuants--but from another point of view (putting oneself in the place of the flapped allophone, as it were), it is the plosive allophone that is the more modified by its environments, 'becoming' an apical plosive in environments of obstruents or apical continuants like [ṇ, l] etc. In short, in at least some cases, question-begging is the very essence of Pike's use of the term "norm"; using "principal allophone" is less dangerous.

2 Data from Gumperz 1955:289f.

3 Identifying a phoneme's principal allophone is not always this easy. For example, in certain dialects of Telugu the allophones of /c/ are [cç] before front vowels, and [ts] before back vowels (/c/ occurs only before vowels, and all vowels are either front or back). In such cases, the designation of one allophone as the principal one (if such a designation is necessary) may be made arbitrarily (one might also adduce ancillary criteria to do the job, but this is immaterial to the purposes of this sketch).

4 The use of these terms here conforms with that in Ferguson 1960:29ff.

5 Sora, another Munda language, has no such class; see Emeneau 1956:7.

6 Joos 1950:RIL 354.

7 Ferguson 1960:32 (emphasis and bracketed comments mine--DMM).

8 Gleason 1961:244.

9 I use the terms "tap" and "flap" for two different ballistic tongue-tip articulations: in articulating a tap, the tongue-tip reverses its direction, as in English "buddy"; in articulating a flap, the tongue-tip moves in only one direction, as in the front-to-back flap in my pronunciation of "butter" (which ends in a syllabic "r").

10 Chomsky 1957:68 uses this phrase in his discussion of a similar correspondence between phenomena on his levels of phrase-structure and transformation.

11 Lees1957:381.

12 By "morphophoneme" is meant 'a symbol for a paradigmatic class of phonemes, the occurrence of each of whose members is phonoligically determined'. This usage follows that of Harris' 1951:

> "In each environment, each symbol represents the phonemic composition which the part of the morpheme occupied by the symbol has in that environment. ... Thus in /nayF/, the F represents the phonemic composition of the last unit-length segment of that morpheme, in whatever environment the morpheme is; hence F represents /v/ when the morpheme {knife} is before {s} 'plural', and it represents /f/ otherwise"(§14.31).

13 Hockett 1958:279f.

14 Mahapatra 1962b:33f.

15 All data on causatives is from Mahapatra 1962b:34f.

16 "typical phonemic shapes"; Hockett 1947:§16.

17 Longacre 1960:63 fn. 2. 16a (follows fn. 18)

18 "Mutually commutable (substitutable)" means 'which contract commutation (substitution) with each other'. These latter terms are borrowed from Hjelmslev 1943:73f. Though Hjelmslev does not explain them in such pedestrian terms as those which follow in this note, readers unfamiliar with his work in abstract (i.e., uninterpreted) systems can perhaps gain a better understanding of their use here from the following discussion than from the original source. The terms concern entities which stand in a paradigmatic ('either-or') relation to one another. Suppose that one of two such entities occurs in a certain context. If a 'meaning' results which is different from that which the occurrence of the other entity (in that context) would have occasioned, then the two entities are said to be mutually commutable; if not, then they are said to be mutually substitutable. Thus in "The White House is in the nation's capital" the expression the nation's capital is mutually commutable with Chicago, and mutually substitutable with Washington, D.C. (If it be here argued that 'meaning' was not what Hjelmslev had in mind, it might be pointed out that his system is uninterpreted (i.e., his undefined ['primitive'] terms are in no way suggested to be connected with anything in the real

world), and that thus one is free to interpret as he chooses. It is hoped that the interpretation chosen here, with its appeal to meaning, has helped the reader to understand the use of the terms "mutually commutable" and "mutually substitutable"; though it might also be noted that "meaning", used above, is also uninterpreted--not without good reason.)

16a Although {-V^{5}m-} is always redundant as to person, in certain cases it prevents ambiguity with respect to tense; that is, its presence signals the presence of the future tense morpheme, which is sometimes masked due to the action of morphophonemic rule [11] (§2.2). For example, in the pair below, the left-hand form would be homophonous with the right-hand form, were it not for the presence of {-V^{5}m-}.

	{-V^{5}m-}{kog-}{-e}{-m}	{kog-}{-o}{-m}
	k-V^{5}m-og- {-e} -m	
[20]	k-om- og- {-e}	kog- -o -m
[11]	k-om-og-o-m	kog-o-m
	'he will know thee'	'he knew thee'

19 Note that in a tagmemic representation of "I went to Chicago, and Bob came along with me" the tagmeme for "with me" would be optional, but not zero-commutable: it is not commutable with a zero, but with null (nothing-at-all)(which does not mean that it does not commute with anything, but rather that it commutes with Nothing). This may help to further clarify the distinction between optionality and zero-commutability.

20 The symbol "sbA" is used to denote 'the class of all simple bases of class IA'.

21 (where X = 'he, she, it, they two, they')

22 There may be some question as to whether it is permissible to identify /-e/ with the future tense morpheme, since it imparts no idea of futurity to the meaning of the form, and since it is not commutable with any of the other tenses. But there is nothing else available with which it could be identified; and since it is not commutable with anything else, it can be said to impart no meaning of its own to the form at all.

The situation is not unlike that of /-beriy/ in English "cranberry": as there is no such word as /kræn/, and since nothing can take the place of /beriy/ in /krænberiy/, /kræn/ would be sufficient all by itself (indeed, there is a precedent for this, in "currant", a word which, though its referent is indeed a berry, does not contain the material /-beriy/). The fact that we do not say just /kræn/ does not matter; in /krænberiy/, the material /beriy/ can be agrued to have no meaning--though most linguists readily identify it with "berry".

23 It could be argued that the article, {-ḍe} (§3.223), is zero-commutable in (2), (3), instead of merely optional. But the increment in meaning occasioned by its presence is so unclear that

it is difficult to imagine what increment might be occasioned by its absence. For present purposes, the question is of no importance: what is important, is what concord situations arise when {-de} is present (see §5.25).

[24] Pinnow 1960:§III.1.2.

[25] /m/ is an allomorph of {-nom2}; see §4.

[26] See Chomsky 1957:§2.

[27] "VIA" denotes the class of all verbs built on class-IA bases.

[28] The case morpheme is omitted for clarity; the actual forms would be /añ-a/, etc.

[29] The lines showing concord are omitted for clarity.

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