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YANYUWA VERBS

Jean F. Kirton

0. ABBREVIATIONS & SYMBOLS

abl	ablative marker
abs	abstract (class 7 noun)
adj	adjective
adv	adverb
af	affirmative
arb	arboreal (class 6 noun)
bas	base
C	any consonant
C_a	alveolar consonant
C_{ap}	alveo-palatal consonant
C_i	interdental consonant
C_n	nasal consonant
C_s	stop consonant
cor	core
cst	customary
cv	conversative mood
d	dual
erg	ergative
ex	existential
excl	exclusive
f	female (class 1 noun)
faf	focal affirmative
fd	food (class 5 noun)
fem	feminine (class 3 noun)
fpaf	focal potential affirmative
imp	imperative mood

impf	imperfective
incl	inclusive
ind	indicative mood
inten	intentive
intr	intransitive
m	male (class 2 noun)
md	mood
md ts	mood-tense
mk	marker
msc	masculine (class 4 noun)
n	noun
nab	non-abilitative
naf	non-affirmed
neg	negative
nev	non-evaluated
nimp	non-imperative
nom	nominative
npres	non-present
nrcr	non-recurrative
nrfl	non-reflexive
ntr	non-transitive
p	past
paf	potential affirmative
pl	plural
pneg	potential negative
pres	present
pt	participle
rcr	recurrative
rct	recountive
rel	relator
rfl	reflexive
rt	root
s	singular
saf	specific affirmative
st	stem
suff	suffix
thm	theme
tr	transitive
v	verb
V	any vowel
V_h	any high vowel, that is, /i/ or /u/
V_l	low vowel /a/

1	first person
2	second person
3	third person
ø	zero morpheme
+	(i) morpheme boundary (in rule)
	(ii) obligatory (in formula)
-	obligatorily absent
±	optional
/	(i) or
	(ii) in the environment of (in rule)
→	becomes
↛	does not become
#	word boundary
____x	preceding x
x____	following x
....	as above (in related rule)
{ }	enclosing alternatives
[ ] [ ]	enclosing alternatives which relate specifically to their opposite examples
+ (± x ± y)	either x or y must occur
( )	enclosing an optional unit

1. INTRODUCTION

The purpose of this paper is to give a detailed description of Yanyuwa[1] verbs and their morphology. Earlier analysis, reflected in a paper describing Yanyuwa pronominal morphemes (Kirton, 1970), resulted in postulating a simpler construction potentially consisting of three sets of prefixes, a stem and a single set of suffixes. Further experience in the language (both in practical use and analytical study) and further insights into the nature of language (more particularly gained from lectures by Kenneth L. Pike), have resulted in a far more comprehensive analysis revealing a construction potentially consisting of five sets of prefixes, a stem and three sets of suffixes (see Chart 1). Further analysis of suffixes has brought to light additional meanings, and shows that morphemes co-occur and combine to convey the meanings that were recognised before.

Yanyuwa verbs of action are the typical members of the verb class and are described first. A description of the existential verb follows.

	negative, relator	mood-aspect	person nominative	person ergative	voice	stem	mood	mood-tense$_1$	mood-tense$_2$
MORPHEMES & MEANINGS	baṇi negative na relator	ga/ dja (See 2.1.2.3 for meaning components)	pronominal set	pronominal set ø non-transitive	mba reflexive ø non-reflexive	transitive list reflexive list intransitive list	n̂da recountive ø conversative	ř̆a present participle ya present imperative njdji present indicative ani customary non-present ø non-present	mu present perfective affirmative n̂u past specific affirmative n̂a past focal affirmative ø non-evaluated ama future focal potential affirmative la future potential affirmative ma non-future potential negative nma past potential negative ř̆u future negative
VERB TYPES	VERB SUBTYPES								VERB CATEGORIES
PARTICIPLES	(RECOUNTIVE)				mba ø	stem	n̂da	ř̆a ø ani	ø present participle ø past participle n̂a customary past participle
IMPERATIVE VERBS	CONVERSATIVE IMPERATIVE RECOUNTIVE IMPERATIVE		pronominal set	pronominal set ø	mba ø	stem	ø n̂da	ya ani	ø present imperative ø future imperative

INDICATIVE VERBS	CONVERSATIVE INDICATIVE Affirmative or Non-evaluated	ga/ dja	pronominal set	pronominal set	mba	stem	ø	njdji	ø present imperfective
									mu present perfective
								ø	ŋu past specific
									ŋa past focal
									ø past general
	CONVERSATIVE INDICATIVE Potential or Negative	ga						njdji	ama intentive
									ma present potential negative
								ø	nma past potential negative
									la future general
									ǐu future negative
	RECOUNTIVE INDICATIVE Affirmative or Non-evaluated	ga/ dja		ø	ø		ŋda	ani	ø near future
									ŋa past customary
	RECOUNTIVE INDICATIVE Potential of Negative	ga							ama future customary
									ma past customary negative

CHART 1

STRUCTURE & MORPHOLOGY OF YANYUWA VERBS OF ACTION

2. YANYUWA VERBS OF ACTION

Yanyuwa verbs of action include verbs relating to physical action and to activity of the senses but exclude the existential verb 'be'.

Yanyuwa verbs of action express attitudes or actions. Prefixes, stems and suffixes combine to give the greatest sum of meanings which any Yanyuwa word can include. An independent verb is the minimal manifestation of the clause type in which it occurs, with the single exception of the negative indicative clause, which minimally requires a verb phrase.

Constructions distinguish participles, imperative and indicative verbs. Subjunctive, dubitative, intentive and interrogative moods are all included as subtypes of conversative indicative mood. (Conversative and recountive moods are defined and described in 2.1.3.1 below.) There is no formal marking to indicate interrogative and only clause intonation distinguishes between a verb as a question and a verb as a statement.

There are three classes of verbs, intransitive, reflexive and transitive, defined according to their morphology (see Chart 2), and the three classes of stems are defined according to their distribution into these contrastive constructions.

Prefixes carry meanings of negative, indicative mood, recurrative aspect, reflexive or non-reflexive voice, and distinguish nominative and ergative[2] person functions. Suffixes distinguish conversative and recountive mood orientation, past, present and future tense, and give evaluation of the relative reliability of the information. Person marker prefixes, voice markers and stems together indicate whether the action or attitude is transitive, reflexive or intransitive.

Negation of participles and imperative verbs is accomplished by prefixation, and inabilitative mood occurs as a negative indicative verb construction. Apart from this special instance, negation of indicative verbs is only conclusively distinguished in the verb phrase.

2.1. *VERB AFFIXES*

All verbs have both prefixes and suffixes. Participles are distinguished by the absence of person marking prefixes. Imperative verbs are marked by the presence of person markers but by economy of other affixation. Indicative verbs are marked by the fullest range of both prefixes and suffixes.

CHART 2

TRANSITIVITY IN RELATION TO YANYUWA VERB STRUCTURE

	person nominative (3rd order)	person ergative (2nd order)	voice (1st order)	stem
TRANSITIVE	pronominal set	pronominal set	ø	transitive stem
IN-TRANSITIVE	pronominal set	ø	ø	in-transitive stem
REFLEXIVE	pronominal set	ø	mba	reflexive/ transitive stem

2.1.1. Morphophonemic Rules

Certain phonological changes take place in stems and affixes when they co-occur. Morphophonemic changes occur to the initial vowel of stems and to the final vowel of u-final stems. In general a-initial stems are the most stable. Rules are postulated to describe these changes. Although some rules are known to have wider application in the language, others to apply to verb constructions only. It is noted that verb stem derivation and stem expansion require separate rules to account for variant morphophonemic changes which occur at that level (see 2.2.2.1, 2.2.2.3, 2.2.2.5). The following rules apply in order (see page 1 for meaning of symbols):

1. All rules applying to C_nC apply also to prenasalised stops.[3]

2. $V_h \rightarrow \phi$ / #____

   Exceptions: (a) $V_1 \rightarrow \phi$ / # { anba *fall* ; ajŋjgaři *hear* }

   (b) ǀřbunda *'pull up (plant)'* → bunda / # ____

3. $V \rightarrow \phi$ / ____ + { V-initial affix ; V_h-initial stem ; anma *'stay'* }

4. u → a / ____ + { affix / 1-syllable stem }

Exceptions: (a) wunjdjinu *'swim'* → wunjdjini / ____ + (suffix)

(b) ŋabu *'swim, bathe'* remains unchanged.

5. { i → iy / u → uw } / ____ + V_1-initial stem

6. C_i → C_{ap} / { $C_{ap}V$ / i } +____

Exceptions: (a) This rule also applies to suffix occurrence with the following stems: ḻaǐguwa *'mimic'*, muǐuma *'cause pressure, dig in (to person)'*, ŋabu *'swim, bathe'*, ŋulguma *'twist'*, uma *'cut, break'*, uǐguwa *'burn'* (intransitive), wuḍa *'become wet'*.

(b) This rule does not apply to the stems: idja *'send'*, waya *'light up (of torch)'*, wuya *'taste, suck, lick'*.

7. C_nC_s → y / { C_nC_s / ř } + ____

8. ř → y / řV+ ____

9. C → ø / ř+ ____

10. C → ř / ndV+ ____ (C)a

11. wa → ya / ____+ { w / a }

Illustrations of morphophonemic change are complicated by further changes due to occurrence of person markers with other specific person markers or the reflexive marker. Illustrations are given in the concluding section of 2.2.6 below when all the relevant rules can be applied.

2.1.2. Prefixes

There is potential for the occurrence of five orders of verb prefixes (the first order being described as that immediately preceding the stem). The first, second and third orders of prefixes refer to reflexive voice and persons (see Chart 2). The fourth order prefixes refer to mood and aspect. The fifth order prefixes refer to negation and the embedded status of the verb.

2.1.2.1. *Voice Marking Prefixes*

The two voices distinguished by first-order prefixes are reflexive voice and non-reflexive voice, which includes transitive and intransitive. The non-reflexive prefix is ϕ-.

The reflexive prefix expresses attitudes or actions which are reflexive, reciprocal, or which otherwise relate back to the experiencer: for example, with the verb stem inu *'tell'* it indicates that the speaker is telling about himself; with the verb miřa *'have extreme thirst, be very ill, die'* it seems to imply that the condition originates in the person himself rather than originating in outside causes, or at least that the cause of death is not in immediate focus.

The reflexive marker mba- has allomorphs umba- and injamba- conditioned by co-occurrence with person marker prefixes, the negative prefix baṇi-, or by occurrence in word-initial position:

1. mba → umba / { 3 f / 3 m } + ____

2. mba → injamba / { 1 excl pl / 2 pl / 3 pl / baṇi / # } + ____

3. mba → injamba / { 3 msc / 3 fd / 3 arb } + ____

Restriction: Rule 3 applies to indicative verbs only.

Note: Morphophonemic rules (see 2.1.1) are applied after the above three rules.

Examples are given in sections 2.2.4 - 2.2.6 below.

2.1.2.2. *Person Marker Prefixes*

All independent verbs are marked for roles of agent and experiencer as the roles are relevant to the verb according to its transitivity. Agent is marked by an ergative person marker and experiencer by a nominative person marker. Each person pronoun and each noun class has its respective person marker verb prefix. Yanyuwa person marker prefixes have been described previously in terms of several sets in comparison with other pronominal morpheme sets (Kirton, 1970). In this description they are viewed rather as a single set of morphemes, occurring in two positions (function being determined by position) and in

various verb types but with specific morphemes changing from specific causes.

These causes include transitivity, mood, interaction of certain nominative and ergative morphemes (co-occurrence of first and second persons particularly precipitating morphological change), phonological factors, and the cultural factor of the sex of the speaker. The basic factor which requires describing both a men's and a women's dialect in Yanyuwa is the variant prefixation of male and masculine noun classes, but these noun classes then affect all morphemes which agree with them and this includes verb person-markers. As the women's dialect was taken as the basic form to allow the simplest description of nouns (Kirton, 1971), so the women's dialect is taken as the basic form in description of verb morphology. Variants in the men's dialect are described at the conclusion of this section.

Person markers are listed in full in comparison with their respective free pronouns in Chart 3. Dual and plural person markers of Section A of the chart are the most stable in their form, and Section B first person singular is more stable in form than Section C (which includes second and third persons singular and those third persons which do not distinguish number, these latter being indicated on the chart).

Rules to Define Allomorphs of Basic Person Markers

General:

ŋa → ∅ / ga+____

Intransitive:

lnja	→ ∅	*'you* (s)'

Reflexive:

anda	→ ana	*'she'*
lwa	→ ∅	*'he'*

Transitive Nominative:

lnja	→ lṇa	*'you* (s)'
anda	→ ařa	*'her'*
lwa	→ anja	*'him'*
(Imperative Only)		
alu	→ ll	*'them* (pl)'
u	→ wu	*'it* (fd)'
aṇu	→ anu	*'it* (abs)'

Note: The morphemes ařa-, anja- and ll- above relate to the basic class markers for female, male and plural nouns, which are řa-, nja- and ll- respectively. In imperative nominative morphology, distinction

CHART 3

YANYUWA PERSON MARKER PREFIXES

	Number	Person	Basic Person Marker	Free Pronoun
A	Plural	3	alu-	alu
		2	iřu-	yiřu
		1 excl	ŋanu-	ŋanu
	Dual	3	wula-	wula
		2	imbala-	yimbala
		1 excl	ŋaḏařa-	ŋaḏařa
	Inclusive (a) pl	1	ŋambala-	ŋambala
	d	1	ŋali-	ŋali
B	Singular	1	ŋaṇa-	ŋaṇa
C		2	inja-	yinda
		3 f/fem (b)	anda-	anda
		3 m	iwa-	yiwa
		3 masc (b)	i-	aḻi
		3 fd (b)	u-	(-awu) (c)
		3 arb (b)	anu-	(-anu)
		3 abs (b)	aṇu-	(-aṇu)

(a) The morphology associated with 1st person dual inclusive is irregular in comparison with that of the other dual and plural morphemes; it is therefore convenient for descriptive purposes to separate out inclusive persons and to treat 'inclusive' as number rather than person.

(b) Noun classes for which number is not normally distinguished.

(c) Locative suffixes are given in brackets for those classes which have no respective free pronoun.

Note: The set of person markers listed above occurs as the basic set for nominative and ergative persons for all verb types which are marked for person. Allomorphs are described in the text.

between abstract and arboreal classes is lost and the arboreal morpheme represents both classes.

Reflexive and Transitive Nominative (Imperative Only):

l	→ anja	*'it* (msc)'

Imperative Nominative and Indicative Transitive Nominative:

lmbala	→ imblla	*'you* (d)'

Transitive Ergative:

ŋaṇa	→ ṇa	*'I'*
lwa	→ llu	*'he'*
l	→ injdju	*'it* (msc)'
u	→ aŋgu	*'it* (fd)'
anu	→ anuŋgu	*'it* (arb)'
aṇu	→ aṇuŋgu	*'it* (abs)'

Note: There is an apparent relationship between the ergative allomorphs and the ergative case marker allomorphs marking nouns and their modifiers. The basic ergative marker for nouns is -lu, and -njdju and -ŋgu are allomorphs of this morpheme.

Transitive Co-occurrence Person Allomorphs:

1st person singular ergative

ŋaṇa → ∅ / (2s nom) +____

1st person singular nominative

ŋaṇa → ŋaṇa / ____+ (2nd person erg)

2nd person singular ergative

$$\text{inja} \rightarrow \emptyset \;/\; \left\{ \begin{array}{l} \text{1s nom} \\ \text{3 f, fem, fd, arb nom} \end{array} \right\} + \_\_\_\_$$

3rd person female, feminine nominative

$$\text{ař a} \rightarrow \left\{ \begin{array}{l} \text{ař a} \\ \text{aya} \end{array} \right\} \;/\; \_\_\_\_ + \text{(3 m erg)}$$

3rd person male nominative

anja → ∅ / ____+ (2s erg)

3rd person masculine nominative

l → anj / ____+ (3 fd erg)

3rd person food ergative

aŋgu → llu / (3 fd nom) +____

Dual and plural persons

$$\phi \rightarrow \text{ɪ/} \left\{ \begin{array}{l} \text{2 d, pl nom} \\ \text{3 d, pl nom} \end{array} \right\} + \underline{\quad} + \text{(1 d, pl erg)}$$

Singular, dual and plural persons (Imperative Only)

$$\phi \rightarrow \text{ŋ / \# } \underline{\quad} + \text{(2 s, d, pl nom) + (1 s, d, pl erg)}$$

Co-occurrence Restriction Rules

The following are semantic restrictions on occurrence of second person markers with first person inclusive markers, and on the co-occurrence of first person markers:

1st person nominative/ergative does not co-occur with
1st person nominative/ergative.
2nd person nominative/ergative does not co-occur with
1st person inclusive nominative/ergative.

Morphophonemic Rule for Single Vowel Morphemes

Intransitive - 3rd person masculine class

$$\text{ɪ} \rightarrow \text{ɪ}\underset{\sim}{\text{a}} \text{ / } \underline{\quad} + \left\{ \begin{array}{l} \text{1 syllable stem} \\ \text{2 syllable V-initial stem} \end{array} \right\}$$

Intransitive, transitive 3rd person food class nominative

$$\text{u} \rightarrow \text{uwa / } \underline{\quad} + \left\{ \begin{array}{l} \text{1 syllable stem} \\ \text{2 syllable V-initial stem} \\ \phi \text{ ergative prefix} \end{array} \right\}$$

Examples are given in sections 2.2.4 - 2.2.6 below.

Person Marker Allomorphs in Men's Dialect

Distinction between male and masculine noun classes is lost in person markers in men's speech and the basic morpheme to represent both is ϕ-. The variant occurrence for male or masculine ergative person marker is ɪɪu-. The male and masculine nominative allomorph occurring with one syllable or two syllable V-initial stems is ɪwa-. For comparison of person markers in the two dialects see Chart 4.

2.1.2.3. *Indicative Markers* ga- *and* dja-

All indicative verbs are marked by either the prefix ga- or the prefix dja- preceding the person marker prefix/s. These morphemes, therefore, have a meaning 'indicative', but additionally each morpheme has a meaning relating to (i) the tense and mood reliability of the verb and (ii) whether the action is recurrative or non-recurrative. These

additional meanings can only be determined in reference to the mood-tense suffixes with which the prefix co-occurs.

CHART 4

COMPARISON OF ALLOMORPHS IN WOMEN'S & MEN'S DIALECTS

	WOMEN'S DIALECT		MEN'S DIALECT
	3 male	3 masculine	3 male, masculine
intr nom	lwa-	l-	ø-
intr nom with CV, VCV, VCCV stems	lwa-	ll̂a-	lwa-
rfl nom	ø-	l-	ø-
tr non	anja-	l-	ø-
tr erg	ilu-	injdju-	ilu-

The prefix ga- has the most extensive usage. Only ga- co-occurs with potential affirmative, potential negative and negative verbs (see 2.1.3.3 and Chart 8), and in these occurrences the aspectual meaning is always non-recurrative. The prefix ga- otherwise most frequently co-occurs with mood-tense suffixes in past tense and it then means 'indicative non-recurrative'. When ga- co-occurs with present tense suffixes it means 'indicative recurrative' (see Chart 5).

CHART 5

	Non-recurrative	Recurrative
Present	dja-	ga-
Past	ga-	dja-

The prefix dja- most frequently co-occurs with the mood-tense suffixes in present tense to mean 'indicative present non-recurrative'. When dja- co-occurs with past tense suffixes it means 'indicative recurrative'.

The following examples illustrate dja-/ga- usage with the intransitive stem wani *'return'* and the person marker wula *'they* (d)':

dja-wula-ø-ø-wani-ø-njdji-ø	*'They are returning'*
ga-wula-ø-ø-wani-ø-njdji-ø	*'They are returning again'*
ga-wula-ø-ø-wani-ø-ø-ø	*'They returned'*
dja-wula-ø-ø-wani-ø-ø-ø	*'They returned again'*

2.1.2.4. *Relator* na- *and Negative Marker* baṇi-

Two morphemes occur as the first prefix of the verb: na- is a fifth order prefix; baṇi- is a clitic which occurs with verb constructions with minimal prefixation as well as with those which utilise the full range of affixes, but it always occurs as the prefix farthest from the stem.

The relator na- co-occurs with past or present affirmative or non-evaluated indicative verbs (see 2.1.3.2 for details of mood-tense evaluative suffixes). It may accompany either the recurrative or non-recurrative indicative prefix. The verb marked with na- occurs in a noun or locative phrase and has the meaning *'that always, who always, where always'* and may refer to people, things or places; for example: nja-maŋadjI-ø na-ga-lwa-ø-ø-wiŋga-ø-ø-ø (m-*that*-nom rel-ind nrcr-3m-ntr-nrfl-*walk*-cv-npres-nev) *'that one who always went'*

The negative marker baṇi- occurs on three types of verbs, as well as on certain other word classes. It is prefixed to the participle giving the meaning *'not'*. It is prefixed to the imperative giving the meaning *'don't!'* It occurs with the potential negative indicative verb to express the inhabilitative aspect *'can't'*. The morpheme baṇi- has a free variant baḷi-, which is rarely used.

2.1.3. Suffixes

Three orders of suffixes occur in Yanyuwa verbs. First-order suffixes express mood orientation. Second-order suffixes distinguish present, non-present and customary non-present tenses in relation to mood and verb types. Third-order suffixes distinguish future versus non-future tense in relation to a modal evaluation of the reliability of the information given. The three orders of suffixes are closely inter-related. Co-occurrence of specific suffixes and the summation of meaning components results in total meanings of the kind which are traditionally associated with verb tense and mood.

Although the mood orientation suffixes present an asymmetrical pattern, a clearly symmetrical time pattern emerges from the relative relationship of resultant suffix units when the first, second and third order suffixes combine (see Chart 6). This is more particularly seen in the parallels between past and future time in the indicative. Participles are viewed as primarily past-oriented, and the imperative is viewed as primarily future-oriented.

CHART 6

YANYUWA VERB SUFFIXES IN RELATION TO TIME

		PAST	PRESENT	FUTURE
INDICATIVE	Customary	-ŋɖa-ani-ŋa		-ŋɖa-ani-ama
	General	-ø-ø-ø		-ø-ø-ia
	Near	-ø-ø-ŋu		-ŋɖa-ani-ø
	Focal	-ø-ø-ŋa		
	Perfective		-ø-njdji-mu	
	Imperfective		-ø-njdji-ø	
PARTICIPLE	Customary	-ŋɖa-ani-ŋa		
	General	-ŋɖa-ø-ø	-ŋɖa-řa-ø	
IMPERATIVE	General		-ø-ya-ø	-ŋɖa-ani-ø

There is no morphology to specifically indicate continuous versus non-continuous in association with verb suffixes, and yet these meanings are implicitly associated with certain suffix combinations. The suffixes -ŋɖa-ani-nja 'past customary', -ŋɖa-ani-ama 'future customary', -ŋɖa-ani-ø 'future imperative', and the suffixes -ø-njdji-ø 'present imperfective' and ŋɖa-řa-ø 'present participle', all include the component of 'continuity' in the total meaning. The remaining suffix combinations are, in general, implicitly non-continuing or completed actions.

2.1.3.1. *Mood Orientation Suffixes -ŋ̲d̲a and -ø*

The mood orientation suffixes are -ŋ̲d̲a 'recountive mood' and -ø 'conversative mood'. Suffix -ŋ̲d̲a indicates that the verbal action is in a recounting or narrative speech context and -ø indicates that the action is in a conversational speech context. To give some further definition to the meanings they will be considered in the light of their contrastive usage (see Chart 7).

CHART 7

RECOUNTIVE -ŋ̲d̲a and CONVERSATIVE -ø DISTRIBUTION

(YANYUWA MOOD ORIENTATION SUFFIXES)

		COMPLETE[a]	INCOMPLETE[b]	IMPERATIVE	PARTICIPLE
NON-PRESENT	Customary	-ŋ̲d̲a-ani-ŋ̲a	-ŋ̲d̲a-ani-ama		-ŋ̲d̲a-ani-ŋ̲a
	Near/ Specific	-ø-ø-ŋ̲u	-ŋ̲d̲a-ani-ø		
	Focal	-ø-ø-ŋ̲a			
	General	-ø-ø-ø	-ø-ø-la	-ŋ̲d̲a-ni-ø	-ŋ̲d̲a-ø-ø
PRESENT		-ø-njdji-mu	-ø-njdji-ø	-ø-ya-ø	-ŋ̲d̲a-ř̲a-ø

(a) Complete and incomplete represent indicative categories. Non-present incomplete is past; present incomplete is present perfective.

(b) Non-present incomplete is future; present incomplete is present imperfective.

Only the recountive suffix occurs in participles. Participles are used typically to indicate actions following a critical action in a sequence, in a concluding resumee, or in a descriptive context.

Imperative mood may be conversative or recountive. Conversative imperative expects immediate action. Recountive imperatives include the future imperative, which is more exhortation than command, and the negative imperative, which expects non-action.

Indicative mood may also be conversative or recountive. Conversative mood is basic to narratives based on personal experience. Recountive

mood is basic to dreamtime[4] narratives or recounting of traditional activities. Conversative mood is used to tell of unpredictable events or activities and of desires and future possibilities. Only conversative mood includes present activities. Recountive mood is non-present in indicative mood, and tells of customary past or future action, or action that can be confidently expected on the basis of customary patterns of the past. Conversative mood is usually the mood of conversation or telling of isolated incidents. Recountive mood is more the mood of leisurely storytelling around the campfire.

2.1.3.2. *Mood-tense Suffixes (second-order)*

Second-order suffixes distinguish present versus non-present for the three verb types (that is, participle, imperative, indicative), and they distinguish between present participle, present indicative and present imperative. Second order mood-tense suffixes are:

-njdji	'conversative indicative present'
-ya	'conversative imperative present'
-ř̆a	'present participle'
-ani[5]	'recountive customary (or custom-based) non-present'
-ø	'past participle, conversative indicative non-present'

2.1.3.3. *Mood-tense Suffixes (third order)*

Third order suffixes distinguish between future and non-future and either give an evaluation of the reliability of the information or mark the fact that the reliability is non-evaluated by -ø.

The evaluation of reliability is in terms of qualified affirmative and negative (see Chart 8). Affirmative and negative may each be potential or definite. Definite affirmative excludes all future tenses and all negatives. Definite negative excludes all non-future negatives and all affirmatives. Potential affirmative includes only evaluated non-negative future markers. Potential negative includes non-future markers which have a multiple function of marking negative at phrase level, and subjunctive or dubitative at word level.

The definite affirmative markers are:

-ŋa 'past focal affirmative' This suffix co-occurs with

(i) recountive non-present indicative or participle to indicate past customary or continuous action

(ii) conversative non-present indicative to indicate a focal event in past time. (Examples of this second usage are very limited

and this meaning will require confirmation from further data.)

-ɲu 'past specific affirmative' This suffix co-occurs with conversative indicative non-present to indicate specific past time, which may be either recent past (earlier today or possibly yesterday) or a specific time in earlier experience.

CHART 8

YANYUWA RELIABILITY MOOD-TENSE SUFFIXES

	DEFINITE	POTENTIAL	NON-EVALUATED
AFFIRMATIVE	-ɲa past focal -ɲu past near/ specific -mu present perfective	-ama future focal -la future	-ø occurs with (INDICATIVE) past general, present imperfective, near future (IMPERATIVE) present, future (PARTICIPLE) past, present
NEGATIVE	-ǩu future negative	-nma past negative/ dubitative -ma present negative/ subjunctive, past customary negative	

-mu 'present affirmative' This suffix co-occurs with conversative indicative present to indicate an action completed in the present, that is, present perfective.

The potential affirmative markers are:

-ama 'future focal potential affirmative' This suffix co-occurs with (i) conversative indicative present to indicate intentive mood (ii) recountive indicative non-present to indicate customary future.

-ɨa 'future potential affirmative' This suffix co-occurs with conversative non-present and is the general future suffix.

The definite negative marker is:

-ř̆u 'future negative' This suffix co-occurs with the conversative indicative non-present (a) in a negative verb marked by the negative clitic baṇɨ- to indicate future inability (b) on a verb in a negative verb phrase to indicate future negative.

The potential negative markers are:

-nma 'past potential negative' This suffix co-occurs with conversative indicative non-present (a) in a negative verb marked by the negative clitic baṇɨ- to indicate past inability (b) on a verb in a negative verb phrase to indicate general past negative (c) on a verb in the absence of any negative morpheme in the word or phrase context, to indicate dubitative mood.

-ma 'non-future potential negative' This suffix co-occurs with (i) recountive non-present indicative to indicate negative customary past action (ii) conversative indicative present. In co-occurrence with conversative indicative, -ma occurs (a) on a negative verb marked by the negative clitic baṇɨ- to indicate present inability (b) on a verb in a negative phrase to indicate present negative (c) on a verb in the absence of any negative morpheme in the word or phrase context, to indicate subjunctive (conditional or hypothetical) and, less frequently, obligative mood.

The suffix -ø 'non-evaluated' occurs on (i) past and present, but not past customary, participles (ii) present and future imperative verbs (iii) the following indicative verbs: past general, present imperfect, near future (see Chart 1).

2.2. *LAYERS OF VERB CONSTRUCTION*

Yanyuwa verbs are described in terms of six layers of construction, each of which forms the basis of the next higher layer (see Chart 9). The layers are root, stem, theme, core, base, indicative verb. It is noted that the verb types emerge at successive layers of construction so that the verb core forms the Yanyuwa participle while it also forms the base for the higher layers, and the verb base forms the Yanyuwa imperative verb while it also forms the base for the indicative verb.

2.2.1. Verb Roots

A Yanyuwa verb root is a single morpheme which occurs with one of several verb marking suffixes to form a verb stem. In general the root is a theoretical morpheme in that most verb roots never occur in isolation, that is, apart from their markers. The markers are identifiable because they also function to derive verb stems from other word class roots or stems (see 2.2.2.1 - 2.2.2.3). Examples of verb roots are given with their markers in the following section.

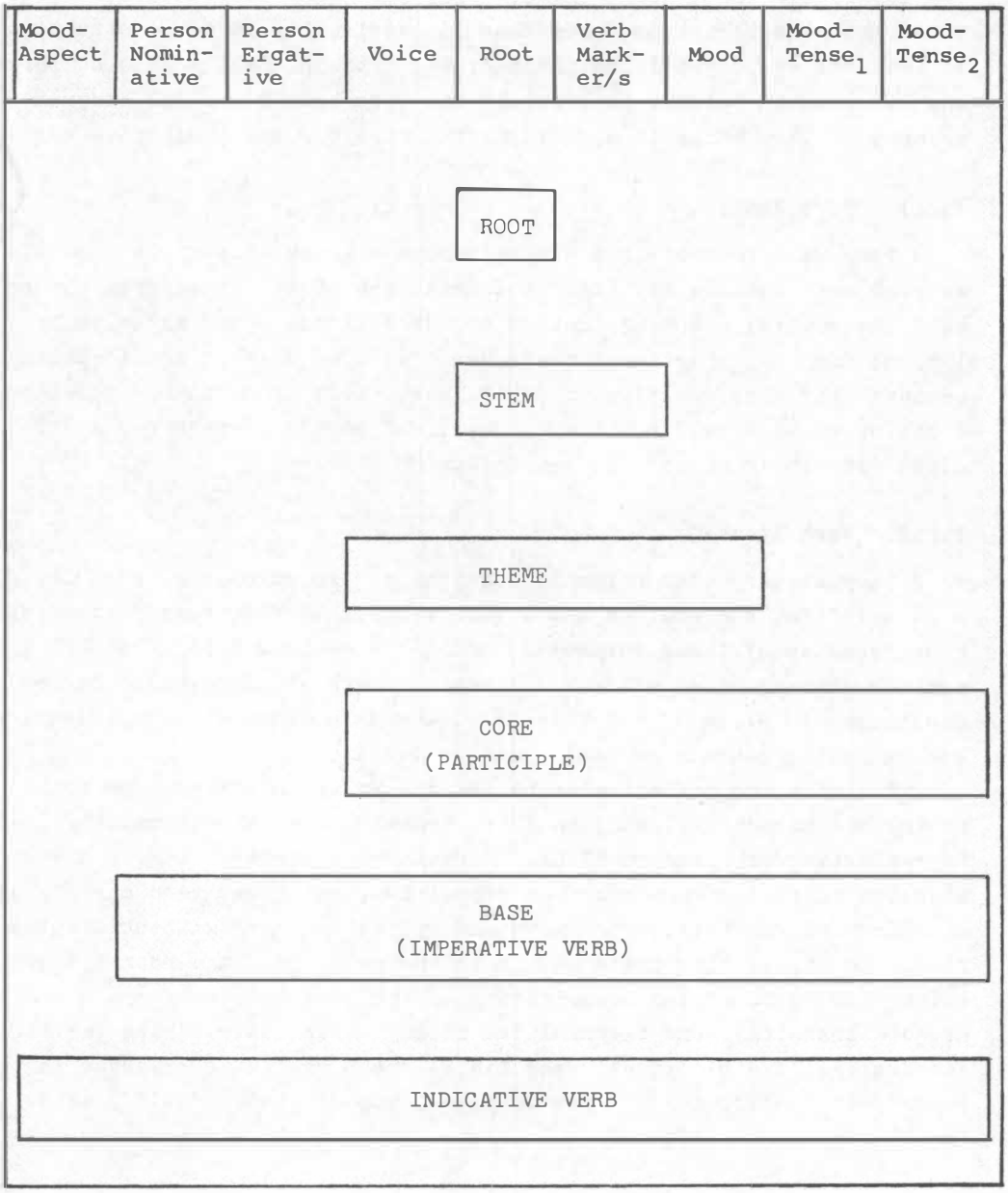
2.2.2. Verb Stems

A Yanyuwa verb stem normally consists of two morphemes, that is, of a root filling the nucleus and a verb marker. A few stems derived from nouns consist of three morphemes, and a few derived from verbs of another class consist of four morphemes. Verb stems may also be reduplicated or expanded but this is viewed as a feature of modification and is left unconsidered until section 2.2.2.5.

Transitive and reflexive verbs are generally indistinguishable in their stem morphology, and, in fact, transitive stems are readily used in reflexive verb constructions. Certain verb markers clearly distinguish intransitive stems from transitive, but other verb markers are used for intransitive, transitive and reflexive stems without distinction. In this latter instance, it is the meaning of the root itself which distinguishes the transitivity of the stem. Three stems occur as both transitive and intransitive stems: ŋunda (intr) *'rise (of tide, floodwaters)'*; (tr) *'give'*, waŋa (intr) *'be a reclining crescent (of moon)'*; (tr) *'hit, shoot (with weapon)'*, yuguma (intr) *'wait'*; (tr) *'watch over'*.

CHART 9

LAYERS OF YANYUWA VERB CONSTRUCTION



The following is a general formula for a verb stem:

$$\text{Verb stem} = + \text{root} + \text{verb marker}$$

$$= + \left\{ \begin{array}{l} \text{v rt} \\ \text{adv rt} \\ \text{adj rt} \\ \text{n rt} \end{array} \right\} + \left\{ \begin{array}{l} \text{v mk suff} \\ \text{v rt} \end{array} \right\}$$

Details of which specific markers and roots co-occur are given in the three succeeding sections.

Morphophonemic rules applying specifically to stem derivation are required because the morphophonemic changes at this level are inconsistent with those which occur at levels above the stem.

2.2.2.1. Intransitive Verb Stems

In general, Yanyuwa intransitive verb stems share a meaning of 'being in the process of doing' or 'being in the process of becoming', but without another entity being affected as in transitive action. In general, it is the existential verb which has a 'being in the state of' meaning.

Stems with marker -ø

These stems include the following verb roots: bulaŋa *'become white'*, luna *'break, fall apart'*, maɖu *'become full'*, ŋanl *'be absent'*, wanu *'be shy, ashamed'*, wuŋl *'flash'*. A single noun root has been observed to occur as a verb stem nucleus with zero marking: yalguyi (n) *'young man'*; (v) *'be/remain a young man'*.

Stems with marker -iřl

The suffix -iřl is the most commonly occurring marker of intransitive roots and derivational stems. Stems marked with -iřl include: alařl *'stand'*, ɻawuřl *'cross to the other side'*, ɻuwařl *'depart'*, mlɽiřl *'growl at, abuse'*, ŋadjbiřl *'disbelieve'*, yanjdjařl *'be born'*.

The following is a rule for deriving stems:

$$\left\{ \begin{array}{l} \text{adj st} \\ \text{adv st} \\ \text{n st} \end{array} \right\} + \text{iřl} \rightarrow \text{v st}_{\text{intr}}$$

Rule: iřl → řl / V+____

Adjectives and stems derived from them: baɻgibaɻgl *'weak'* → baɻgibaɻgiřl *'become weak'*; lumbu *'strong'* → lumbuřl *'become strong'*; ŋubuɳɖuř *'black, dark'* → ŋubuɳɖuřiřl *'become night'*; waɖl *'bad'* → waɖiřl *'become bad, deteriorate'*; yabl *'good, nice, well'* → yabiřl *'become well, improve'*.

Adverbs and stems derived from them: agaṛi *'west place'* → agaṛiři *'move to the west'*; galiřgaliř *'emaciated'* → galiřgaliřiři *'become emaciated'*; ⌊uŋgu *'alive'* → ⌊uŋguři *'remain alive, come alive'*; wuřmui *'lazy, lethargic'* → wuřmuliři *'become lazy, lethargic'*.

Nouns and stems derived from them: (class 1) baḍibaḍi *'old woman'* → baḍibaḍiři *'become an old woman'*; (class 2) maibu *'old man, old person'* → maibuři *'become an old man, old person'*; (class 4) ŋawu *'cloud'* → ŋawuři *'cloud over'*.

Exceptions to the derivational rule: baṇḍařbaṇḍař *'ground full of holes, pierced by digging sticks'* → baṇḍařiři *'be pierced, full of holes;* galiřgaliř *'emaciated'* → galiřgaliři *'become emaciated'*; miiga *'buttocks'* → miigaɣaři *'become cramped in the buttocks'*; ŋuyuiŋuyui *'trickster, joker'* → ŋuyuiŋuyuiuři *'be funny, play tricks'*; wuia *'head'* → wuiaṛiři *'have a headache'*; wuiwuř *'cough'* → wuiwuři *'cough'*; wundaṛuřa *'night'* → wundaṛiři *'become night'*.

Stems with marker -anba

Stems marked with -anbe include: buřanba *'fall off'*, guianba *'lower the end of'*, iawanba 'enter water', ⌊aganba *'descend'*.

The following is a rule for deriving stems:

$$\left\{\begin{array}{l}\text{n st + abl mk}\\ \text{adv st}\\ \text{adj st}\end{array}\right\} \quad + \quad \text{anba} \rightarrow \text{v st}_{\text{intr}}$$

Rule: anba → nba / V+____

The interesting feature of stems derived with -anba is that the two noun stems involved are both class 8 body-part stems, and both stems are marked with the noun ablative marker indicating 'in, on, at, with, by' before the derivational suffix is added. In Yanyuwa noun construction, when the ablative marker -a is added to an a-final noun stem, an aa vowel cluster occurs. An accompanying stress change to retain penultimate stress indicates that the second a is in fact an additional syllable (Kirton, 1967). This is then carried over into verb derivation so that the two a's are retained in the construction of the derived verb stem.

Nouns and stems derived from them: maṇḍa-a (*foot*-abl mk) → maṇḍaanba *'follow in tracks'*; wuḍu-ia (*abdomen*-abl mk) → wuḍuianba *'be exhausted, panting'*.

Adverbs and stems derived from them: iaguř *'pierced, full of holes'* → iaguřanba *'be pierced, full of holes'*; wuɳɣa *'cool, pleasant'* → wuɳɣanba *'become cool, become well-disposed'*.

Adjective and derived stem: ŋařa *'warm, hot'* → ŋařanba *'become warm'*.

Stems with marker -luŋga

The following is a rule for deriving stems:

+ n st + luŋga → v st_{intr}

Rules: luŋga → uŋga / l+____
luŋga → ŋga / la+____

Stems derived from nouns: (class 4) wiřga *'whistle'* → wiřgaluŋga *'whistle'*; (class 8) ŋaŋ̣gal *'tongue'* → ŋaŋ̣galuŋga *'poke out tongue'*, wula *'head'* → wulaŋga *'nod head (in agreement)'*.

Stems with marker -ma

In general -ma is the typical marker or derivational suffix for transitive verbs or reflexive verbs, and yet certain intransitive stems appear to be marked and some are derived with this same marker. It may be that -ma means *'do, cause, make'* and that in certain instances the resultant combined meanings of root and marker are viewed as being primarily intransitive.

Examples of underived stems: bulma, wařma *'blow (of wind)'* buyuṛuma *'blow (of whirlwind)'*, ḻaŋařma *'open mouth wide'*, minjma *'wink, blink'*, wuluma *'run'*, wuŋuma *'be lazy, idle'*, yambama *'call out noisily'*, yidjama *'sneeze'*.

Stems are derived from class 6 noun ṛidiṛidi *'walking stick, rod'*, the adverb lugulugu *'around'*, and the onomatopoeic words bulbul, *'boiling'*, yařyař *'rustling'*. Resultant verb stems are: ṛidiṛidima *'walk with a stick'*, luguluguma *'go all around, encircle'*, bulbulma *'boil'*, yařyařma *'rustle'*.

In addition, two further stems have been derived from class 8 noun ŋuřu *'nose'* which may be marked by two suffixes, the second being -ma, or they may be marked by -njdjulma and -ŋginjma: ŋuřunjdjulma *'sniff'* and ŋuřuŋginjma *'blow nose'*. There is no evidence for morphemes -njdjul or ŋginj in the data, but there would be a possibility of -njdju and -ŋgu, both allomorphs of the noun ergative marker, occurring with some morphophonemic change.

Stems with markers -ldja, -aga, -ŋa, ŋunda

The class 8 noun stem mayi *'tooth, teeth'* and the adverb stem ambiři *'ahead'* are marked with -ldja to form the stems: mayidja *'clench or grind teeth'*, ambiřidja *'go into the lead'*.

The class 4 nouns waṛař *'mud'*, ŋaŋ̣awindi *'perspiration'* and ŋaŋgař *'nasal secretion'* occur with markers -aga, -ŋa and the verb root ŋunda

'give' respectively to form the stems: waṛařaga *'become bogged'*, ŋaṇḍawindaŋa *'perspire'*, ŋaŋgařŋunda *'have a running nose'*.

2.2.2.2. Reflexive Verb Stems

There are less then seventy verb stems recorded which are exclusively reflexive. About half of these are marked with the suffix -ma.

Reflexive stems include: aŋgalaŋgař *'have diarrhoea'*, idja *'go to sleep'*, lalařguwa *'wither, dry out'*, maba *'carry a heavy load'*, nu *'dismount, get out of (car)'*, ṛiyařaba *'be pleased with'*, walga *'open eyes wide'*, wiřiři *'be ready to eat'*, udja *'swell'*, uřa *'row (boat)'*, baḷama *'clap'*, ḻawařma *'greet, compliment'*, ŋalama *'choke'*, ŋaṇinjma *'reply'*, wama *'stop, cease'*, wulbinjgulbinjma *'rub one's eyes'*, yalyalma *'spread out, disperse'*.

Derived Stems

The class 4 noun gaga *'faeces, filth'* occurs with -ø marker as a reflexive verb stem 'defaecate'.

The class 4 noun stem wala *'branch, fork'* and the adverb stem djagudi *'silent, dumb'* occur with the marker -ma to form reflexive stems: walawalama *'branch'*, djagudima *'refrain from speech'*.

The adverb walguř *'asleep'* occurs with the marker -idja to form walguřidja *'go to bed, go to sleep'*.

The class 8 noun stems ŋalgi *'scent, flavour, skin group'* and ṛayal *'sputum'* occur with the verb root ŋunda *'give'*, and ŋalgi also occurs with wunjdja *'drink'* to form the following stems: ŋalgiŋunda, ŋalgiwunjdja *'taste, sample'*, ṛayalŋunda *'spit'*.

2.2.2.3. Transitive Verb Stems

The majority of transitive verb stems are marked with the suffix -ma and most derived transitive stems are derived by adding -ma to stems from other classes. Transitive stems share a common syntactic feature of requiring an object for the action they express.

Stems with marker -ø

These stems include: aḷgaḷba *'wash (clothes)'*, ga *'carry, bring, take'*, laa *'know (from experience)'*, ḻaṇaŋa *'catch'*, maŋa *'hold'*, midjaŋa *'want, desire'*, anda *'leave'*, wundařba *'name'*, wungana *'watch'*, yibařa *'put'*, yalbaŋa *'ask'* yilganu *'poke, touch'*.

The class 8 noun stem yiřa *'skin, bark'* occurs with -ø marker as the transitive verb 'scratch'.

Stems with marker -ma

Stems marked with -ma include: aɻama *'chase'*, algaɳɻama *'cut in pieces'*, buřudjunjma *'squeeze with fingers'*, djabuma *'pick, break off'*, gIwuma *'spit at, insult'*, ṛama *'hit, fight, kill'*, ḍuma *'get'*, wallma *'throw'*, wlřma *'prick, poke'*, yaŋama *'turn, change'*, yunduyunduma *'point out, indicate'*.

Transitive verb stems are derived according to the rule:

$$\left\{\begin{array}{l}\text{adv st}\\ \text{adj st}\\ \text{n st}\end{array}\right\} + \text{ma} \rightarrow \text{v st}_{tr}$$

Rule: dj → nj / ____+m

Adverbs and stems derived from them: aŋgaŋ *'noisy'* → aŋgaŋma *'be noisy and prevent from hearing'*; guḍan *'dead'* → guḍanma *'kill'*; laguř *'pierced, full of holes'* → laguřma *'pierce'*; ɻuŋgu *'alive'* → ɻuŋguma *'keep alive, bring alive'*, mabi *'underground water source'* → mabima *'dig for water'*; mlIḍI *'intelligent, knowledgable'* → mlIḍIma *'teach'*; ṛuɻuṛuɻu *'very own'* → ṛuɻuṛuɻuma *'separate, divide up'*.

Adjectives and stems derived from them: arřgula *'one'* → arřgulama *'do as one group'*; ganjmaḍa *'two'* → ganjmaḍama *'make into two'*; lumbu *'strong'* → lumbuma *'strengthen'*; waḍI *'bad'* → waḍIma *'harm, spoil'*; wayařwayař *'strong, tough'* → wayařwayařma *'do with all one's might'*; yabI *'good, nice, well'* → yabIma *'make, fix, heal'*.

Nouns and stems derived from them: (class 3) yabala *'road'* → yabalama *'make a road;* (class 4) ɻulun *'bed, sleeping mat'* → ɻulunma *'spread a bed, prepare for a childbirth'*; ŋabaya *'spirit, devil-devil'* → ŋabayama *'bedevil'*; (class 5) yaɻa *'rope'* → yaɻama *make a rope'*; (class 8) ŋunduwa *'throat'* → ŋunduwama *'slit throat'*; wuṛun *'piece'* → wuṛunma *'break in pieces'*.

Onomatapoeic expressions yuyuyuyu... for hushing a baby, and gudjugudjugudju... in accompaniment to tickling someone are also used to form transitive verb stems: yuyuma *'hush to sleep'*, gudjugudjuma *'tickle'*.

Exceptions to the derivational rule: (i) arřdjI *'hanging'* → arřdjInma *'hang up'*; lIŋI *'intelligent, having keen hearing'* → lIŋInma *'remember'*; mIřba *'still, motionless'* → mIřbanma *'cause to be still, motionless'*; (ii) buyi *'small'* → buyinjma *'make smaller'*; djudju *'distant'* → djudjunjma *'hunt away, chase away'*; (iii) wunumbařa *'close'* → wunumbajŋuma *'come close to, catch up to'*.

Stems with markers -nji and -ii

Four stems are derived using these markers.

Rule: nji → ni / dji+____

Nouns and stems derived from them: (class 4) wuga *'word, speech, language'* → wuganji *'walk, speak'*; (class 5) yidji *'firestick'* → yidjini *'make fire (with firesticks)'*.
Adverb and stem derived from it: wuřa *'underwater'* → wuřanji *'put underwater, lean on'*.
The single stem derived using -ii is algaii *'to vomit'*, which is derived from the class 4 noun algu *'vomitus'*.

Stems with marker -iřa

Stems marked with -iřa include: aguyiřa *'give a lift to, carry for someone'*, baḷiřa *'draw, love, thank'*, ḍiřiřa *'tie up'*, gadiřa *'stand erect, stand on end'*.

In the short list of derived stems marked by -iřa there is some irregularity in the way in which the derivation root and marker combine. The adverb stems daḷbu *'piled, heaped'*, muḷa *'wrapped'*, and the noun stem wajgiiwajgii *'thief'* occur with -iřa to form the following verb stems: daḷbiřa *'pile up, heap up'*, muḷayiřa *'roll up'*, wajgiřa *'steal, hide'*.

The stem muḷa *'wrapped'* is the only one noted which occurs with both -ma and iřa to form separate transitive verb stems. The stem muḷama means *'wrap up'*. The stem muḷayiřa means *'roll up, make up a swag (travelling bundle)'*.

Stems with ŋunda

One noun stem and two intransitive verb stems are compounded with ŋunda *'give'* to form transitive verb stems: yiřinj *'feather/s'* → yiřiŋunda *'decorate with feathers'*; ŋalba *'enter'* → ŋalbaṇṇjiŋunda *'cause to enter, pull through'*; yiḍaḍa *'grow'* → yiḍaḍiŋunda *'bring up, adopt, grow (plant)'*.

Other Verb Stems Derived from Intransitive Roots

The following rule applies to the derivation of a group of verb stems:

$$v\ st_{intr} + (\pm\ njdja \pm ŋu) + ma \rightarrow v\ st_{tr}$$

The limited list of stems derived in this way is: wuři *'go out (light, fire)'* → wuřinjdjama *'extinguish'*; ŋabu *'bathe'* → ŋabunjdjama *'bath, baptize'*; wani *'return'* → waninjdjaŋuma *'bring back, take back'*, wunjdjinu *'swim'* → wunjdjiniŋuma *'swim pulling or pushing something/someone'*.

The intransitive stem ŋanjdji *'dry out'* forms the derivational root of ŋanjdjiyuŋga *'cause to dry out'*.

2.2.2.4. *Stem Allomorphs*

Two stems are irregular in that they have allomorphs determined by co-occurrence with specific moods and tenses, and they take certain variant suffixation with the variant stems. The stems are: ŋa (tr) *'see'*; waŋa (intr) *'become a reclining crescent (of moon)*; (tr) *hit, shoot (with weapon)'*.

The following rules cover stem and suffix allomorph occurrence:

$$\left\{\begin{array}{l} \text{ŋa} \rightarrow \text{ga} \\ \text{waŋa} \rightarrow \text{waŋga} \end{array}\right\} \quad / \quad \left\{\begin{array}{l} \text{past general tense, indicative mood} \\ \text{present imperative} \end{array}\right\}$$

$$\left[\begin{array}{l} \text{ga} \\ \text{waŋga} \end{array}\right] + \phi + \phi + \phi \rightarrow \left[\begin{array}{l} \text{gala} \\ \text{waŋgala} \end{array}\right] \quad \text{(past general indicative)}$$

$$\left[\begin{array}{l} \text{ga} \\ \text{waŋga} \end{array}\right] + \phi + \text{ya} \rightarrow \left[\begin{array}{l} \text{gař a} \\ \text{waŋgař a, waŋgaya} \end{array}\right] \quad \text{(present imperative)}$$

It is noted that (i) -la only otherwise occurs as a verb suffix to indicate 'general future' (ii) this variant suffixation with -la in place of -ϕ retains the distinction between the stem ga *'carry, bring, take'* and the ga allomorph of ŋa *'see'*.

2.2.2.5. *Expansion of the Stem*

Verb stems may be expanded in several ways. They may be partially or wholly reduplicated or extended by the addition of a morpheme of one or two syllables. Reduplication of the entire stem is restricted to stems of one or two syllables. Stems which are derived from reduplicated roots, for example, baḷgḷbaḷgḷř *'become weak'*, do not normally take further reduplication as verb stem. Extension of the stem or partial reduplication is the norm for Yanyuwa.

Expansion of the stem is accomplished in one of the following ways: 1) by reduplication of the first one or two syllables of the stem, with or without the addition of l of la medially 2) by the addition of la medially in the stem 3) by the addition of -lař a to the stem. This lengthening of the verb stem indicates the lengthening of the duration of the action expressed by the stem or it may indicate a multiplicity of actors involved in the action; for example, gḷyawadjaḷwadjaŋa (stem:

wadjaŋa) *'he kept paddling (the canoe) continuously'*; galuɻuwaɻuwařì (stem: ɻuwařì) *'they (many people) went away'*. In rare instances, reduplication or expansion of the stem weakens the meaning of the stem: miřa *'be very ill, die'*, minmiřa *'be sick'*.

Analysis to this point has not revealed predictability of which method of expansion applies to which stems, and so the eight methods and their respective lists of stems are given below. Relevant additional morphophonemic rules are given.

1. **Reduplication of the first two syllables**

   Rule: ř → ∅ / ____+(root)

   Stems: diṛama *'speckle'*, ŋanjma *'follow'*, ɻawařma *'greet'*, ɻuwařì *'depart'*, maḍuma *'make cold'*, waŋgiřì *'look all around'*.
   Reduplicated stem examples: ŋanjmaŋanjma, ɻawaɻawařma, waŋgiwaŋgiřì.

2. **Reduplication of the first syllable with l substituting for the initial consonant in that syllable's second occurrence**

   Rule: m → l

   Stems: maŋinma *'jump'*, ṛilìřì *'come into view'*, walanjma *'emerge'*, wuluma *'run'*, wuřuba *'pour'*.
   Reduplicated stem examples: mamaŋinma, wululuma, wulurubа.
   Other similar stems: Two other stems have a certain similarity in their method of reduplication but do not follow the above rule. The stems buřanba *'fall off'* and wallma *'throw'* reduplicate as follows: buřuřanba, wallilima.

3. **Reduplication of the first two syllables with l substituting for the initial consonant in that unit's second occurrence**

   Stems: ṛama *'hit, fight, kill'*, ṛuguma *'dry'*, wabama *'fly'*.

   Reduplicated stem examples: ṛamalama, ṛuguluguma, wabalabama.

4. **Reduplication of the first syllable with the addition of l to the close of that syllable in its first occurrence**

   Rule: l → n / ____m

   Stems: baḍama *'fan, flap wings'*, buma *'rest'*, djiřinma *'tell'*, gadiřì *'be stiff, stand straight'*, miřa *'die'*, miřinma *'hurry'*, niřì *'pick up'*, ŋunda *'give'*, ŋunduřma *'snore'*, wadjaŋa *'paddle (canoe)'*, wanda *'follow'*, wandiřì *'pass'*, wani *'return'*, wuřinma *'scrape'*.

Reduplicated stem examples: bulbuma, minmiřinma, niiniři, ŋuiŋunda, waiwanda, waiwani.

5. **Reduplication of the first two syllables with the addition of i at the close of their first occurrence**

Stems: ařganu *'spear'*, inu *'tell'*, ŋabu *'bathe, swim, go underwater'*, waŋa *'shoot'*, wiŋga *'walk, come, go'*, yabima *'make, fix, heal'*, yibanda *'sit, arrive'*, yinba *'sing'*, yuba *bring up (child)*, yuguma *'wait, watch over'*.

Reduplicated stem examples: ařgalařganu, inalinu, ŋabuiŋabu, waŋaiwaŋa, wiŋgaiwiŋga, yibaiyibanda.

6. **Reduplication of a 1-syllable stem with the addition of la between the two syllable occurrences**

Stems: ba *'paint, spread'*, ḏa *'eat (flesh)'*, ga *'carry, bring, take'*, ŋa *'see'*.

Reduplicated stem examples: balaba, ḏalaḏa, galaga, ŋalaŋa.

7. **Expansion by the addition of la after the first or second syllable**

Stems: (la after 1st syllable) alaři *'stand'*, ařama *'be proud'*, ajŋjgaři *'hear'*; (after 2nd syllable) malawuři *'rumble'*.

Expanded stem examples: alalařI, alařama, ajŋjgalajŋjgaři, malalawuři.

8. **Expansion by the addition of -lařa**

The stems of this group form the one predictable pattern. They are stems of the phonological shape CaC_xC_sa, where C_x = i / ř / dj.

Stems: ŋalba *'enter'*, wadjba *'call out'*, waḷba *'climb'* wařga *'crawl'*.

Expanded stem examples: ŋalbalařa, wadjbalařa, waḷbalařa, wařgalařa.

2.2.3. Verb Themes

The layer next above the verb stem is the verb theme, which consists of a verb stem marked for reflexive or non-reflexive voice and for mood orientation, either conversative or recountive. The verb theme is the layer from which negative participles and negative imperative verbs are constructed (see 2.3.1.).

verb theme = + voice mk + verb stem + mood orientation mk

v thm_{cv} = ...+ ∅

v thm_{rct} = ...+ ŋ̲d̲a
v thm_{rfl} = + mba .....+ ø/ŋ̲d̲a
v thm_{nrfl} = + ø .....+ ø/ŋ̲d̲a

Examples of intransitive stem wařga *'crawl'*, reflexive stem wuduřuma *'feed'*, and transitive stem ga *'carry'* as conversative and recountive themes are given: ø-wařga-ø, ø-wařga-ŋ̲d̲a, mba-wuduřuma-ø, mba-wuduřuma-ŋ̲d̲a, ø-ga-ø, ø-ga-ŋ̲d̲a.

2.2.4. Verb Cores and Participles

The layer next above verb theme is verb core, which consists of verb theme marked for mood-tense and reliability. The Yanyuwa participle is a specific kind of verb core.

2.2.4.1. *Verb Cores*

verb core = + verb theme + mood-tense mk_1 + mood-tense mk_2

The second order mood-tense marker suffixes have meaning components of mood, tense and reliability. Examples of verb cores are given, retaining the verb themes from 2.2.3. above:

ø-wařga-ø-ø-ia	(nrfl-*crawl*-cv-npres-fut paf)
ø-wařga-ŋ̲d̲a-ani-ŋ̲a	(nrfl-*crawl*-rct-cst npres-p faf)
mba-wuduřuma-ø-ø-ø	(rfl-*feed*-cv-npres-nev)
mba-wuduřuma-ŋ̲d̲a-řa-ø	(rfl-*feed*-rct-pres pt-nev)
ø-ga-ø-ya-ø	(nrfl-*carry*-cv-pres imp-nev)
ø-ga-ŋ̲d̲a-ani-ø	(nrfl-*carry*-rct-cst npres-nev)

A free translation is not given for constructions below word level because there may be several possible free translations, depending on the resultant verb type in which the verb core (or theme in the next section) occurs. The specific translation is later determined by the remaining affixation.

2.2.4.2. *Participles*

Present, past and past customary participles consist of recountive verb core with mood-tense suffix restrictions.

participle = + verb $theme_{recountive}$ + md ts_1 + md ts_2
pt_{pres} = ... + řa + ø
pt_p = ... + ø + ø
pt_p cst = ... + ani + ŋ̲a

It is noted that past participle forms of intransitive verbs do not occur and that the past customary participle is rarely used. Examples of present, past, and past customary participles are given retaining the stems from the preceding sections.

Note: In these and all the following examples, basic morphemes will be written in the morpheme-by-morpheme illustration of each word, and the second example without morpheme breaks will illustrate the results of application of morphemic and morphophonemic rules. Refer to 2.1.1., 2.1.2.1. and 2.1.2.2. for rules applying to morphophonemic change, the reflexive morpheme and person markers respectively.

ø-wařga-n̪d̪a-řa-ø	wařgan̪d̪ařa
nrfl-*crawl*-rct-pres pt-nev	*'crawling'*
mba-wuduřuma-n̪d̪a-řa-ø	njambawuduřuman̪d̪ařa
rfl-*feed* -rct-pres pt-nev	*'feeding, eating'*
mba-wuduřuma-n̪d̪a-ø-ø	njambawuduřuman̪d̪a
rfl-*feed* -rct-npres-nev	*'fed'*
mba-wuduřuma-n̪d̪a-ani-n̪a	njambawuduřuman̪d̪aninja
rfl-*feed* -rct-cst npres-p faf	*'fed (as was customarily done)'*
ø-ga-n̪d̪a-řa-ø	gan̪d̪ařa
nrfl-*carry*-rct-pres pt-nev	*'carrying'*
ø-ga-n̪d̪a-ø-ø	gan̪d̪a
nrfl-*carry*-rct-npres-nev	*'carried'*

The past participle may be additionally marked by the genitive case marker -wu *'to, for'* as indirect object of a verb or as descriptive of an item in a non-verbal construction, and by the ergative case marker -lu meaning *'for the purpose of'* in this context.

2.2.5. Verb Bases and Imperative Verbs

The layer next above verb core is verb base, which consists of a verb core with added person marking. The imperative verb is a specific kind of verb base.

2.2.5.1. *Verb Bases*

Bases are marked for nominative and ergative person markers as they are relevant to the verb type. Nominative marks transitive objects, and reflexive and intransitive subjects, whether animate or inanimate. Ergative marks the transitive subject, whether animate or inanimate, although animate agents are predominant. The morpheme ø- in ergative

person position marks non-transitive.

verb base = + $pers_{nom}$ + $pers_{erg}$ + v cor

v bas_{intr} = $pers_{nom}$ + ø- + v cor_{nrfl}

v bas_{rfl} = ... + v cor_{rfl}

v bas_{tr} = ... + per_{erg} + v cor_{nrfl}

Examples of intransitive, reflexive and transitive verb bases are given below (where two person markers occur, the nominative person precedes the ergative, as in the formulae above):

(intransitive)

alu-ø-ø-wařga-ø-njdjl-ø	(3pl-ntr-nrfl-*crawl*-cv-pres-nev)
ŋambala-ø-ø-wařga-ø-njdji-ø	(1pl incl-ntr-nrfl-*crawl*-cv-pres-nev)
anda-ø-ø-wařga-ø-njdji-ø	(3f-ntr-nrfl-*crawl*-cv-pres-nev)

These examples remain unchanged by the various rules.

(reflexive)

alu-ø-mba-wuduřuma-ø-ø-ø	(3pl-ntr-rfl-*feed*-cv-npres-nev)
ŋambala-ø-mba-wuduřuma-ø-ø-ø	(1pl incl-ntr-rfl-*feed*-cv-npres-nev)
anda-ø-mba-wuduřuma-ø-ø-ø	(3f-ntr-rfl-*feed*-cv-npres-nev)

After rules are applied these verb bases then become:

alnjambawuduřuma, ŋambalambawuduřuma, anumbawuduřuma.

(transitive)

ŋambala-alu-ø-ga-ø-ø-la	(1pl incl-3pl-nrfl-*carry*-cv-npres-fut paf)
alu-wula-ø-ga-ø-ø-la	(3pl-2d-nrfl-*carry*-cv-npres-fut p paf)
wula-anda-ø-ga-ø-ø-la	(3d-3f-nrfl-*carry*-cv-npres-fut paf)

After rules are applied these verb bases then become:

ŋambalalagala, alawulagala, wulandagala.

2.2.5.2. *Imperative Verbs*

Imperative verbs consist of verb bases with mood-tense restrictions and with certain person allomorphs (see 2.1.2.2. for general person marker rules and those specifically relating to imperative mood). Present and future imperative are distinguished.

imperative verb = + $pers_{nom}$ + $pers_{erg}$ + v cor_{imp}

imp v_{pres} = ... + thm_{cv} + ya + ø

imp v_{fut} = ... + thm_{rct} + ani + ø

(intransitive examples)

inja-ø-ø-wařga-ø-ya-ø	wařgaya
2s-ntr-nrfl-*crawl*-cv-pres imp-nev	*'Crawl!'*
mbala-ø-ø-wařga-ø-ya-ø	mbalawařgaya
2d -ntr-nrfl-*crawl*-cv-pres imp-nev	*'Crawl!'*
ŋambala-ø-ø-wařga-ø-ya-ø	ŋambalawařgaŋa
1pl incl-ntr-nrfl-*crawl*-cv-pres imp-nev	*'We must crawl!'*
anda-ø-ø-wařga-ø-ya-ø	ndawařgaya
3f-ntr-nrfl-*crawl*-cv-pres imp-nev	*'She must crawl! Let her crawl!'*
inja-ø-ø-wařga-ŋ̱da-ani-ø	wařgaŋ̱dani
2s-ntr-nrfl-*crawl*-rct-npres-nev	*'You should crawl!'*
ŋambala-ø-ø-wařga-ŋ̱da-ani-ø	ŋambalawařgaŋ̱dani
1pl incl-ntr-nrfl-*crawl*-rct-npres-nev	*'We should all crawl!'*

(reflexive)

inja-ø-mba-wuduřuma-ø-ya-ø	njambawuduřumaya
2s-ntr-rfl-*feed* -cv-pres imp-nev	*'Feed yourself! Eat up!'*
mbala-ø-mba-wuduřuma-ø-ya-ø	mbalambawuduřumaya
2d -ntr-rfl-*feed* -cv-pres imp-nev	*'Feed yourselves!'*
ŋambala-ø-mba-wuduřuma-ŋ̱da-ani-ø	ŋambalambawuduřumaŋ̱dani
1pl incl-ntr-rfl-*feed* -rct-npres-nev	*'We should all eat!'*

(transitive)

lwa-inja-ø-ga-ø-ya-ø	njagaya
3m -2s-nrfl-*carry*-cv-pres imp-nev	*'Carry him!'*
wula-inja-ø-ga-ø-ya-ø	wulinjagaya
3d-2s-nrfl-*carry*-cv-pres imp-nev	*'Carry those two!'*
alu-ŋambala-ø-ga-ø-ya-ø	liŋambalagaya
3pl-1pl incl-nrfl-*carry*-cv-pres imp-nev	*'We must carry them!'*
ana-lwa-ø-ga-ŋ̱da-ani-ø	niluganŋ̱dani
3arb-3m-nrfl-*carry*-rct-npres-nev	*'He should carry it! Let him carry it!'*

l-i-ø-ga-ŋ̱da-anl-ø	njinjdugaŋ̱ŋ̱danl
3msc-3msc-nrfl-*carry*-rct-npres-nev	*'It should carry it! (e.g. the truck should carry the wood)'*

2.2.6. Indicative Verbs

The indicative verb is the form that has the most frequent usage. It is clearly marked by the ga-/dja- indicative marker, which also includes meaning components of time and recurrative aspect (see 2.1.2.3.). Indicative verbs may be conversative or recountive. They may be affirmative, potentially affirmative, negative or potentially negative. The past and present potential negative ambiguities are resolved at phrase level so that past negative and dubitative are distinguished, and present negative and subjunctive are distinguished.

indicative verb = + ga/dja + verb base

ind v_{naf} = + ga.....

Since examples of recurrative usage are given above (see 2.1.2.3.) all following examples will be restricted to non-recurrative usage and it is to be assumed that all the indicative ga-/dja- prefixes are non-recurrative; ga- then is always non-present and dja- present. These aspect and time components of meaning are then omitted from the morpheme labelling in all further examples.

(intransitive examples)

ga-lnja-ø-ø-wařga-ø-ø-ø	gawařga
ind-2s-ntr-nrfl-*crawl*-cv-npres-nev	*'you crawled'*
ga-lmbala-ø-ø-wařga-ø-ø-la	glmbalawařgala
ind-2s-ntr-nrfl-*crawl*-cv-npres-fut paf	*'you will both crawl'*
dja-ŋambala-ø-ø-wařga-ø-njdjl-ø	djambalawařganjdjl
ind-lpl incl-ntr-nrfl-*crawl*-cv-pres-nev	*'we are crawling'*
ga-anda-ø-ø-wařga-ŋ̱da-anl-ama	gandawařgaŋ̱ŋ̱danama
ind-3f-ntr-nrfl-*crawl*-rct-npres-fut fpaf	*'she will always crawl'*
ga-lnja-ø-ø-wařga-ŋ̱da-anl-ŋ̱a	gawařgaŋ̱ŋ̱daninja
ind-2s-ntr-nrfl-*crawl*-rct-npres-p faf	*'you always used to crawl'*
ga-wula-ø-ø-wařga-ø-ø-ŋ̱u	gawulawařgaŋ̱u
ind-3d-ntr-nrfl-*crawl*-cv-npres-p saf	*'they crawled (recently or on an earlier specific occasion)'*

(reflexive)

dja-inja-ø-mba-wuduřuma-ø-njdji-mu	djinjambawuduřumanjdjimu
ind-2s-ntr-rfl-*feed*-cv-pres-pres af	*'you have just finished eating'*
dja-imbala-ø-mba-wuduřuma-ø-njdji-ø	djimbalambawuduřumanjdji
ind-2d-ntr-rfl-*feed* -cv-pres-nev	*'you are eating'*
ga-i-ø-mba-wuduřuma-ø-njdji-ma	ginjambawuduřumanjdjima
ind-3m-ntr-rfl-*feed*-cv-pres-nfut pneg	*'it may feed itself, it isn't feeding'*

(transitive)

ga-iwa-inja-ø-ga-ø-ø-ø	ginjaga
ind-3m-2s-nrfl-*carry*-cv-npres-nev	*'you carried him'*
ga-wula-inja-ø-ga-ø-ø-ø	gawulinjaga
ind-3d-2s-nrfl-*carry*-cv-npres-nev	*'you carried them'*
ga-anda-injdju-ø-ga-ø-ø-ø	gařinjdjaga
ind-3f-3msc-nrfl-*carry*-cv-npres-nev	*'it carried her'*
ga-u-iwa-ø-ga-ø-ø-nma	giiaganma
ind-3fd-3m-nrfl-*carry*-cv-npres-p pneg	*'he might take it, he didn't take it'*
ga-iwa-u-ø-ṛama-ø-ø-ø	ginjaŋguṛama
ind-3m-3fd-nrfl-*hit*-cv-npres-nev	*'it (the fruit) hit him'*

Further examples to Illustrate Morphophonemic Rules

Further examples are given to specifically illustrate morphophonemic rules of section 2.1.1. above. Rules relating to the reflexive morpheme (see 2.1.2.1.) and to person marker occurrence (see 2.1.2.2.) must also be applied. (Rule 1 is of a different kind and is not illustrated.)

(Rule 2)

anu-ŋali-ø-ḍuma-ø-ya-ø	naŋaliḍumaya
3arb-1d incl-nrfl-*get*-cv-pres imp-nev	*'We must get it!'*
anda-wula-ø-ḍuma-ø-ya-ø	řawulaḍumaya
3f -3d-nrfl-*get*-cv-pres imp-nev	*'They must carry her! Let them carry her!'*
ø-ajŋjgařI-n̪d̪a-řa-ø	jŋjgařinjdjařa
nrfl-*hear* -rct-pres pt-nev	*'hearing'*
ø-alařI-n̪d̪a-řa-ø	alařinjdjařa
nrfl-*stand*-rct-pres pt-nev	*'standing'*

(Rule 3)

ga-alu-anda-ø-ḍuma-ø-ø-ø	galandaḍuma
ind-3pl-3f-nrfl-*get*-cv-npres-nev	*'she got them'*
ga-iwa-ø-mba-idja-ø-ø-ø	gumbidja
ind-3m-ntr-rfl-*sleep*-cv-npres-nev	*'he went to sleep'*
ø-algaṉḏama-ṉḏa-ani-ṉa	algaṉḏamaṉḏaninja
nrfl-*cut in pieces*-rct-npres-p faf	*'cut in pieces (as they used to do)'*
ga-anda-ø-ø-ařamaṉḏa-ø-ø-ø	gandaařamaṉḏa
ind-3f-ntr-nrfl-*become proud*-cv-npres-nev	*'she became proud'*

(Rule 4)

dja-alu-alu-ø-ḍuma-ø-njdji-ø	djalaluḍumanjdji
ind-3pl-3pl-nrfl-*get*-cv-pres-nev	*'they are getting them'*
dja-alu-alu-ø-ga-ø-njdji-ø	djalalaganjdji
ind-3pl-3pl-nrfl-*carry*-cv-pres-nev	*'they are carrying them'*
ga-alu-ø-ø-ḏa-ø-ø-ø	galaḏa
ind-3pl-ntr-nrfl-*eat*-cv-npres-nev	*'they ate (flesh)'*
dja-iwa-ø-ø-yinu-ø-njdji-ø	djiwayinanjdji
ind-3m-ntr-nrfl-*drown*-cv-pres-nev	*'he is drowning'*
dja-iwa-ø-ø-ŋabu-ø-njdji-ø	djiwaŋabunjdji
ind-3m-ntr-nrfl-*bathe*-cv-pres-nev	*'he is bathing'*

(Rule 5)

ga-ŋali-ø-ø-alaři-ø-ø-ø	galiyalaři
ind-ld incl-ntr-nrfl-*stand*-cv-npres-nev	*'we stood'*
ga-alu-ø-ø-alaři-ø-ø-ø	galuwalaři
ind-3pl-ntr-nrfl-*stand*-cv-pres-nev	*'they stood'*
ga-i-alu-ø-ařganu-ø-ø-ø	galuwařganu
ind-3msc-3pl-nrfl-*spear*-cv-npres-nev	*'they speared it'*

(Rule 6)

ga-wula-ø-ø-wani-ø-ø-ṉu	gawulawaninju
ind-3d-ntr-nrfl-*return*-cv-npres-p saf	*'they returned (recently)'*
mba-udja-ṉḏa-řa-ø	njambudjanjdjařa
rfl-*swell*-rct-pres pt-nev	*'swelling'*
ø-uma-ṉḏa-řa-ø	manjdjařa
nrfl-*cut*-rct-pres pt-nev	*'cutting'*

(Rule 7)

ø-anba-ṉḏa-řa-ø	nbayařa
nrfl-*fall*-rct-pres pt-nev	'*falling*'
dja-anda-anda-ø-ŋunda-ø-njdji-ø	djařandaŋundayi
ind-3f-3f-nrfl-*give*-cv-pres-nev	'*she is giving her*'
dja-anda-ø-ø-munjdjař-ø-njdji-ø	djandamunjdjařyi
ind-3f-ntr-nrfl-*get firewood*-cv-pres-nev	'*she is getting firewood*'

(Rule 8)

ga-iwa-ø-ø-ḻuwaři-ø-ø-řu	giwaḻuwařiyu
ind-3m-ntr-nrfl-*depart*-cv-npres-fut neg	'*he will not depart*'

(Rule 9)

ga-alu-ø-ø-munjdjař-ø-ø-la	galumunjdjařa
ind-3pl-ntr-nrfl-*get firewood*-cv-npres-fut paf	'*they will get firewood*'
ga-alu-ø-ø-munjdjař-ø-ø-nma	galumunjdjařma
ind-3pl-ntr-nrfl-*get firewood*-cv-npres-p pneg	'*they might get firewood, they didn't get firewood*'

(Rule 10)

ga-wula-anda-ø-ŋunda -ø-ø-nma	gawulandaŋundařma
ind-3d-3f-nrfl-*give*-cv-npres-p pneg	'*she might give them, she didn't give them*'
ga-wula-anda-ø-ŋunda-ø-ø-la	gawulandaŋundařa
ind-3d-3f-nrfl-*give*-cv-npres-fut paf	'*she will give them*'
wula-inja-ø-wanda-ø-ya-ø	wulinjawandařa
3d -2s-nrfl-*follow*-cv-pres imp-nev	'*Follow them!*'

(Rule 11)

dja-iwa-ø-ø-wiŋga-ø-njdji-ø	djiyawiŋgayi
ind-3m-ntr-nrfl-*walk*-cv-pres-nev	'*he is walking*'
dja-iwa-ø-ø-wani-ø-njdji-ø	djiyawaninjdji
ind-3m-ntr-nrfl-*return*-cv-pres-nev	'*he is returning*'
dja-iwa-ø-ø-alaři-ø-njdji-ø	djiyaalařinjdji
ind-3m-ntr-nrfl-*stand*-cv-pres-nev	'*he is standing*'

2.3. *NEGATION OF VERBS*

Participles, imperative verbs and indicative verbs may be negated. In general, indicative verbs are negated at the level of verb phrase; that is, the negative particle followed by a potential negative past or present verb or by a negative future verb forms a negative verb

phrase. However, there is a specific kind of negation of an indicative verb which is a feature of word level construction, just as negation of participles and imperative verbs is. The prefix baŋi- *'negative'* occurs with all three verb types (see 2.1.2.4.).

2.3.1. Negation of Participles and Imperative Verbs

The negative participle and the negative imperative verbs are identical in structure, although differences in transform potential, context, and accompanying intonation clearly distinguish the two verb types.

$$\left\{\begin{array}{l}\text{negative participle}\\ \text{negative imperative verb}\end{array}\right\} = + \text{baŋi} + \text{verb theme}_{\text{rct}}$$

baŋi-ø-wuluma-ŋ̲ḏa	baŋiwulumaŋ̲ḏa
neg-nrfl-*run* -rct	*'Don't run! not running'*
baŋi-mba-wuduřuma-ŋ̲ḏa	baŋinjambawuduřumaŋ̲ḏa
neg-rfl -*feed* -rct	*'Don't eat! not eating, not feeding'*
baŋi-ø-ṛama-ŋ̲ḏa	baŋiṛamaŋ̲ḏa
neg-nrfl-*hit*-rct	*'Don't hit (that one, that thing)! not hitting'*

2.3.2. Indicative Inabilitative

The inabilitative mood is expressed by an indicative future negative or indicative potential negative past or present verb, preceded by the negative prefix baŋi-.

baŋi-ga-i-inja-ø-ŋa-ø-ø-řu
neg-ind-3msc-2s-nrfl-*see*-cv-npres-fut neg

baŋiginjaŋařu *'you won't be able to see it'*

baŋi-ga-alu-ø-mba-ajŋjgařI-ø-ø-nma
neg-ind-3pl-ntr-rfl-*hear*-cv-npres-p neg

baŋigalinjambajŋjgařInma *'they weren't able to hear themselves'*

baŋi-ga-inja-ŋaŋa-ø-ŋa-ø-njdjI-ma
neg-ind-2s-1s-nrfl-*see*-cv-pres-nfut-pneg

baŋigiŋaŋanjdjIma *'I can't see you'*

2.4. *RELATIVE VERB CONSTRUCTION*

One further indicative construction remains to be described. This is the relative form of the verb, which functions as a descriptive

within a noun or locative phrase. The relator na- *'who, which, where always'* precedes the regular indicative verb in its past or present affirmative or non-evaluated form (see 2.1.2.4.).

na-ga-lwa-ø-ø-wiŋga-ø-ø-ø	nagIyawiŋga
rel-ind-3m-ntr-nrfl-*walk*-cv-npres-nev	*'who (male) always walked'*
na-dja-l-ø-ø-ylbanda-ø-ø-ø	nadjIylbanda
rel-ind rcr-3msc-ntr-nrfl-*sit*-cv-npres-nev	*'where always (recurratively) lands'*
na-ga-ŋanu-alu-ø-ga-n̪d̪a-ani-n̪a	naganalagan̪d̪aninja
rel-ind-1pl excl-3pl-nrfl-*carry*-rct-npres-p faf	*'where they always used to take us'*

2.5. *VERB CLASSIFICATION IN RELATION TO SYNTAX*

Verb stems thus far have been classified as intransitive, reflexive or transitive, either on the basis of stem morphology or more particularly on the basis of the norphology of the verb constructions in which they occur (see Chart 2). Further classification is required on the basis of the different clause types in which different classes of verbs occur. Eight classes of verb stems are postulated, four transitive and four intransitive, with certain additional subclassification of transitive.

In relation to syntax, reflexive stems function as a subclass of intransitive or transitive, primarily intransitive. It is more frequently a transitive stem used in a reflexive verb construction which occurs in a transitive clause.

2.5.1. Classes of Intransitive and Transitive Stems

Clause level analysis is still in process, but at this time eight classes of stems are postulated, described in terms of the distinguishing obligatory tagmemes in the clause types which they produce. (An obligatory tagmeme is defined as one which is obligatory to a clause if that clause is to be a semantically complete isolated utterance, that is, it is not reliant on additional information from spoken context or unspoken situation context.)

Intransitive and transitive stems each have four classes which are labelled as simple, locative, goal and locative goal. Simple stems require no additional tagmeme apart from a subject. Locative stems require a locative tagmeme indicating 'at a location'. Goal stems require an indirect object tagmeme, or in the case of goal transitive, may require a second object; for example: ø-djaḍIwaŋani-ø dja-l-ŋanu-ø-wundařba-ø-njdjI-ø nja-maŋadjI ø-walya-ø (msc nom-djaḍIwaŋani-nom ind -3msc-lpl excl-nrfl-*name*-cv-pres-nev 3/msc nom-*that* msc nom-*dugong*-nom)

which becomes: djaḍlwaŋanl djanuwundařbanjdjl njamanadjl walya *'we are calling that dugong* djaḍlwaŋanl'. Locative goal stems require a locative goal tagmeme indicating either 'to a location' or 'for a purpose'. Not all stems have been analysed to this further extent within the context of clauses, but the following examples will illustrate the various classes currently being postulated:

Simple Intransitive: bulaŋa *'become white'*, maḍa *'become full'*, uřguwa *'burn'*, waḍiři *'become bad, deteriorate'*, wayařl *'be finished, be used up'*, wulaṛiřl *'have a headache'*, yablři *'become good, improve'*, ylḍaḍl *'grow'*; (reflexive stems in this class) idja *'go to sleep'*, minmiřa *'be ill'*, aŋgalaŋgař *'have diarrhoea'*, wama *'stop, cease'*, wlřlřl *'be ready to eat'*.

Locative Intransitive: alařl *'stand'*, aṛlyaṛiřl *'be lost'*, ŋalba *'enter'*, waḷba *'climb'*, wundlřl *'ascend'*, yanjdjařl *'be born'*, ylbanda *'sit, arrive'*; (reflexive stems in this class) miřa *'die'*, yuřma *'walk around'*.

Goal Intransitive: mayařl *'fail to obtain, miss out on'*, ŋadjblřl *'disbelieve'*, ṛařl *'cry, be sad'*, wanu *'be shy, ashamed'*, waḍanga *'fear'*, yagayagama *'not hear, misunderstand'*, yařba *'hunt, search'*, yuguma *'wait'*; (reflexive stems in this class) ṛlyařaba *'be pleased'*, ṛuwama *'be surprised'*.

Locative Goal Intransitive: ḻaganba *'descend'*, ḻuwařl *'depart'*, walanjma *'emerge'*, wanl *'return'*, wařga *'crawl'*, wiŋga *'walk, come, go'*, wuluma *'run, run away'*, ylbaga *'move camp'*.

Simple Transitive: arganu *'spear'*, ṛama *'hit, fight, kill'*, ḍlřlřa *'tie up'*, ḍuma *'get'*, waŋa *'hit, shoot (with weapon)'*, uma *'cut'*; (transitive stems used in reflexive verb constructions to occur in this class) bulama* *'make white'*, maŋa *'hold'*, ŋunda *'give (reciprocally)'*, ṛama *'hit'*, wuya* *'lick'*, uma* *'cut'*, wařgama *'pull'*; (reflexive stems in this class) balama* *'clap'*, wuduřuma *'feed, eat'*.

Notes: 1) The stems marked by an asterisk take as object only class 8 nouns, that is, body parts or certain other inalienably possessed items included with them. 2) The stem wuduřuma *'feed, eat'* is used primarily as a reflexive stem but it can be used in a transitive construction when someone is being passively fed.

Locative Transitive: guřama *'bury'*, nda *'leave'*, ylbařa *'put'*.

Goal Transitive: inu *'tell'*, ŋunda *'give'*, wayaḍa *'finish'*, wuganjl *'talk'*, wundařba *'name'*.

Locative Goal Transitive: idja *'send'*, ga *'carry, bring, take'*, ḻawundama *'drop, cause to fall'*, nji *'chase out'*, walima *'throw'*, wařgama *'pull'*.

2.5.2. Additional Transitive Subclass

There are certain verbs which function as transitive verbs in the clauses in which they occur and yet which are constructed as intransitive verbs. They share two features in common. Firstly, there is a sense in which the meaning of the object is implicit in the verb stem and consequently requires no person marker to additionally refer to the object. In a few instances the object is explicit in the verb stem in that the stem is derived from the noun which is itself the object; for example, algali *'vomit'*, mabima *'dig for underground water'* and wuganji *'talk'* have as their derivations roots algu *'vomitus'*, mabi *'underground water supply'* and wuga *'word, language, speech'* respectively. Secondly, the object of the verb is always inanimate, and in the rare instances when an animate noun or a human corpse becomes the object, the verb immediately requires a transitive construction. This would apply to the stem ḏa *'eat, bite (flesh)'*, so that the eating of meat as a meal would require a verb with an intransitive construction, but the biting of the flesh of a living person or animal or from a deceased human would require a transitive construction with the same verb stem.

The following stems occur as a subclass of the simple transitive class, with the exception of wuganji *'talk'*, which may occur in several clause types, including goal transitive: algali *'vomit'*, mabima/ṛawuřgima *'dig for underground water'*, milama *'light (fire)'*, mulaṉḏa *'dig'*, nuwa *'cook (in underground oven)'*, ṛařma *'eat (non-flesh foods)'*, ḏa *'eat, bite (flesh)'*, waḍdjaŋga *'fish, catch fish'*, wuganji *'talk'*, wunjdja *'drink, fetch water'*.

2.6. *VERBS IN AVOIDANCE SPEECH*

Avoidance speech is traditionally used reciprocally within the kinship system by (i) brother and sister (ii) mother-in-law and son-in-law (iii) brothers-in-law. The same verb structure and affixation apply in avoidance speech but variant stems are used. Minimal study in this area shows similar rules of derivation applying.

A selection of avoidance speech allostems are given with the stem in general use given in brackets following it.

Intransitive Stems: angaliři (ḻuwaři) *'depart'*, aṉḏaři (ṛaṛaŋga) *'hunt (with dogs)'*, larřganduma (galgalma) *'laugh loudly'*, mangudigudiři (muḍiři) *'be deaf, forgetful, foolish, disobedient, mad'*, maṛajŋjgiři

(waḍiři) *'become bad, deteriorate'*, maḍařa (ařI) *'say (preceding direct speech)'*, maḍuŋga (aɣaři) *'be cold'*, muřařI (yiḍaḍI) *'grow'*, ṛařaŋguma (yuguma) *'wait'*, wulgulba (wuluma) *'run'*, wuŋɣulma (yařba) *'hunt, search'*, wunjguŋI (wiŋga) *'walk'*, yagIyagIři (yagayagařI) *'be deaf, forgetful, foolish, disobedient, mad'*, yIṛiyařI (alařI) *'stand'*, yiřIdjuŋga (waɭba) *'climb'*.

Reflexive Stems: nuřidja (idja) *'go to sleep'*, wulyaḍima (wuduřuma) *'feed'*.

Transitive Stems: djamuřuma (wuguɣuma) *'shorten'*, ɭabunda (ṛarřa) *'eat (non-flesh food)'*, ɭaṛInjdjalma (wuganji) *'talk'*, ɭulanŋunda (waḍdjaŋga) *'fish, catch fish'*, ɭuma (idja) *'send'*, ɭunduma (ṛama) *'hit, fight'*, maŋgulma (ga) *'carry, bring, take'*, mugumuguma (yinba) *'sing'*, muřunma (ḍuma) *'get'*, ŋudjIndama (yiḍidja) *'carry (in bark carrier)'*, ŋuŋma (wunjdja) *'drink, get water'*, ŋuɣuma (ařganu) *'spear'*, wanguduma (daɭbiřa) *'heap up'*, wanjaŋa (yalbaŋa) *'ask'*, waŋabaŋaŋa (ŋa) *'see'*, waṛImaɲa (maɲa) *'hold'*, wIřiḍuŋga (wallma) *'throw'*, wuŋuwařama (yablma) *'make, mend, heal'*, wuɣandima (ŋunda) *'give'*, wuřguřuma (aɣama) *'chase'*.

In a few instances there is some resemblance between the two stems but in general there seems little relationship between them as to form. It is noted that the avoidance stem maḍuŋga *'be cold'* is obviously derived from maḍu *'cold'*, which occurs in general speech. It is interesting to see that although idja occurs as a reflexive stem meaning *'go to sleep'* and as a transitive stem meaning *'send'*, in avoidance speech the stem for the first meaning is nuřidja and for the second is ɭuma.

3. THE YANYUWA EXISTENTIAL VERB

The Yanyuwa verb 'be' is unique in comparison with other verbs, in common with its equivalents in languages around the world. It is very apparently unique in its areas if lack in comparison with verbs of action. It has ∅ stem (as Chadwick describes for Djingili also). It lacks the mood marker to indicate conversative versus recountive mood orientation, it lacks any participle or imperative form, and it lacks nine of the fourteen categories which are common to all other indicative verbs. In its usage, the existential verb must be part of a construction with a word from another class as a complement to supply the meaning vacuum of the ∅ stem.

The following clause examples show the occurrence of the verb 'be' with a selection of words from other classes, of the kind required to complement this verb in order to make a complete statement (morpheme

breaks and morpheme translation are simplified for these specific examples):

wuduřu djiw-ø-ini *'he is satisfied/he has eaten well'*
satisfied he-be-pres cont

djai-ø-ini waiguř *'they are sleeping'*
they-be-pres cont *asleep*

yiřinj-a gaia-ø-ninja *'they used to be decorated with feathers'*
feather-abl *they-be*-p cont

ŋuɖundu ŋanu gana-ø-ninja *'we used to be in the north'*
north we pl excl *we* pl excl-*be*-p cont

waŋaɳɖamařa giwa-ø-ninja nja-maŋadji *'that man used to be a fighter'*
fighter he-be-p cont m-*that*

The existential verb has five indicative categories, past customary and negative past customary, present imperfective and present negative, and intentive. The second order mood-tense marker for present tense has two allomorphs, both different from the morpheme -njdji which occurs with verbs of action. The suffix -ini occurs on the present imperfective existential verb, and -i co-occurs with the potential negative and focal future suffixes to form the present negative and desiderative categories respectively. The third order suffixes are identical with those which occur on verbs of action.

The following is the formula for the construction of the existential verb:

existential verb = + ga/dja + pers mk + ø stem +
md ts_1 + md ts_2

ex vb_p cst = + ga .....+
ani + ɳa

ex vb_p cst neg = ...
.....+ ma

ex $vb_{pres\ imp}$ = + dja .....+
ini + ø

ex $vb_{pres\ neg}$ = + ga .....+
i + ma

ex vb_{inten} = ...
.....+ ama

Rule: V → ø / ____+(ø stem)

The indicative marker ga-/dja- is always non-recurrative in its usage with the indicative verb.

Person markers occur as for an intransitive verb, except that the allomorphs i‿a *'it (masculine)'* and uwa- *'it (food)'*, which elsewhere occur with single syllable or 2-syllable vowel-initial stems, occur with ø *'be'* also.

The potential negative present existential verb occurs as both subjunctive and negative present in common with other indicative verbs.

Notes: 1) Rules which apply generally to verbs and their morphology apply to the existential verb also.
2) The present imperfective suffixes -ini-ø could alternatively be -i-ni with potential for other hypotheses also, but the pattern is for the second mood-tense marker to be identical with the equivalent morpheme for verbs of action and this is the ground for the morpheme breaks: -ini-ø.
3) The intentive suffixes -i-ama become ama when morphophonemic rules are applied.

The stem ø and the suffixes with which it occurs are given below in comparison with the intransitive stem waŕga *'crawl'* and the equivalent suffixes for a verb of action:

waŕga-ŋa-ani-ŋa	ø-ani-ŋa	(past customary)
waŕga-ŋa-ani-ma	ø-ani-ma	(negative past customary)
waŕga-ø-njdji-ø	ø-ini-ø	(present imperfective)
waŕga-ø-njdji-ma	ø-i-ma	(potential negative present)
waŕga-ø-njdji-ama	ø-i-ama	(intentive)

Examples of the verb 'be' are given below:

ga-aiu-ø-ani-ŋa	gaianinja
ind-3pl-*be*-npres-p faf	*'they used to be, they were being'*
ga-ŋaii-ø-ani-ŋa	gaianinja
ind-1d incl-*be*-npres-p faf	*'we used to be, we were being'*
ga-ŋaii-ø-ani-ma	gaianima
ind-1d incl-*be*-npres-nfut pneg	*'we didn't used to be, we weren't being'*
dja-anda-ø-ini-ø	djandini
ind-3f-*be*-ex pres impf-nev	*she is being'*
dja-u-ø-ini-ø	djuwini
ind-3fd-*be*-ex pres impf-nev	*'it (food) is being'*
ga-iwa-ø-i-ma	giwima
ind-3m-*be*-ex pres-nfut pneg	*'he isn't, he may be'*
ga-inja-ø-i-ama	gama
ind-2s-*be*-ex pres-fut fpaf	*'you intend'*

ga-ŋaṇa-ϕ-i-ama	gaṇama
ind-1s-*be*-ex pres-fut fpaf	*'I intend'*

The present imperfective existential verb djawini *'you (s) are being'* was only obtained after several attempts to elicit a form and it has not been observed on any other occasion. If it is valid, which seems dubious, it would require a special rule to cover the occurrence of the semivowel between the indicative marker dja- and the ϕ stem. It may well be, however, that there is no form for *'you (s) are being'* because there is one permissible form only for the verb 'be' in *the* present perfective form and this is restricted to a second person singular subject and the form is usually used as a question:

dja-inja-ϕ-i-mu	djīmu
ind-2s-*be*-ex pres-af	*'are you?'*

The existential verb may occur with the relator na- *'who always, which always'*.

Verbs Supplementing the Existential Verb

Two intransitive verb stems, anma *'stay, remain'* and aři *'say (preceding or following direct speech)'* function as supplements to the existential stem ϕ when categories are required which the verb 'be' lacks. Each of these verbs has a complete range of categories. The stem aři is used if a general past *'he was'* or a specific past *'he was (recently, at a specific time)'* is required. These are the only categories for which aři has a supplementing function. The stem anma is used to cover the remaining categories, which include imperative, negative imperative, present perfective, and all future categories. For example, the existential verb is used in the construction: giwaninja ⌊aba *'he used to be quiet'*, but for a general past, the verb aři would be used: giyaaři ⌊aba *'he was quiet'*, and for the imperative, anma would be used: anmaya ⌊aba *'Be quiet!'*

NOTES

1. Yanyuwa is also referred to in the literature as Anyula, Anjula, Janjula, Yanyula, Yanjula, Wadiri, Waderi and Wadere. The name according to A.I.A.S. conventions, and according to the phonemic representation of the people's own name for themselves and their language is Yanyuwa. The reference number according to Oates 'A Revised Linguistic Survey of Australia' is 28.

The Yanyuwa people mainly live at or around Borroloola in Australia's Northern Territory but a small group is settled at Doomadgee Mission over the border in Queensland. This paper is written using data obtained during eight months' field work at Doomadgee Mission and during fifty months of field work at Borroloola, during the years 1963-1975. Work has been carried on under the auspices of the Summer Institute of Linguistics.

The author is grateful for the assistance of the Yanyuwa people in patiently leading her into an increasing knowledge of their language. Particular thanks are due to Pluto Sevenemus and Big Arthur at Doomadgee Mission and Bella Charlie and Don Miller at Borroloola for providing language data and text material on which this analysis is based. Special thanks are due, too, to Bella Charlie and Nero Timothy for patience in checking examples and giving additional examples.

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2. The terms nominative and ergative are used in preference to 'subject' and 'object' because they more accurately represent the grammatical functions in Yanyuwa. In an intransitive or reflexive action, a subject-as-experiencer is postulated and it is marked by nominative case. In a transitive action, subject-as-agent marked by ergative case and object-as-experiencer marked by nominative are postulated. Because morphology for both subject-as-experiencer and object-as-experiencer is the same, and both are different from subject-as-agent, the decision is reached that it is the experiencer versus agent distinction that is of greater relevance to the Yanyuwa. Subject-as-experiencer in other languages has been identified with the subject of a passive construction. Because Yanyuwa has no passive, it seems valid to make this above analysis. This is also in accord with Hale's hypothesis (Hale, 1970).

The agent, or ergative person, is the instigator of an action or process - the director of the proceedings. Agent function is marked distinctively, more particularly in clause-level tagmemes, but also in pronominal morphemes on verbs. Agent is almost always an animate entity but there is potential for all inanimate classes to play an agent role. Experiencer, or nominative person, is the more passive person involved in the action of whatever transitivity type. Experiencer is the non-directing performer in the proceedings. Whether the experiencer becomes well or is made well, his experience is the same; he was sick and now he is well. Whether he goes from point A to point B or is taken from point A to point B, his experience is the same; he has moved from point A to point B. The distinctive role in the language is that of agent who is the causer of the healing or the instigator of the moving.

In the Yanyuwa noun paper (Kirton, 1971) variant terminology was used. Nominative in this paper is there referred to as nuclear, ergative as directive, ablative as accessory, and genitive as referent.

3. A chart of Yanyuwa consonant phonemes is given:

	Labial	Inter-dental	Alveo-lar	Alveo-palatal	Retro-Flexed	Palato-Velar	Velar
Stops	b	ḏ	d	dj	ḍ	jg	g
Nasals	m	n̪	n	nj	ṇ	jŋ	ŋ
Prenas-alised Stops	^{m}b	$^{n̪}ḏ$	^{n}d	^{nj}dj	$^{ŋ}ḍ$	^{jŋ}jg	^{ŋ}g
Laterals		l̪	l	lj	ḷ		
Semi-vowels/ Vibrant	w		ɾ	y	ṛ		

Prenasalised stop phonemes are not described in 'Anyula Phonology' (Kirton, 1967), however they are currently recognised on the basis that (i) these phonemes occur in word-initial position where there is no established pattern for a consonant cluster (ii) /m, ɲ, ŋ/ never occur unambiguously as final consonant in a syllable (iii) the only potential three consonant clusters in Yanyuwa all include a homorganic nasal plus stop. The consonant clusters /nd, njdj, ɳɖ/ occur as well as the prenasalised stops at the same points of articulation, however, this distinction is not made in the technical orthography used in this paper because (i) study has not been made to distinguish prenasalised stops from homorganic clusters of nasal plus stop other than in word initial or final position (ii) for the purpose of verb description this phonological distinction appears irrevelant.

The palato-velar nasal, stop and prenasalised stop /jŋ, jg, $^{j\eta}$jg/ are also not included in the earlier phonological description.

4. The dreamtime is the period of mythological activity which is of great importance within the culture.

5. Although in analysis of verbs of action this morpheme is most readily identified as -ni, in the existential verb the morpheme is -ani and morphophonemic change readily accounts for the loss of the initial vowel in verbs of action.

6. Adverbs and adjectives may appear to have little to distinguish them and may even appear as a single class from the stems and their meanings given; however, they are distinguished in that adjectives are marked for class and case in agreement with the nouns to which they refer. Adverbs, in general, are not inflected; certain locatives are, but with affixes specific to their class.

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SOME YUULNGU PHONOLOGICAL PATTERNS

R. Wood

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ABBREVIATIONS

ACC	accusative case
AL	allative case
ASSOC	associative case

CAUS	causative
cont	continuant
cor	coronal
DAT	dative case
DEL	delimitative
d.f.	definite future
dist	distributed
EMPH	emphasis
ERG	ergative case
FOC	focus
fut	future
GEN	genitive case
gen	generic
imp	imperative mood
inclus	inclusive
INS	instrumental case
lat	lateral
L	liquid
LOC	locative case
nas	nasal
NOM	nominative case
PRES	present
pst	past
S	syllable
Sv	semivowel
seg	segment
son	sonorant
sp.	species
syl	syllabic
voc	vocalic

0. INTRODUCTION

0.1. *SCOPE*

The object of this paper is to describe some of the phonological patterns of a particular Yuulngu dialect, Gaalpu,[1] and in the course of doing so discuss some of the problems associated with the phonology of the Yuulngu language complex generally. These problems include two features not typical of Australian languages for the most part: (1) a fortis versus lenis opposition in the oral stops; (2) a prosodic

[1] /kālpù/

glottal stop. In section 1 to 4 the focus of the paper is specifically Gaalpu, covering a description of distinctive features, phonemes, syllable typology, and some phonological processes. Sections 5 and 6 are concerned with issues common to Yuulngu overall.

0.2. *THE YUULNGU*

0.2.1. The designation 'Yuulngu'[1] includes the people made famous by Warner (1937) as the 'Murngin'. In the anthropological literature they have also been called 'Wulamba' and 'Miwuytj', while the term 'Yuulngu' seems to have been first used by Chaseling (1957) and later by O'Grady (1966). It is the word[2] used by the complex of clans concerned to denote: (1) *'person/human/man'*;[3] (2) Aboriginal people as opposed to ŋāpakI, palanta, *'Europeans'*; (3) imprecisely and rather unconsciously, themselves as opposed to mulkuṛu, *'strangers, other Aborigines'*. The term is used in this paper to refer to all the clans/communalects listed as the 'Yulngu' and 'Yulngo' Subgroups of the Murngic Group of the Pama-Nyungan family by Wurm (1972:147).

0.2.2. Geographic location: In the map the heavy line marks the approximate south western boundary of the suffixing Murngic languages. The lighter broken line (-·-·-) marks the approximate boundary between the Yuul(ngi) Subgroup[4] to the west, and the Yuulngu Subgroup to the east.

The major lands of the Gaalpu clan appear to be in the general area marked (1), although it seems that they were living around Inglis Island, (2), and later on Rarrakala Island, (3), in the period immediately preceding and following the establishment of missions at Yirrkala (approx. 1935) and Galiwinku, with a few families at Yirrkala.

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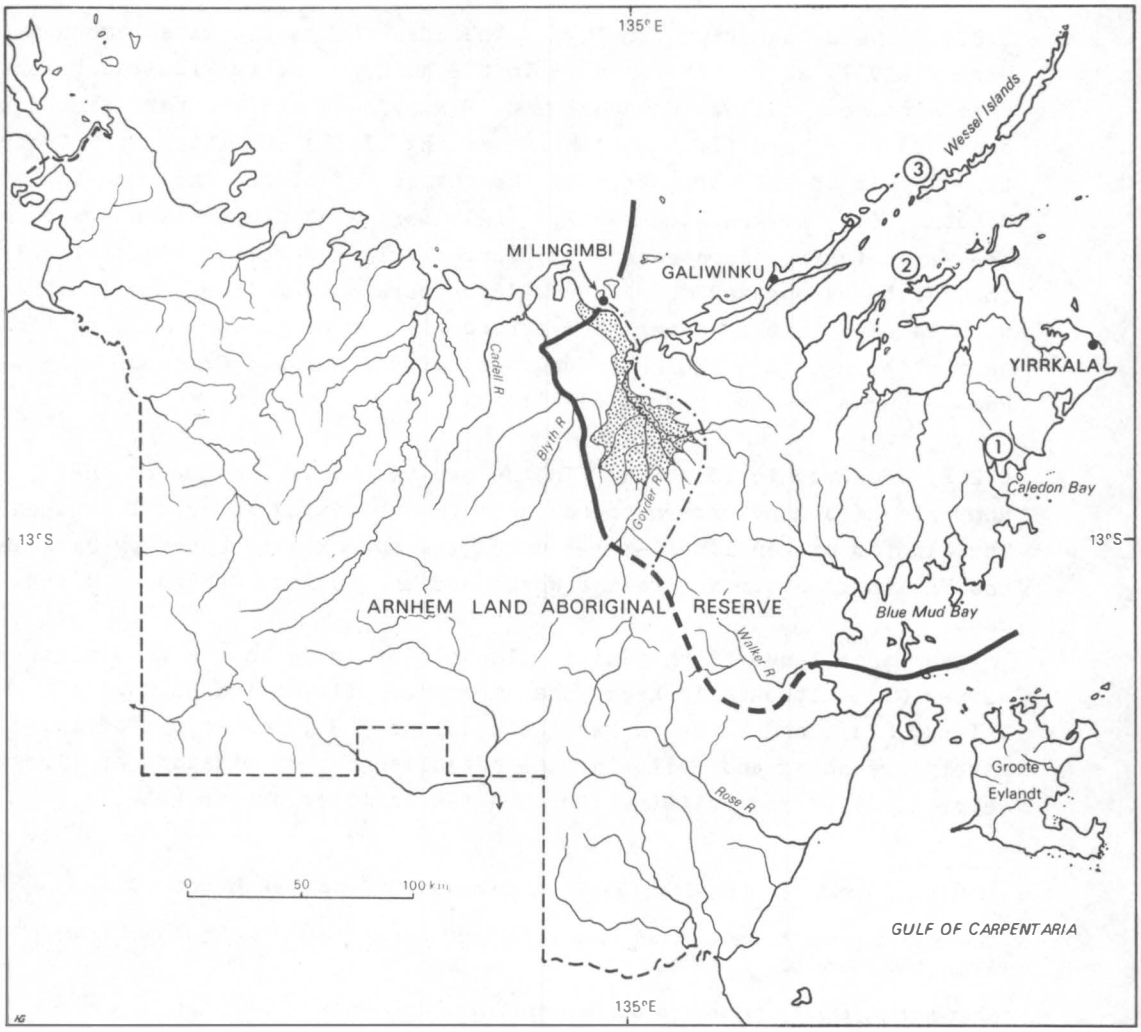
[1] /yūlŋu/, spelt 'yolŋu' within North Eastern Arnhem Land (see Appendix 1).

[2] The word appears to be derived from yūl, *'who'*, plus the suffix -ŋu (see 4.1d) giving the sense of *'someone, person'*.

[3] Other words, mainly ṭlr̃amu/ṭar̃amu are used for *'male/male person'*.

[4] Broken into two Subgroups, the 'Djariwidji Subgroup' and the 'Yulngi Subgroup', in Oates (1970:216) and Wurm (1972:147). See 0.3. (figure 1 and 0.3(b)) below for discussion.


135° E
Wessel Islands
3
MILINGIMBI
GALIWINKU
2
YIRRKALA
Cadell R
Blyth R
Goyder R
1
Caledon Bay
13°S
13°S
ARNHEM LAND ABORIGINAL RESERVE
Blue Mud Bay
Walker R
Groote Eylandt
Rose R
0 50 100 km
GULF OF CARPENTARIA
135°E
AG

0.3. *YUULNGU LINGUISTIC GROUPINGS*

Yuulngu society is composed of a large number of patri-clans,[1] each of which possesses its own communalect.[1] As has already been recorded by Schebeck (see Wurm 1972:148; Oates 1970:225), each communalect is in turn categorized by the Yuulngu into one of seven broader linguistic groupings[1] (which I will call dialects), named by their form of the demonstrative pronoun 'this'. The suffix 'having'[2] is normally added to each form. Thus the Gaalpu, Ngaymil, Rirratjingu, Guulamala, Lamami and Wankurri clans/communalects are all Dhangu, or Dhangu'mi (i.e. ɟaŋu-having) clans, in that they share the form ɟaŋu for *'this'*. The division of the Yuulngu complex which this indigenous system yields has considerable linguistic validity, and is used as the basis for figure 1.

In figure 1 trees of development from Proto-Yuulngu are hypothesised on a lexical and grammatical basis. On the same basis I treat: (1) Djaŋgu and Dhangu as two dialects of a single language; (2) Dhuwal and Dhuwala, with, more tentatively, Dha'yi, as three dialects of a single language; (3) Yakuy, Nhangu, Djining and Djinang as each comprising a separate language; (4) Dhangu, Dhuwal, and Dhuwala as divided into two[3] sub-dialects each. Djinang and Djining, while

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[1]The terms used to refer to social groupings are mala, mɪʈtjɪ, and pāpuřu, while the terms used in reference to linguistic groupings are maɟa, or ɟāṟuk (with ŋāṇař or yān in some dialects). I have not found any of these terms used by the Yuulngu with the precision sometimes imputed to them in the literature. Both mala and mɪʈtjɪ carry a loose meaning of *'group, bunch, mob'*, and can be used to refer to any crowd of people as much as to a patri-clan. Mala seems to be used as a simple plural marker in some communalects. The term pāpuřu is not used in as broad a manner as mala, and appears to carry a primary meaning of *'ethnic group'*. It can be extended to refer to any organised grouping of people; e.g. 'airforce pāpuřu' or 'Mr. Whitlam pāpuru'.

Likewise the terms maɟa, ɟāṟuk etc. simply mean *'language, speech, words'*, and are used to refer to individual communalects as well as the larger *'this'* groupings; or palanta maɟa, 'English', as opposed to yūlŋu maɟa, 'Aboriginal language'.

Hence kālpù is both a maɟa and the mala or pāpuřu who speak that maɟa, and is part of the larger linguistic grouping, ɟaŋùmi maɟa.

[2]The form varies according to dialect. It is -mɪ in the case of the Dhangu and Djangu dialects, -mɪrr in the Dhuwal and Dha'yi dialects, and -mɪrrɪ in the remaining three Yuulngu dialects.

[3]At least two such sub-dialect divisions are required, and the labels eastern and western (in the case of the Dhuwal and Dhuwala dialects) are used very loosely. Schebeck (see Oates 1970:216,225; and Wurm 1972:148-150) has divided Nhangu, Dhangu, Dhuwal and Dhuwala more fully into western, southern, eastern, northern etc. sub-dialects. My division of these dialects into only two sub-dialects each (and none in the case of Nhangu) does not mean that I disagree with Schebeck's divisions. It is rather because, although I have material and/or contact enough with these dialects to discern two major divisions, I do not have sufficient material on each communalect to base any further breakdown, and do not know to what extent Schebeck's divisions are based on linguistic grounds and to what extent on the original geographic location of the communalects.

outside the main Yuulngu circle, are included in figure 1, and tentatively linked to Proto-Yuulngu, again on lexical and grammatical grounds. The moiety of each communalect is indicated: Y = Yirritja, D = Dhuwa. In reference to figure 1, note that:

(a) Most communalects have alternate names,[1] often as many as they have neighbours, ancestors, sacred sites, or distinctive idiomatic expressions. E.g. Gaalpu is also Gaawurr; Buyuyugululmirr is also Liyagawumirr. Alternative forms of a name are also brought about by such things as dialectal variants of the morphology (e.g. Lamami = Lamamirri; Guyamirrilili = Guyamil; Ganalpingu = Ganalpuy), and shortening (e.g. Wuwulwuwulkarra = Wubulkarra = Wulkarra).

(b) In the case of the Yakuy, Djining and Djinang languages there are difficulties in settling on a name. The *'this'* classificatory system is much more weakly applied to the Yakuy clans than to all other clans, and not at all by the Yakuy clans themselves (in my own experience). Although the name 'Dhiyakuy' has been applied to them in the literature, I am reluctant to use it, since Yuulngu to whom I have mentioned the name, including Ritharrngu and Waagilak clansmen, did not seem to recognise it at all. Very often the name of the largest communalect, Ritharrngu, is used by the Yuulngu as a cover term for the whole dialect. However, since one may refer to them as Yakuy'mi (yakuy being their form of *'this'*), and be unambiguously understood, for consistency's sake I call them Yakuy here.

I have not found a cover term for the four communalects listed as the 'Djining' language[2] in figure 1, and propose an extension of the 'this' system used by the Yuulngu, thus calling them after their form of *'this'*, viz. djiniŋ. The form of *'this'* used by the Djinang (or Yan-djinang, yan meaning *'language'*) is included in parentheses in figure 1 for its possible classificatory value, but it is not used as a cover term in the Djinang area, where the standard cover term is 'Djinang'.

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[1] In figure 1 I have tried to use the name and the form most commonly in use by the clan concerned. The names of some communalects need further checking in this respect, primarily the Djinang communalects. The standing of the name Mangkurra is also uncertain, as I have heard it used in reference to a Nunggubuyu speaking clan as well as to a Yakuy speaking clan.

[2] The largest clan is Ganalpingu, but this does not seem to be really used as a cover term for the whole group, as say 'Ritharrngu' is for the Yakuy language. Nor is the clan name Djinpa so used, although it is the communalect of this language best known in the linguistic literature.

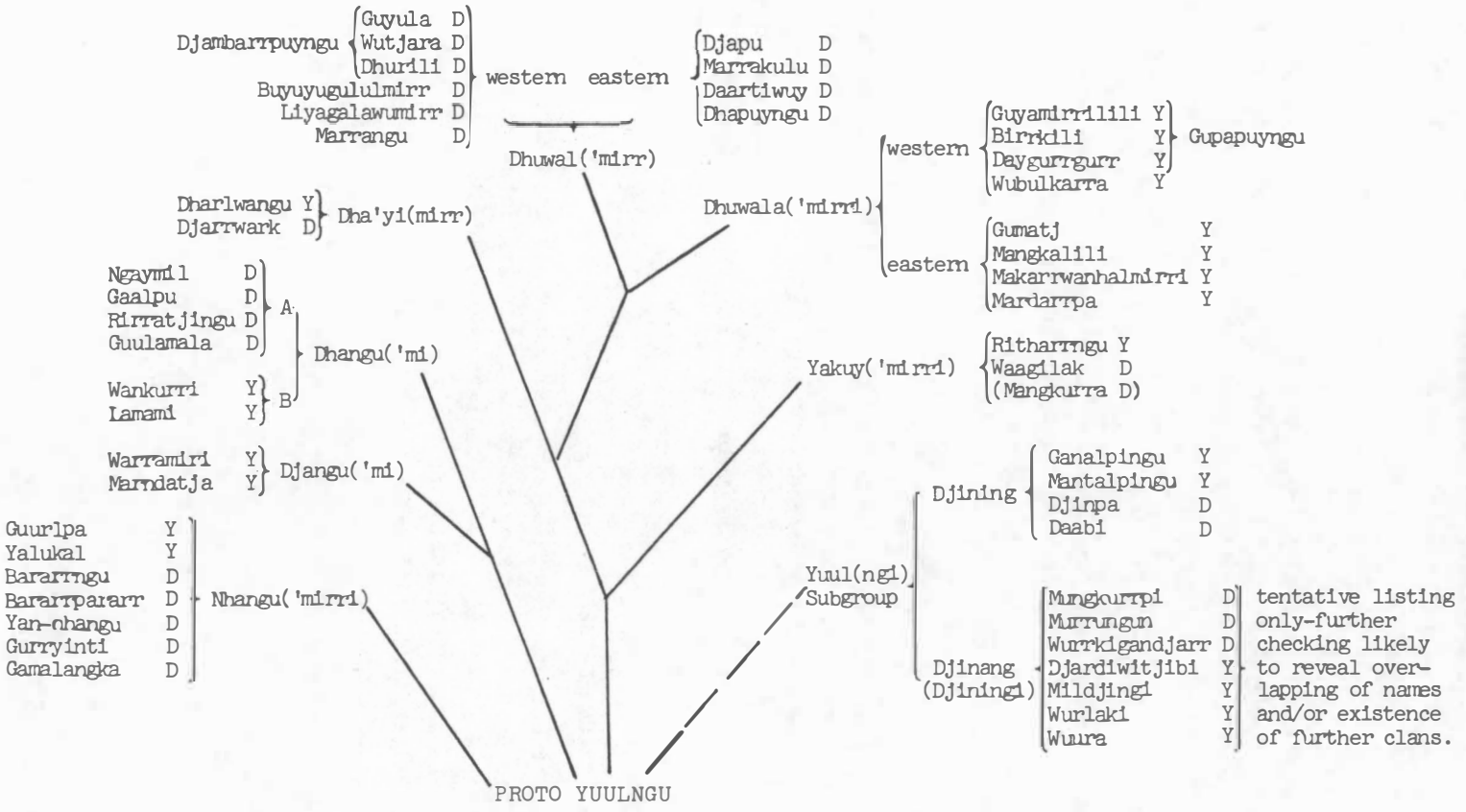

Figure 1: Murngic Linguistic Groupings

My material on and contact with the Djining and Djinang languages tends to suggest that they constitute a single subgroup, and are tentatively treated as such here. The Djining form for *'human, person'* is yūlŋi, and the Djinang form yūl;[1] hence the name 'Yuul(ngi) Subgroup' in figure 1.

(c) It is certain that figure 1 does not include all Murngic commu nalects in existence. Remnants of clans, frequently comprised of a few elderly women, are encountered throughout North-Eastern Arnhem Land, and some of those in figure 1 are in this category, e.g. Lamami and Daabi. The southern part of the Yuulngu area especially needs further careful survey.

(d) The orthography used for all names in figure 1 follows the December 1974 A.I.A.S. conventions for spellings of language names, with a single concession to established usage within North-Eastern Arnhem Land in the case of apostrophe for glottal stop (see Appendix 1).

0.4. *VIABILITY*

All the Murngic dialects, with the exception of Nhangu, are quite viable and in daily use. The total number of speakers is in the area of 3,500, the numerically strongest dialects being Dhuwal (1,000+), Dhuwala (approx. 700), and Dhangu (approx. 480). Almost all speakers are located at various centres within North-Eastern Arnhem Land.

1. THE SEGMENT

1.1. *DISTINCTIVE FEATURES*

There are twenty-two surface segmental contrasts in Gaalpu. These are specified in Chart 1 below in terms of binary features, both distinctive and non-distinctive. All features follow the usage of Chomsky and Halle (1968), including the feature [continuant], which refers to oral continuant (317-8).

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[1] [yo:l]; it is not yet quite clear what the vowel phonemes of Djinang are.

CHART 1

Fully Specified Surface Contrasts

	ʈ	tʃ	t	ʈ	ɖ	p	k	ɳ	nʃ	n	ɳ	m	ŋ	l	ɭ	ɾ̃	ɽ	y	w	a	i	u
segment	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
syllabic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+
continuant	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+
sonorant	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
nasal	-	-	-	-	-	-	-	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-
vocalic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+
lateral	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-
tense	+	+	+	+	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
coronal	+	+	+	+	+	-	-	+	+	+	+	-	-	+	+	+	+	+	-	-	-	-
distributed	+	+	-	-	-	+	-	+	+	-	-	+	-	-	-	-	-	+	+	-	-	-
high	-	+	-	+	+	-	+	-	+	-	+	-	+	-	+	-	+	+	+	-	+	+
back	-	-	-	-	-	-	+	-	-	-	-	-	+	-	-	-	-	-	+	-	-	+

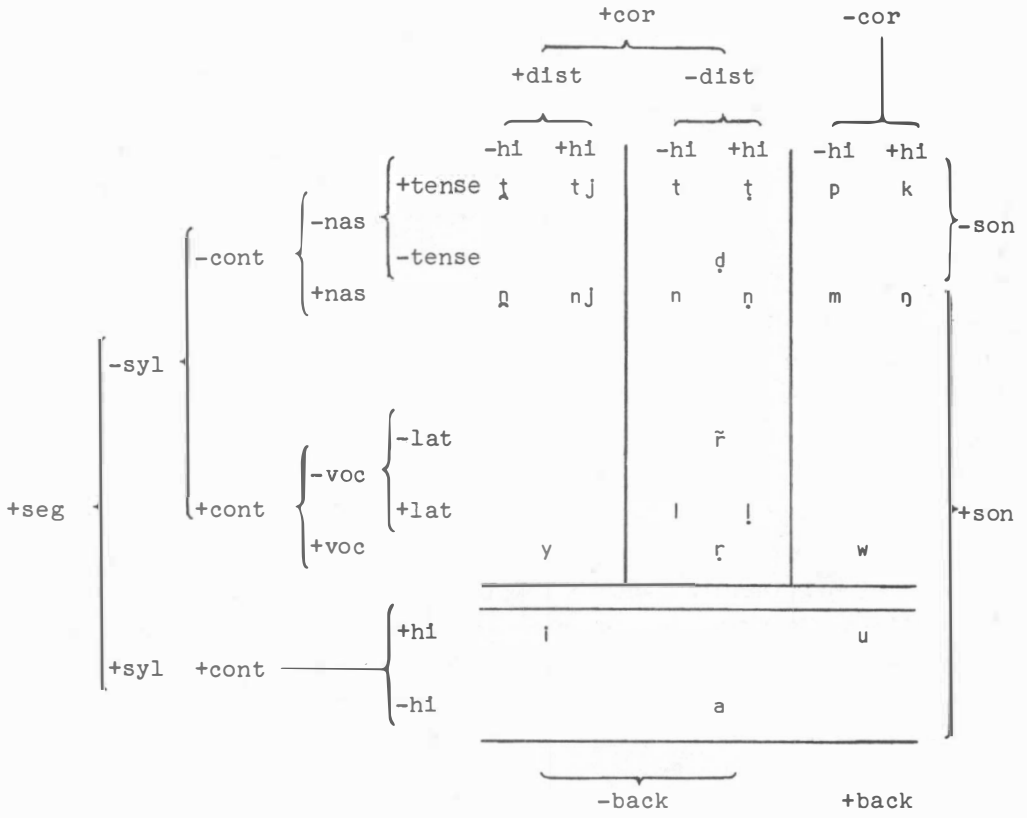
In Chart 2 below the segments are recharted into classes and groups in terms of distinctive feature complexes. In this respect Chart 2 differs from a conventional phonemic arrangement; for example, /k/ is defined as [-cor, +hi, -son], rather than in terms of the point and manner of articulation features normally used, viz. dorso-velar stop. The chart further differs in that the positioning of segments on the chart departs from the front to back, labial to velar ordering normally used.

Since the purpose of Chart 2 is to display natural classes, rather than describe the phonetics of segments, there has been no effort to fully specify each segment. For example, the noncoronals are not specified in terms of the feature [dist]; nor /w/ in terms of the feature [hi]. Thus Chart 2 makes explicit a relationship factor which is obscured in Chart 1, namely, that certain features are relevant only in relationship to others; for example, the feature [lat] is relevant only to segments sharing the feature complex [+cont, -voc]; elsewhere the opposition [+lat] to [-lat] does not apply. Likewise, only among segments having the feature value [-son] is the feature [tense] relevant; elsewhere it is redundant.

In addition to the features shared by the members of classes (as per Charts 1 and 2; see also 1.2.1. below), the arrangement in Chart 2 is further suggested by other phonological relationships between segments: (1) a lenition rule linking underlying and surface opposition patterns (cf. 1.3.2.) reveals a special relationship between /y/ and /w/ and the

CHART 2

Natural Classes



nonsonorants of their respective vertical column; (2) in addition to this lenition rule, morpheme structure constraints (cf. 1.4.) further make it apparent that the segments within each vertical column are related to each other more closely than they are to segments in other columns. Thus each column constitutes a major class, which I will call a **set**.

The features used in both Charts have been selected as those most appropriate to the description of these segmental relationships. With this in mind features such as [consonantal] and [anterior], although commonly in use by phonologists, were not found useful. The use of the feature [continuant] to mean oral continuant was found particularly useful, since the division of segments it allows is almost as significant as that achieved by the use of the feature [syllabic] (see 1.3.2., 1.4.1c., 1.4.3,4.).

For convenience the following informal abbreviatory devices are used:

Laminal set is used as a name for the class of segments that are $\begin{bmatrix}+\text{cor}\\+\text{dist}\end{bmatrix}$

Apical set is used as a name for the class of segments that are $\begin{bmatrix}+\text{cor}\\-\text{dist}\end{bmatrix}$

Peripheral set is used as a name for the class of segments that are [-cor]

consonants, or C, share the feature value [-syl]

vowels, or V, share the feature value [+syl]

stops share the feature value [-son]

semivowels, or S, share the feature complex $\begin{bmatrix}+\text{voc}\\-\text{syl}\end{bmatrix}$

liquids, or L, share the feature complex $\begin{bmatrix}+\text{cont}\\-\text{voc}\end{bmatrix}$

fortis = [+tense], lenis = [-tense]

1.2. *SURFACE CONTRASTS*

1.2.1. General Description of Consonants.

The articulation of the Laminals involves the blade of the tongue. In the case of the +high group the extent of constriction is greater, with the tongue compressed against the alveo-palatal area, and the tip resting behind the lower teeth. The position for the semivowel is similar, but does not of course involve contact between the tongue and the alveo-palatal area. In the case of the -high group the tongue blade is pressed lightly in the area from the back of the upper teeth to the peak of the alveolar ridge, with the tip touching or just outside the edge of the teeth.

The Apical set is articulated with only the tongue tip touching, in the domal area for the +high group, and on the alveolar ridge for the -high group. The semivowel is usually +high phonetically, but can be lower and more forward in some environments, such as preceding /ṯ/ or /ɒ/. It is also usually produced with a small degree of grooving of the tongue, resulting in greater resonance than that possessed by [r̬] in most dialects of English. The nontense stop, /ḍ/, is phonetically +high.

There is not an exact correlation in point of articulation between semivowel and other members of a set. This is most marked in the case of /w/, which is both labial and velar in articulation, and least in the case of /y/. The liquid /r̃/ is also difficult to classify as phonetically + or -high, and is often heard as somewhere between.

1.2.2. Stops

Stops display considerable allophonic variation.

1.2.2.1. Nontense, short and usually slightly voiced variants occur word-initially and following a nasal terminating a fortis syllable. Voicing fluctuates with voicelessness in these positions, particularly the post-nasal one, but voiced forms are the most frequent:

/pìřŋʈun/[1]	[bɪřŋʔɖun ∿ pɪřŋʔʈun]	*'to spread'*
/ʈìɳʈun/	[ɖɪɳʔɖun ∿ ʈɪɳʔʈun]	*'to track'*

In reduplicated stems resulting in a stop-stop sequence at the reduplication boundary, the second stop of the sequence is similarly nontense, short, and sometimes slightly voiced:

/ʈukʈuktjì/	[ɖukɖuktjɪ]	*'to like/want'*

Following a -continuant C, stops are nontense and short, with voicing always occurring after nasals (except where the nasal terminates a fortis syllable), and voicelessness after stops:

/ɾankam/	[ɾʌngʌm]	*'to look for'*
/kuřumaʈtji/	[guřumʌʈtjɪ]	*'bird (sp. Magpie Goose)'*

Syllable finally stops are tense, voiceless, short, and unreleased:

/tjalkʈun/	[djʌlkʈun]	*'to throw down'*
/kařamat/	[gʌřʌmʌt]	*'above'*

1.2.2.2. Between continuants all stops are tense, voiceless, and unaspirated, with the exception of the nontense Apical stop (1.2.2.3. below):

/paɾka/	[pʌɾk·ʌ]	*'upper arm/armlet'*
/ɾaypiřìmi/	[ræˈp·ɪřɪʔmɪ]	*'peacemaker'*
/yulta/	[yulʈ·ʌ]	*'true, real'*
/pāřku/[2]	[ba:řku]	*'far away'*
/paltjàmʈun/	[bʌltj·ʌmʔɖun]	*'to light a fire'*
/wTʈi/	[wɪ:ʈɪ]	*'macropod (sp. Agile Wallaby)'*

A degree of lengthening is also a feature of stops in some inter-continuant environments. It is most pronounced following a phonetically short vocoid, particularly when the stop is the initial C of the second syllable in a word. A lesser degree of lengthening is also heard fol-

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[1] Grave accent is used to mark a fortis syllable (see 2.3. and 5.5. below).

[2] Macron indicates long syllable (see 2.2.3. and 5.6. below).

lowing short vocoid-semivowel and short vocoid-lateral sequences. For example:

/ṛaɻan/	[ṛʌɻ̩:ʌn]	*'to bite'*
/ṛaypa/	[ṛæˈɪ̯p·ʌ]	*'other side'*
/yulɻa/	[yulɻ̩·ʌ]	*'true, real'*

1.2.2.3. In the **Apical set** a nontense, short, voiced stop, the domal /ḍ/, occurs in intervocalic position, where it is in opposition to /t/ and /ʈ/ :

/yařaʈa/	*'line, row'*
/yařaḍa/	*'lightning'*
/wata/	*'wind (gen.)'*
/waʈa/	*'single girls'*
/waḍak/	*'base of canoe mast'*
/wititj/	*'snake (sp. Olive Python)*
/wiʈitjwiʈitj/	*'curly (hair)'*
/wiḍìyun/	*'to escape'*

Since /ḍ/ is realised phonetically as a domal flap, [ɽ̩], in fast speech, it is necessary to demonstrate its contrast with /ř/:

/wařakan/	*'animal, meat'*
/waḍak/	*'base of canoe mast'*
/muřukay/	*'big'*
/muḍuɻu/	*'turtle (sp.)'*
/ɻařay/	*'to care for, mind'*
/ɻaḍa/	*'burned leaves (for cleansing ceremony)*
/piřimpiř/	*'spirit'*
/piḍipi/	*'scar'*

1.2.2.4. A single example has been recorded of a -high, -tense stop, [d]; viz. [guṛudut] *'bird (spc. Peaceful Dove)'*, contrastive with, for example, /ŋutù/ *'big'*. This is probably a remnant of an earlier +high versus -high opposition (cf. 6(a) to (c)), but is not considered a sufficient basis on which to maintain such an opposition now.

1.2.2.5. In summary, the distribution of the feature [tense] in the stops can be stated as follows:

1. [-son] → [-tense] / { # ____ ; [-cont] ____ }

2. Elsewhere only +tense stops occur, except in the case of the Apical stops, where an opposition between +tense and -tense occurs.

1.2.2.6. As there is no synchronic surface contrast between tense and nontense stops except for /ḍ/, the voiceless symbols are used throughout. The voiced symbol is used only for /ḍ/. Word-initial [ḍ] is allocated to /ṭ/ parallel to the other stops (cf. 1.2.2.1. where, for example, #[g] is an allophone of /k/).

1.2.2.7. The following examples demonstrate six constrastive points of articulation for the stops:

Initially:

/ṯàřyun/	*'to stop, prevent'*
/tjàřyun/	*'to sort/choose'*
/ṭařtjaɪk/	*'clean'*
/pàřyun/	*'to tear/split'*
/kàřyun/	*'to get, fetch (people)'*

Medially:

/puṯuŋu/	*'scorpion'*
/yutjuwaḷa/	*'small'*
/ŋutù/	*'big'*
/yuṭuŋkuř/	*'thigh'*
/ŋūpuř/	*'lower arm'*
/ṇuku/	*'foot'*
/wata/	*'wind'*
/waṭa/	*'single girls'*
/muwayakṯun/	*'to wrap up'*
/yapṯun/	*'to jump/fall down'*
/ṯawaṭṯun/	*'to emerge'*
/tjatṯun/	*'to chop'*
/tjampatjṯu/	*'clever hunter* (ERG)*'*

Finally:

/paṛalatj/	*'sandbar'*
/maṛawat/	*'hair/foliage'*
/paṭ/	*'to seize'*

/l̪apl̪ap/ *'open'*
/walak/ *'perhaps'*

1.2.3. Nasals

Nasals likewise display six contrastive points of articulation:

Initially:

/n̪āŋu/ *'to see'*
/njāku/ *'mine/for me'*
/ɳāku/ *'stringy bark'*
/māŋku/ *'mango'*
/ŋāku/ *'to hear'*

Medially:

/pan̪a/ *'that'*
/kanjù/ *'stars'*
/kanù/ *'dust/ashes'*
/kaɳa/ *'spear* (generic)'

/n̪ana/ *'him'*
/n̪aɳa/ *'dog'*

/ɽāman/ *'to go down into'*
/ɽaɳan/ *'tree* (sp. *of Melaleuca)'*

Finally:

/ɽankanj/ *'to look for (distant past)'*
/ɽankan/ *'to look for (recent past)'*
/pařwaɳ/ *'skin'*
/ɽankam/ *'to look for* (present)'
/ɽankaŋ/ *'to look for* (imperative)

1.2.4. Liquids

All the liquids have flapped variants. In the case of the laterals these occur in free fluctuation with their non-flapped counterparts in all positions. For the nonlateral /ř/ this is also true, except that the flapped variant tends to be commoner when preceded by the vowel /ɪ/, and perhaps also in word-initial position.

In the speech of some speakers the -high lateral has a dental allophone fluctuating with the normal alveolar when the nearest -continuant C is a Laminal:

/ŋalʈun/ [ŋʌlʈun ∿ ŋʌl̪ʈun] *'to ascend'*
/njl̪̄ɪɪ/ [ñɪːlɪ ∿ ñɪːl̪ɪ] *'you* (plural)'
/paʈala/ [pʌʈʌlʌ ∿ pʌʈʌl̪ʌ] *'huge'*

The following examples demonstrate the existence of three liquid oppositions:

Medially:

/ɻàlyun/	*'to land'*
/ɻàḷyun/	*'to be closed'*
/ɻàřyun/	*'to stop, prevent'*
/palа/	*'direction away'*
/paḷaŋu/	*'anchor'*
/pařa/	*'plural'*

Finally:

/ŋākuḷ/	*'to hear'*
/yūlkuḷ/	*'who* (AL)*'*
/yakuř/	*'sleep'*

1.2.5. Semivowels

The three semivowels are in opposition:

Initially:

/yaka/	*'no/not'*
/ṛakaḷ/	*'greedy'*
/wakaḷ/	*'fun'*
/yapɻun/	*'to get/jump down'*
/wapɻun/	*'to get/jump up'*

Finally:

/wāy/	*'hey!'*
/wāṛ/	*'inside of the knee'*
/ḷàw/	*'to pick up'*

....as are also /ṛ/ and /ř/:

Initially:

/ṛīřḷ/	*'sickness'*
/řīřḷ/	*'almost boiling'*

Medially:

/wāṛaŋ/	*'possum'*
/wāřaŋ/	*'dingo'*

Finally:

/wāṛ/	*'inside of the knee'*
/mɪḍawař/	*'wet season'*

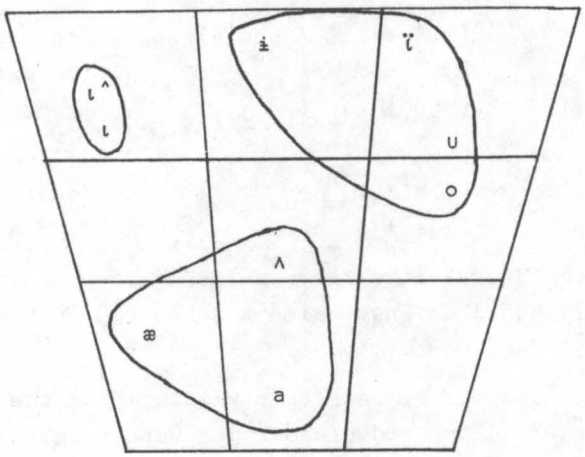
1.2.6. Vowels

1.2.6.1. As with most other Yuulngu dialects, Gaalpu possesses a three-vowel system, the vowels being /ɪ/, /u/, and /a/.

Allophonic variation is negligible in the case of /ɪ/, but considerable with /u/ and /a/. A simplified picture of the extent of phonetic variation is shown in Chart 3:

CHART 3

Phonetic Range of Vowels



1.2.6.2. The forms [ʊ] and [ʌ] are regarded as the phonetic norms of /u/ and /a/ respectively, on the basis of their having the greatest distribution and frequency. They sometimes fluctuate to [o] and [a]. This lowering is more common in the speech of certain speakers than others, particularly women; is more likely to occur word-finally and in word-initial syllables; and occurs in correlation with certain intonation patterns.

For example:

/yɪ̈lŋu/	[yo:lŋʊ] / [yʊ:lŋo]	*'person'*
/ŋalma/	[ŋʌlmʌ] / [ŋalmʌ]	*'we* (plural inclus.)'
/ɲjāku/	[ña:kʊ] / [ña:ko]	*'mine'*
/ʈuwan/	[ɖʊwʌn] / [ɖʊwan]	*'that'*

The norms [ʊ] and [ʌ], in fluctuation with [o] and [a], occur in all environments other than the following:

(a) Following /y/ and preceding /ʈ/ and/ʧ/, /u/ is unrounded, and

sometimes slightly centralised, varying between [ɨ] and [ɪ̈]:

/yutjuwaɻa/	[yɨtjuwʌɻʌ] / [yɪ̈tjuwʌɻʌ]	*'small'*
/yuʈtun/	[yɨʈtun] / [yɪ̈ʈtun]	*'to run away, hurry off'*

(b) In positions preceded by a +high Laminal C and followed by C sequences beginning with /ɪ/ or /ř/, /a/ is realised as [æ]:

/yaɪkum/	[yæɪ̆kum]	*'to lie'*
/tjàřyun/	[djæř?yun]	*'to choose'*
/ʈařtjaɪkkuwan/	[ʤʌřtjæɪkuwʌn]	*'to clean'*

(c) Preceding back palatal consonants, off-glides varying between [ʊˡ] and [oˡ], and between [ᶜaˡ] and [æˡ], occur:

/kuyukam/	[guˡyukʌm] / [goˡyukʌm]	*'to carry'*
/kunjan/	[guˡñʌn]	*'to put'*
/tjutj-tjutj/	[djuˡtjdjuˡtj]	*'goodbye'*
/ŋaya/	[ŋæˡyʌ]	*'I'*
/kanjù/	[gᶜaˡñu?]	*'stars'*
/katju/	[gᶜaˡtju]	*'off you go!'*

In rapid speech words like /kuyukam/, *'to carry'*, and /kuya/, *'fish'*, are occasionally heard as [gwɪyukʌm] and [gwɪyʌ]. This is limited to /k + u + y/ +vowel sequences.

1.2.6.3. In the case of /i/ a slight raising from the norm of [ɪ] to [ɪˆ] occurs word-finally, add preceding a word-final Laminal C:

/wukiřIɻi/	[wukɪřɪɻɪˆ]	*'to school'*
/ɻuŋInj/	[ɻuŋɪˆñ]	*'macassan pipe'*
/ʞuʤitj/	[ʞuʤɪˆtj]	*'late'*

1.2.6.4. The following examples establish the three contrastive vowels:

Medially:

/ʞika/	*'somewhere there'*
/ʞuka/	*'road, way'*
/ʞakal/	*'cheek/fruit'*
/piřwiřyun/	*'to take off, rise'*
/pùřyun/	*'to dance'*
/pàřyun/	*'to split/tear'*

Finally:

/ɻunI/	*'unmarried'*
/ɳunu/	*'you* (NOM.)*'*
/ɳuna/	*'you* (ACC.)*'*

/ŋali/ *'we* (dual inclusive)'
/walu/ *'sun'*
/ŋala/ *'where'*

1.3. *UNDERLYING CONTRASTS*

1.3.1. Underlying the surface pattern of stops as shown on Chart 2 and described in 1.2.2.-8. above, there is an opposition between a fortis series and a complete lenis series of stops, as set out below:

fortis:	T	Tj	T	T	P	K
lenis:	Ṛ	Dj	D	Ḍ	B	G

The opposition is limited in occurrence to inter-continuant position, and neutralised elsewhere. That is, word-initially, finally, and following a noncontinuant C, there is no contrast. The opposition is present as an underlying one in Yuulngu generally, being preserved on the surface in all sets of stops in some dialects, and eliminated from all but the Apical set (see 1.2.2.3.) in others, such as Gaalpu.

1.3.2. Lenition Rule

A lenition rule applies between the stops and semi-vowel within the Laminal set, and within the Peripheral set. This rule operates in Gaalpu to eliminate the lenis series from the surface in these two sets (but not from the Apical set), by replacing them with a corresponding semivowel. The rule is informally stated as follows:

$$\begin{bmatrix} 1 \{Dj, Ṛ\} \\ 2 \{B, G\} \end{bmatrix} \longrightarrow \begin{bmatrix} 1\ y \\ 2\ w \end{bmatrix} \Big/ \begin{Bmatrix} V \\ L \\ Sv \end{Bmatrix} \_\_\_\_ V$$

The essential feature changes involved can be stated in terms of the features [cont], [son], [voc] and [syl]:

$$[-son] \longrightarrow \begin{bmatrix} +voc \\ \\ -syl \end{bmatrix} \Big/ [+cont] \_\_\_\_ [+cont]$$

1.3.3. To demonstrate the existence of the underlying opposition, as well as the lenition rule, it is necessary to look at both synchronic and diachronic data.

(a) diachronic: by comparison of some data cognate between Gaalpu and Gupapuyngu,[1] another Yuulngu dialect, the rule can be seen to be operative within stems, causing the exclusion of the lenis stops from the inter-continuant position. In the following examples the Gupapuyngu data[2] is on the left:

/ṛadjal/	/ṛayal/	*'clean sand'*
/wuřdjaṛa/	/wuřyaṛa/	*'palm (sp. Livistona Humilus)'*
/ŋaɖaɳay/	/ŋayaɳày/	*'vegetable food'*
/kaɖubaḷa/	/kayuwaḷa/	*'paddle'*
/tjɪnaga/	/tjɪnawa/	*'inside'*
/ʈulgu/	/ʈulwu/	*'tree (sp. Kapok)'*
/ḷay++bɪlyunaṛawuy/[3]	/ṛay++wɪlyunta/	*'late afternoon'*
/tjařbaṛbaṛ/	/tjařwaṛwaṛ/	*'long and thin'*

(b) synchronic: the rule is operative at morpheme boundaries, causing alternations in the form of several verbal and case marking suffixes:

	#ṛawak + Djɪ#	→	ṛawaktjɪ	*'to shrivel up'*
	#paɳṭanj + Djɪ#	→	pantanjtjɪ	*'to dry out'*
but:	#ʈāwuɪ + Djɪ#	→	ʈāwuɪyɪ	*'to die'*
	#ɖunaku + Djɪ#	→	muɖakuyɪ	*'to become night'*
	#pudap + ɖun#	→	puḍapʈun	*'to cross over'*
	#pɪřŋ + ɖun#	→	pɪřŋʈun	*'to spread out'*
but:	#pɪḍɪ + ɖun#	→	pɪḍɪyun	*'to paint'*
	#puḍàw + ɖun#	→	puḍàwyun	*'to burst'*
	#wāyɪn + Buy#	→	wāyɪnpuy	*'animal* (ASSOC)'
	#mūɳuk + Buy#	→	mūɳukpuy	*'salt water* (ASSOC)'
but:	#kaɳa + Buy#	→	kaɳawuy	*'spear* (ASSOC)'
	#muḷkuř + Buy#	→	muḷkuřwuy	*'head* (ASSOC)'

[1] Data from Lowe (n.d.).

[2] In the Gupapuyngu data the lenis series is written in lower case as this series is retained on the surface in this dialect.

[3] ++ represents boundary between roots of a complex stem.

	#pūṛum + Gu#	→	pūṛumku	*'fruit* (DAT)'
	#kařamat + Gu#	→	kařamatku	*'the top* (DAT)'
but:	#ɻākay + Gu#	→	ɻākaywu	*'taste* (DAT)'
	#piyapul + Gu#	→	piyapulwu	*'more* (DAT)'

1.3.4. In compound stems the lenition rule is normally applied to the initial C of the second member of the compound, and many compounds have not been recorded with anything but the semivowel in the relevant position:

/ɻā++wiřkàyun/	*'to ask for'* (ɻā *'mouth'*, piřkàyun *'to try'*)
/mìnjtji++yaṛpum/	*'to paint/draw'* (mìnjtji *'colour'*, ɻaṛpum *'to pierce'*)

The rule is not always applied, and in some compounds variation between a stop and a semivowel occurs:

/ɻakal++ɻumpuḷ ∿ ɻakal++yumpuḷ/	*'round'* (ɻakal *'cheek; fruit'*, ɻumpuḷ *'short'*
/maḍaḍa++biyařɻan ∿ maḍaḍa++wiyařɻan/	*'act of ritual cleansing'* (maḍaḍa *'cleansing leaves'*, biyarɻan *'burn'*)

Notice in these examples that, as a neutral word-initial stop becomes contained in an inter-continuant environment, its lenis quality is retained as a now contrastive feature.[1] That the lenition rule is not applied to all stops in this position is probably due to a lack of complete cohesion between members of compound stems, at least in the early stages of their development.

1.4. *MORPHEME STRUCTURE CONSTRAINTS*

1.4.1. General

A number of general constraints apply:

(a) Any consonant may occur in word-initial, word-final, or intervocalic position, subject only to the neutralisation of the feature [high] as described in 1.4.2. below.

(b) No more than two consonants occur in sequence.

(c) C → [-cont]/[-cont]____

[1] This would appear at first glance to be evidence for a geminate versus simple interpretation of the opposition between stops. However see 5.7.3. below.

(d) C → [-son]/[-son]____

Four exceptions to this rule have been recorded, all of them /k-m/ sequences:

/pukmak/	*'all, every'*
/ṭikmantja/	*'sticky'*
/kaṛkman/	*'frog* (gen.)'
/pūkman/	*'to create'*

1.4.2. Neutralisation of the Feature [high]

The following constraint is operative on coronal consonants:

$$[-\text{cont}] \rightarrow [+\text{high}] \;/\; \left\{ \begin{array}{l} \#x \left[+\overline{\text{dist}} \right] \cdot \left[\begin{array}{l} \# \\ \left[\begin{array}{l} +\text{syl} \\ +\text{hi} \\ -\text{back} \end{array} \right] \\ [-\text{cor}] \end{array} \right] \\ \# \left[\overline{\text{dist}} \right] \end{array} \right.$$

The rule is apparent in distribution patterns only in the case of the Apicals. In the case of the Laminals it can be seen in two other phenomena as well. It is operative on the ACCusative case marker -N̪a (-N̪a is also one of the class of suffixes to which a vowel deletion rule, described in 4.1. below, is applied when the suffix occurs in a post vocalic position):

	#kařtjampal + N̪a#	→	kařtjampalṇa	*'kangaroo* (ACC)'
	#miyalk N̪a#	→	miyalkṇa	*'woman* (ACC)'
but:	#yūlŋu + N̪a#	→ #yūlŋuṇ# →	yūlŋunj	*'person* (ACC)'
	#ŋatji + N̪a#	→ #ŋatjiṇ# →	ŋatjinj	*'mother's father* (ACC)'

It is further revealed by comparison of data cognate between Gaalpu and Djambarrpuyngu,[1] another Yuulngu dialect. The Djambarrpuyngu data is on the left in the following examples:

/ŋāṯil/	/ŋātjil/	*'before'*
/māř-yuwalkṯiř/	/mā-yuwalktji/	*'to believe'*
/paṯi/	/patji/	*'basket, box'*

Some exceptions to the rule occur in the case of the Apical set, where some marginal word-initial contrast between +high and -high is found. It is marginal in that:

[1] All data, unless otherwise stated, from my own field notes.

(a) Most of the words possessing an initial -high consonant appear to be either loans (with Macassarese, other neighbouring Australian languages, Pidgin, or English as the sources), or are derived from originally dependent morphemes:

For example:

[1]suspected Macassarese origin	/tTtuŋ/	*'buffalo'*
	/lātuŋ/	*'lead, sinker, teeth fillings'*
	/nāka/	*'triangular loin cloth'*
	/llll/	*'direction towards speaker'* (derived from the Allative case marking suffix of the Dhuwala dialects)

(b) The contrast is not consistently maintained by all speakers, so that initial -high Apicals are often heard as +high.

For example:

[1]/tu̯y ṭu̯y/	*'money'*
/lTŋu ḷīŋu/	*'drunk'*

(c) When speaking English, Yuulngu occasionally pronounce initial alveolars with a noticeable degree of retro-flexion.

Example:

[ṇem]	*'name'*
[ḷeˈt]	*'late'*

1.4.3. Consonant Sequences: Within the Syllable

The following constraint is operative:

$$\begin{matrix} C & C \\ 1 & 2 \end{matrix} \rightarrow \begin{bmatrix} +\text{cont} \\ +\text{cor} \\ -\text{dist} \end{bmatrix}_1 \quad \begin{bmatrix} -\text{cont} \\ -\text{cor} \\ +\text{high} \end{bmatrix}_2$$

Examples:

/tjuḷk.ʈun/	*'to pass'*
/njařamàlŋ/	*'shy, coy, giggly'*
/njù̯ṛŋnjuṛŋʈun/	*'to whine (dog)'*
/ʈlřkʈiřk	*'rough surface'*
/tjalkʈun/	*'to throw down'*

[1]Suspected of being Macassarese loans on the grounds that in each case the items concerned are of relatively recent appearance in Arnhem Land, such as buffalo, cloth etc. (and the words cannot, it seems, be traced to English or Pidgin).

Two examples containing an /r-m/ sequence have also been recorded, and one containing a /w-k/ sequence:

/ʈiɽm.puk/	*'edible tuber* (sp.)'
/wāɽm.pař/	*'wing'*
/pawkʈun/	*'to chop'*

Note that in the first two examples /m/ is followed by /p/, suggesting that a [+high → -high], /ŋ → m/, shift has occurred caused by homorganic pressure. Were it not for this, these two examples would be covered by the rule above.

1.4.4. Consonant Sequences: Across Syllable Boundaries

Examples of regularly occurring consonant sequences can be seen in Charts 4 and 5. English gloss is omitted for the sake of simplicity in the charts, and can be found in Appendix 2. Irregular sequences are excluded from the charts, and discussed under constraint (b) below.

The charts exemplify the following constraints (the rules do not cover the spaces marked A, which are presumed to be accidental gaps in the pattern. The spaces marked X are already covered by the neutralisation rule in 1.4.2. above):

(a) Geminates do not occur.

(b)
$$\begin{bmatrix} -\text{syl} \\ \alpha\ \text{cor} \\ \beta\ \text{dist} \end{bmatrix} \rightarrow [\gamma\ \text{high}] \;/\; \underline{\quad} \begin{bmatrix} -\text{syl} \\ \alpha\ \text{cor} \\ \beta\ \text{dist} \\ \gamma\ \text{high} \end{bmatrix}$$

There are a small number of exceptions to the rule, restricted to the /k-m/ sequences in 1.4.1.(d) above, and three /ŋ-p/ sequences:

/waɽnjuŋpi/	*'bird* (sp. *Australian Pelican)'*
/ŋayaŋpuwa/	*'snake* (sp. *Javan File Snake)'*
/yāŋpuřyun/	*'to be carefree, happy'*

At least some of these exceptions can be suspected of having developed through either compounding or affixational processes. For example, note the presence of the syllable -man in the examples kaɽkman and ʈikmanʈja in 1.4.1.(d) above. These can be compared with a term from the neighbouring Yuulngu dialect Gupapuyngu:

/guŋman/	*'woman with three or four children'*

where guŋ- is probably identifiable with kuŋ- *'hand'*. This suggests that -man is an archaic morpheme, perhaps a nominal root, or a 'having' suffix. Compare also the example yāŋpuřyun above with:

/pùřyun/	*'to dance'*

CHART 4

Non-continuant Sequences

type of sequence	1st member	of sequence	+DIST -high	+DIST +high	-DIST -high	-DIST +high	-COR -high	-COR +high
			ʈ	tj	t	ʈ	p	k
stop-stop sequence	+DIST	ʈ tj					X ṛatjpa	X matjka
	-DIST	t		mattjuř			kuḍatpa	A
		ʈ		miʈtji			ʈalwaʈpu	A
	-COR	p						
		k						
			ʈ	tj	t	ʈ	p	k
nasal-stop sequence	+DIST	ɲ	ṛuɲʈùyun				X	X
		nj		kūnjtjùy			ṉanjpak	ḷinjku
	-DIST	n	punʈuř	màntjař	kantař		manpaṉu	wìnku
		ṇ	piṇʈàřyun	kaṇtjuřma		paṇʈa	waṉpana	wìṇku
	-COR	m					wampal	
		ŋ						yuʈuŋkuř
			n	nj	n	ṇ	mm	ŋ
nasal-nasal sequence	+DIST	ɲ					X	X
		nj					manjmak	nininjŋu
	-DIST	n					tjinmìṛ	kakanŋàn
		ṇ					maṇmařk	tjaṇŋař
	-COR	m						
		ŋ						

CHART 5

Sequences Involving Continuants

type of sequence	1st member	of sequence	+DIST		-DIST		-COR	
			-high	+high	-high	+high	-high	+high
			ʇ	tj	t	ʈ	p	k
continuant-stop sequence	+DIST	y					muŋkuypa	ŋaykam
	-DIST	l	malʇanti	ŋultjiyl			ɽalpa	kalki
		!	A	pāl̩tji			l̩i l̩pam	kul̩ku
		r	maɽʇaŋa	kuɽtjal			ʇuɽpu	paɽka
		ř	gařʇan	ʈařtjalk			wařpuru	yumuřku
	-COR	w						
			ɲ	nj	n	ɳ	m	ŋ
continuant-nasal sequence	+DIST	y					wuluymuŋ	ʈuyŋà
	-DIST	l	palɲanak	ʇalnjiř			wūlma	wālŋa
		!	A	l̩ul̩njìn			wil̩muř	yal̩ŋař
		r	A	muɽnjàŋ			kaɽma	A
		ř	A	wařnju			tjiřmaŋa	kuřŋàn
	-COR	w						
			y		l l̩ r ř		w	
continuant-continuant sequence	+DIST	y					kàywu	
	-DIST	l					mal̩waɽ	
		!					mal̩wlya	
		r	wiɽyař				puɽwù	
		ř	muřyil				l̩lřwl	
	-COR	w						

Note that there is no such requirement for agreement in height when the sequence involves members of different sets. For example, the examples piṇṯař and màntjař on the chart.

(c) [-cont] → [-cor, -son] / [-cont, -cor] ____

(d) C → {[+cor, +dist], [-cor]} / [+cor, +dist] ____

(e) [+nas] → [-cor] / [+nas, +cor] ____

(f) [+cont, -syl] → [+cor] / ____C

(g) *[-dist, +cont] [+cor, -dist]

(h) *[+cont, +cor, +dist] [+cor, +dist]

The /nj-ŋ/ sequence is uncertain, as only two examples containing it occur:

/nininjŋu/ *'everlasting, great'*
/naninjŋa/ *'big town or settlement'*

There may be an archaic morpheme boundary between the members of the sequence in both cases, particularly nininjŋu. Also, the meanings and initial -high Apicals suggest that both could be loans.

2. THE SYLLABLE

2.1. *STRUCTURAL PATTERNS*

There are three structural syllable patterns:

CV
CVC
CVCC

These contrast with each other in word-initial, medial, and final positions:

Initially:

[ɲu.nu]	*'you* (singular)'
[ɲʌn.gu]	*'his/hers'*
[gulk.ʈun]	*'to sever'*

Medially:

[ŋʌ.nʌ.pu]	*'we* (plural exclusive)
[gʌ.kʌn.ŋʌn?]	*'skin rash'*
[djɪn.bulk.mʌ]	*'sharp (focused)'*

Finally:

[ɽʌ.ŋɪ]	*'beach'*
[ɽʌ.kʌl]	*'greedy'*
[mɪlk.mɪlk]	*'mosquito* (sp.)'

2.2. *PROSODIC FEATURES*

In addition to the basic structural features exemplified above, syllables also possess prosodic features which further divide them into:

(a) fortis and lenis syllables.

(b) long and short syllables.

2.2.1. Fortis Syllables

Fortis syllables are distinguishable by the presence of a phonetic glottal stop in syllable final position. This glottal does not have segmental status,[1] but functions as a prosody of the fortis syllable.

Examples (fortis syllables are marked by grave accent):

/ɽu.nù.ŋa/	[ɽunu?ŋʌ]	*'island* (LOC)'
/wa.r̃àw.l̪i/	[wʌr̃au?l̪ɪ]	*'shade* (AL)'
/kày.wu/	[gaˡ?wu]	*'string bag'*
/njl̀lŋ.ʈun/	[ñɪlŋ?ɖun]	*'to crouch'*
/ɽùm.ɽum.tun/	[ɽum?ɽumɖun]	*'to apply the law'*
/mì̀m.pu/	[mɪm?bu]	*'cicatrice'*
/tju.l̪ù̀l̪.yun/	[djul̪ul̪?yun]	*'to hide'*
/ʈàɽ.man/	[ɖʌɽ?mʌn]	*'tree* (sp. *of Meleuca)'*
/ya.wa.r̃ì̀nj/	[yaʊwʌr̃ɪñ?]	*'adolescent men'*

This glottal is absent from lenis syllables.

[1] See 5.5. for interpretation.

2.2.2. The following examples demonstrate the opposition between fortis and lenis syllables:

/ṛàř.yun/	[ṛʌř?yun]	*'to throw* (plural items, e.g. *spears)'*
/ṛař.yun/	[ṛʌřyun]	*'to pour (water, gravel)'*
/mìnj.tji/	[mɪñ?djɪ]	*'colour'*
/pinj.tji/	[bɪñdjɪ]	*'flat'*
/pa.là/	[bʌlʌ?]	*'house, building'*
/pa.la/	[bʌlʌ]	*'direction away'*
/tjɪ̀.la/	[djɪ:?lʌ]	*'salt'*
/pī.lam/	[bɪ:lʌm]	*'to dig'*
/kuḷ.kù/	[guḷ.ku?]	*'fish* (sp.)'
/kuḷ.ku/	[guḷ.ku]	*'many, lots'*
/tja.wàṛ.yun/	[dja^{U}wʌṛ?yun]	*'to pierce'*
/tja.waṛ.yun/	[dja^{U}wʌṛyun]	*'to be tired'*

2.2.3. Long syllables are distinguishable by a lengthened nucleus[1], and are contrastive with short syllables as exemplified below (macron indicates long syllable):

/tjī.tji/	[djɪ:tjɪ]	*'a sore'*
/tji.tji/	[djɪtjɪ]	*'turtle shell'*
/ṭī̱tj/	[ḍɪ:tj]	*'grasshopper'*
/ṭi̱tj/	[ḍɪtj]	*'to return'*
/ṉā.nanj/	[ṉa:na^{i}ñ]	*'me* (ACC)'
/ṉa.nanj/	[ṉana^{i}ñ]	*'him* (ACC)'
/wā.ŋa/	[wa:ŋʌ]	*'ghost/dead body'*
/wa.ŋa/	[wʌ.ŋʌ]	*'to speak'*
/ɻū.yu/	[ɖu:yu]	*'whole'*
/ɻu.yu/	[ɖuyu]	*'sacred, secret, holy'*
/kū.laŋ/	[gu:lʌŋ]	*'to bring'*
/ku.laŋ/	[gulʌŋ]	*'blood'*

2.3. *SYLLABLE TYPOLOGY*

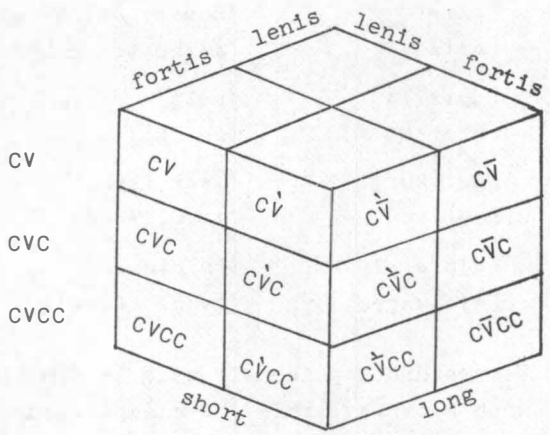
Since all possible combinations of features, both segmental and non-segmental (i.e. prosodic), have been recorded, a total of twelve syl-

[1] See 5.6. for interpretation.

lable types occur, as shown in Chart 6 below:

CHART 6

Syllable Typology



Examples:

CV	/ka/	*'and'*
CV̀	/kà/	*'give me, thank you'*
CV̂	/ṭî.ṭi.yun/	*'to itch, sting'*
CV̄	/mā/	*'inside/so that'*
CVC	/ḍɪtj/	*'to return'*
CV̀C	/ʈàɪ/	*'to land'*
CV̂C	/ʈûy/	*'money'*
CV̄C	/ṛūm/	*'law, custom'*
CVCC	/tjulk/	*'to pass, overtake'*
CV̀CC	/pì řŋ.ʈun/	*'to spread'*
CV̂CC	/ʈûlŋ/	*'ladder'*
CV̄CC	/ŋī řk/	*'bird* (sp. *Sulphur Crested Cockatoo)'*

2.4. *DISTRIBUTION RESTRICTIONS*

2.4.1. Long syllables are restricted to word-initial position only.

2.4.2. CVCC syllables are relatively rare in positions other than:

(a) word-initial.

(b) the second syllable of a reduplicated stem:

/tjuɭk.ʈun/ *'to pass* (singular action)'
→ /tjuɭk.tjuɭk.ʈun/ *'to pass* (plural action)'

2.4.3. Long syllables and fortis syllables are restricted in number to one per morpheme, and generally one per word. The only exception to the latter is in compound stems in the case of long syllables:

/ʈā.kay.++ŋā.ma/ *'to feel* (tākay *'taste'*, ŋāma *'to hear'*)'

and some reduplications in the case of the fortis syllables:

/mìɭŋ.ʈu.++mìɭŋ.ʈun/ *'to twinkle (as a star)'*

2.4.4. The only cases recorded of a fortis syllable preceding a syllable initiated by a stop within a single morpheme, are those in which the fortis syllable terminates in a nasal.

For example:

/tjàŋ.pa/	[djʌŋ?bʌ]	*'tree* (sp. *Banyan)'*
/màn.ku/	[mʌn?gu]	*'edible sap'*

No examples are recorded of a fortis syllable preceding a stop in which the fortis syllable terminates in a continuant, except across three types of morpheme boundaries:

(a) compound stems:

/ŋa.ɖì.++ʈū.kun/	[ŋʌɖɪ?ʈu:kun]	*'sulky* (ŋaɖì *'dissatisfaction'* ʈūkun *'stomach, or seat of emotions'*)'

(b) reduplicated stems:

/ʈa.ɾi.yà.++ʈa.ɾi.ya/	[ɖʌɾɪy?ʈʌɾɪyʌ]	*'to stand* (imperative, plural, ʈaɾiya *'to stand* (singular)')'

(c) verbs derived by the suffix -ku:

/pu.làɪ.kum/	[bulʌl?kum]	*'to make into two* (pulàl *'two'*, -ku *'causative verbalizer'*)'

The glottal in this position tends to be rather weak, especially in reduplicated stems, where what I hear sometimes sounds more like a +tense oral stop, than a glottal +stop sequence.

2.4.5. No examples of a fortis syllable terminating in an oral stop have been recorded, when it was noticed that several Yuulngu literates wrote them. Among these is one man who, as well as being literate in both English and Yuulngu, has some linguistic experience.[1] The following examples are presented in the left hand column as they were written, viz. in the Yuulngu orthography[2] in use throughout North-eastern Arnhem Land. This orthography is based upon an interpretation of glottal stop as a segmental phoneme, and symbolises it by an apostrophe in the relevant position. The right hand column presents the examples as they would appear in the system of notation used in this paper:

bawk'thun	/pàwk.ʈun/	*'to chop'*
buṯ'puṯthun	/pùṯ.puṯ.ʈun/	*'to fly'*
burk'thun	/pùṛk.ʈun/	*'to float'*
bark'thun	/pàṛk.ʈun/	*'to pound'*

To my own ear the presence of a glottal between the two oral stops is not detectable. In testing the data with the people who wrote it as above, it sometimes seemed that a slight tensing over the whole syllable, or a minute lengthening of the stop was heard. However most of the time no difference could be heard between pairs such as:

barkthu	/paṛk.ʈu/	[bʌṛkʈu]	*'tomorrow'*

and:

bark'thun	/pàṛk.ʈun/	[bʌṛkʈun]??	*'to pound'*

It is difficult to assess at this stage how much weight should be given to this psycholinguistic phenomenon. The existence of fortis syllables closing in a stop seems unlikely in view of the absence of them preceding a stop when terminating in a continuant (cf. 2.4.4. above). It has also been observed that some Yuulngu literates either often or occasionally write apostrophe in words where it is certain there is no glottal:

Example:

*ŋal'la	*'where'*	(definitely [ŋʌlʌ] phonetically)

and leave it out where it is certain there is a glottal:

Example:

*rarryun	*'to throw down'*	([rʌr̃ʔyun])

[1] That is, I am the most recent of a line of linguistic researchers he has worked with and helped.

[2] Cf. Appendix 1.

instead of rarr'yun, even though this word is minimally contrastive with rarryun, *'to pour'*. In discussing this with one man it appeared that he had misinterpreted apostrophe as signifying syllable closures or boundaries per se. It is not difficult to see how this could happen. When the orthography is taught to people, as in the school or in adult education classes, it is always (by Europeans at least) taught as a segmental stop on a par with the oral stops. In their early learning in a classroom situation of this sort, it is probable that many people fail to identify the apostrophe as glottal, and either remain confused about it, or form their own theory as to what apostrophe signifies. This is not surprising if the interpretation of glottal as a non-segmental syllable feature is correct.

On the other hand it may be that the fortis syllable has non-segmental qualities apart from glottal which I am not detecting, but are heard by Yuulngu speakers in data such as that above in which they write apostrophe. It is hoped to test recorded data instrumentally at a later stage.

3. THE STRESS GROUP

3.1. *FACTORS REGULATING STRESS PATTERNING*

Stress patterning is predictable, and is regulated by three factors:

(a) All words contain stress groups consisting of two or three syllables, of which only the initial syllable carries stress;

(b) Morpheme boundaries between roots of reduplicated and compound stems affect the patterning;

(c) The initial syllable of a word carries primary stress.

In the descriptive notes following, 's' represents 'syllable'; primary stress is marked by ' preceding the stress syllable; and secondary stress is marked by " preceding the syllable so stressed.

3.2. *WORDS UP TO THREE SYLLABLES*

Words of up to three syllables have one stress group each; either 's, 'ss, or 'sss:

'paṯ	*'after'*
'ra.kal	*'greedy'*
'ŋā.řun	*'after'*
'ra.wak.tji	*'to shrivel up'*
'pu.ḏàw.yun	*'to burst, shatter'*
'ṯiřk.ṯiřk.tji	*'to break out in a rash'*

3.3. *FOUR TO SIX SYLLABLE WORDS*

Four to six syllable words contain two groups each; either 'ss"ss, 'sss"ss, or 'sss"sss:

'pa.yi."ku.ya	*'that* (GEN-DAT, EMPH)'
'pūŋ.kù."yu.wan	*'to affirm, say yes'*
'ʈa.na."liŋ.ku	*'they* (GEN-DAT)'
'ŋa.řu.ŋa."ɳa.ɾa	*'to go* (nominalised)'
'tjin.pulk.ku."wa.nam	*'to sharpen'*
'màlŋ.ʈu.man."ta.wu	*'to find* (nominalised)'
'kul.ŋi.yl."nja.ra.wum	*'to enter* (nominalised)'
'maɾŋ.ki.yu."man.ta.mi	*'teacher'*
'pi.ya.ɲi."yl.na.nam	*'to be afraid'*

3.4. *REDUPLICATED AND COMPOUND STEMS*

In words containing a reduplicated or compound stem, the morpheme boundary between the two roots of the stem prevents the continuation of the pattern. Following the boundary, the pattern starts over again. Such words display the patterns: 's++"sss, 'ss++"sss, 'ss++"ss, 'ss++"sss"ss, and 'ss++"sss"sss:

'ŋàl.++"ŋal.yu.na	*'to ascend* (plural)'
'wā.yin++"ʈa.řay.min	*'stockmen, shepherds'*
'yūl.ŋù.++"yul.ŋu.wa	*'people* (GEN-DAT)'
'pa.la++ɾā.lì."yun.min	*'back and forth* (reflexive verb)'
'wa.ɖà.++"wa.ɖap."ʈun.ma	*'to swim* (plural)'
'wi.řìw.++"wl.řiw.yun."ta.wu	*'to throw* (plural, GEN-DAT)'
'ʈa.wal.++"wu.ya.ŋi."nja.ɾa.wun	*'birth* (GEN-DAT)'

Some particularly long words display a similar patterning:

'ɳl.na."ʈuŋ.kan.mi."nja.ɾa.wu	*'to set down* (GEN-DAT)'
'ʈa.ya."na.ɾa.miŋ."kan.ta.wu	*'to stand* (GEN-DAT)'

These words are derived from the verbs njīna *'to sit'* and ʈāya, *'to stand'*, by nominalisation and causativisation processes, and appear to treat their bases (i.e. ɳina, ʈaya) in the same manner as the initial roots of compound and reduplicated stems are treated, with the patterning starting again after them.

3.5. *SUBORDINATION*

Note that, in all the examples above, the second and subsequent groups are 'subordinate', in that their initial syllable carries a weaker stress than does that of the first group. Note also that all five syllable words consist of a three syllable group followed by a two syllable group, never the reverse.

3.6. *EXCEPTIONS*

Some words occur which appear to constitute exceptions to the normal patterns. They are mainly pronominals.

Example:

'ṯu.pa."liŋ.ku ∿ 'ṯu.pa.liŋ.ku	*'they two* (GEN-DAT)'
'ŋal.ma."liŋ.ku ∿ 'ŋal.ma.liŋ.ku	*'we* (GEN-DAT)'

where stress is often heard on initial syllable only, and subsequent syllables unstressed (compare examples in 3.3. above).

Also:

pu.'řal.ku	*'place name'*
puṛ.'wu	*'flower'*
puṛ.'wù.mi	*'in flower (as a tree)'*
pa.'ḍak ∿ 'pa.ḍak	*'still'*

In a number of seven syllable words it is difficult to be sure where one hears secondary stress fall - on the third or fourth syllable or evenly on both.

Example:

'ṯa.na."liŋ.ku.way."wu.ru ∿ ṯa.na."liŋ."ku.way."wu.ru	*'their own'*
'marŋ.ki."ku.man.ta."mi.yu ∿ 'marŋ.ki."yu."man.ta."mi.yu	*'teacher* (ERG)'

4. SOME PHONOLOGICAL PROCESSES RELATED TO WORD STRUCTURE

4.1. *VOWEL DELETION*

A vowel deletion rule is needed to account for alternations in the form of a number of suffixes:

$$V \rightarrow \emptyset \;/\; V+C \_\_\_\#$$

There are four types of suffixes on which this rule is operative:

(a) Two grammatically high level morphemes which are suffixed to independent stems (i.e. stems that can stand alone);

-Ma	a focus device (FOC) spotlights actor within a discourse)
-Na(-na ∿ ɳa)	a delimitative device (DEL) (delimits the scope of the word to which it is suffixed)

Examples:

	#pulal + Ma#	→	pulàlma	*'too* + FOC'
	#plyaɽ̌ʈan + Ma#	→	plyaɽ̌ʈanma	*'to cook* + FOC'
but:	#ŋalinku + Ma#	→	ŋalinkum	*'ours* + FOC'
	#ɾaypa + Ma#	→	ɾaypam	*'other side* + FOC'
	#ɾakunj + Na#	→	ɾakunjɳa[1]	*'dead* (DEL)'
	#pukmak + Na#	→	pukmakɳa	*'all* (DEL)'
but:	#ŋala + Na#	→	ŋalan	*'where* (DEL)'
	#kūlaŋa + Na#	→	kūlaŋan	*'to bring* (DEL)'

(b) Two case markers, also suffixed to independent stems:

-N̲a	accusative case (ACC). (rule obligatory)
-l̥i	allative case (AL). (rule optional)

Examples:

	#wuŋkan + N̲a#	→	wuŋkanɳa		*'dog* (ACC)'
	#mukul + N̲a#	→	mukulɳa		*'aunt* (ACC)'
but:	#yumuɽ̌ku + N̲a#	→	#yumuɽ̌kuɳ# →	yumuɽ̌kunj[2]	*'children* (ACC)'
	#ʈāyka + N̲a#	→	#ʈāykaɳ# →	ʈāykanj	*'woman* (ACC)'
	#waɽ̌àw l̥i	→	waɽ̌àwl̥i		*'shade* (AL)'
	#tjiɾaŋ l̥i	→	tjiɾaŋl̥i		*'boil, ulcer* (AL)'
but:	#ŋayl l̥i	→	ŋayll̥i ∿ ŋayll̥		*'camp* (AL)'
	#ɳuŋku l̥i	→	nuŋkul̥i ∿ ɳuŋkul̥		*'you* (AL)'

(c) Five of the tense/mood/aspect suffixes which occur on verbs, adverbs, and verbal auxiliaries are affected by the rule when the preceding stem contains more than one syllable. They are:

---

[1] Conditions governing N ⇒ ɳ are not yet entirely clear.

Possibly: $N \Rightarrow ɳ \,/\, \left\{ \begin{bmatrix} +cor \\ +hi \end{bmatrix} \right\}_{\cdot} + \_\_\_$ after verbs, and

n ⇒ ɳ/C + ____ elsewhere.

[2] Cf. 1.4.2. above for ɳ ⇒ nj.

-na	indefinite past[1] (pst)[2]
-la	indefinite past (pst)[2]
-ma	indefinite future (fut)
-yi	definite future (d.f.)
-ŋu	definite future (d.f.)
-ŋa	imperative mood (imp)

As these suffixes invariably occur post vocalically, the existence of the vowel is only revealed when the word takes a higher level suffix such as those described in (a) above. The tense/mood/aspect suffix precedes the higher level one:

	#ŋaṟuŋa + na#	→ ŋaṟuŋan	*'to go* + pst'
but:	#ŋaṟuŋa + na + Ma#	→ ŋaṟuŋanam	*'to go* + pst + FOC'
	#ṉāŋa + la#	→ ṉāŋal	*'to see* + pst'
but:	#naŋa + la + Na#	→ nāŋalan	*'to see* + pst + FOC'
	#paṇkala + ma#	→ paṇkalam	*'to bring* + fut'
but:	#pankala + ma + Na#	→ paṇkalaman	*'to bring* + fut + DEL'
	#ṇūka + yi#	→ ṇūkay	*'to eat* + d.f.'
but:	#ṇūka + yi + Na#	→ ṇūkayin	*'to eat* + d.f. + DEL'
	#ṛanka + ŋu#	→ ṛankaŋ	*'to look for* + d.f.'
but:	#ṛanka + ŋu + Na#	→ ṛankaŋun	*'to look for* + d.f. + DEL'
	#kāḷkuḷa + ŋa#	→ kāḷkuḷaŋ	*'to wait* + imp'
but:	#kāḷkuḷa + ŋa + ya	→ kāḷkuḷaŋaya	*'to wait* + imp + EMPH'

(d) Three morphemes which, on various synchronic and diachronic grounds, appear to be archaic case forms:

-ŋu	appears to be an old associative case marker, or perhaps derived substantives.
-la	apparently an old simple locative.
-li	probably also an old locative, but possibly carrying a more distant or abstract aspect.

These are inactive suffixes, in that they are not synchronically productive in the manner of the case forms described in (b) above. A number of pronominals, both personal and demonstrative, are composed of a dependent stem plus one of these suffixes. The rule is only applied to the suffixes when they occur as part of these pronominals, and only when the stem preceding the suffix contains more than one syllable.

[1]Most of these suffixes have a number of uses. One usage only is given here.

[2]The forms which have the same gloss belong to different verbal form classes.

The rule is also applied to -ŋu where it occurs as part of the active compound case marker -wu=ŋu, indicating source or origin.

Once again a higher level suffix must be added to the word (as in (c) above) for the underlying vowel to be seen at all:

	#payi + ŋu#	→ payiŋ	*'that* (INS)'
but:	#payi + ŋu + ya#	→ payiŋuya	*'that* (INS) + EMP'
	#wāla + ŋu#	→ wālaŋ	*'so and so'*
but:	#wāla + ŋu + Ma#	→ wālaŋum	*'so and so* + FOC'
	#ʈampa + la#	→ ʈampal	*'that* (AL)'
but:	#ʈampa + la + Na#	→ ʈampalan	*'that* (AL) + DEL'
	#ʈana + li#	→ ʈanal	*'they'*
but:	#ʈana + li + Ma#	→ ʈanalim	*'they* + FOC'
	#yūlŋu + wu=ŋu#	→ yūlŋuwuŋ	*'human origin'*
but:	#yūlŋu + wu=ŋu + Na#	→ yūlŋuwuŋun	*'human origin* + DEL'

4.2. *SYLLABLE FEATURE CHANGES INVOLVING SUFFIXATION*

Two rules are needed to account for syllable feature changes occurring preceding two types of suffixation. The first of these involves the suffixes -miŋu *'true, real relationship'*, and -manjtji *'reciprocal relationship'*.

The symbol S = syllable:

$$\begin{bmatrix} S \\ -\text{tense} \end{bmatrix} \longrightarrow [+\text{ tense}] \;/\; \underline{\quad} + \begin{Bmatrix} \text{-miŋu} \\ \text{-manjtji} \end{Bmatrix}$$

#ŋaŋʈi + miŋu#	→	ŋaŋʈìmiŋu
'mother'		*'actual mother'*
#yapa + miŋu#	→	yapàmiŋu
'sister'		*'actual sister'*
kāʈu + manjtji	→	kāʈùmanjtji
'child'		*'father and son'*
#wāwa + manjtji#	→	wāwàmanjtji
'brother'		*'brothers (i.e. brothers to each other)'*

The second involves a single verb class which, when suffixation changes it to a word of more than two syllables, loses the feature [long] on its initial syllable:

$$\begin{bmatrix} S \\ +\text{ long} \end{bmatrix} \longrightarrow [-\text{ long}] \;/\; \#\ \underline{\quad}\ S + S$$

#wāŋa + na + mi# → waŋaɳami
'*to speak* + (nominaliser) + (reflexive)' '*speak with each other*'

#njīna + ɳaṛa + wu# → njinaɳarawu
'*to sit* + (nominaliser) + (GEN-DAT)' '*for sitting/living (in)*'

4.3. *SYLLABLE FEATURE CHANGES INVOLVING REDUPLICATION*

Three rules are needed to account for syllable feature changes occurring in stem reduplication. The symbol 1 represents the first root of the stem; 2 represents the second root (i.e. a reduplication of 1):

(1) $\begin{bmatrix} S \\ +\text{ long} \end{bmatrix} \Longrightarrow [-\text{ long}] \;/\; 1 + \underline{2}\_\_$

(2) $\begin{bmatrix} S \\ +\text{ tense} \end{bmatrix} \Longrightarrow [-\text{ tense}] \;/\; 1 + \underline{2}\_\_ + SL$

(3) $\begin{bmatrix} S \\ -\text{ tense} \end{bmatrix} \Longrightarrow [+\text{ tense}] \;/\; \underline{1}\_\_ + 2$ (applies usually but not invariably; exact conditions for it are not yet determined)

The examples are cross referenced to the rules they exemplify:

(1) #ḻuřyun + (plural)# → ḻùřḻuřyun
'*to pour* (plural)'

(2) #màmṯun + (plural)# → màmmamṯun
'*to stick* (plural)'

(2) #wiřìwyun + (plural)# → wiřìwwiřiwyun
'*to throw* (plural)'

(3) (1) #yūlŋu + (plural)# → yūlŋùyulŋu
'*person* (plural)'

(3) (1) #kūlam + (plural)# → kūlàkulam
'*to bring* (plural)'

5. INTERPRETATION

5.1. *VOCOID GLIDES*

In the position preceding the Laminal consonants /y, tj, nj/, vocoid glides are interpreted as V, since there is no contrast with the corre-

sponding non-glide vocoids in this position; for example, preceding /tj/, [a] never occurs, only [aˈ].

Examples:

[l̥aˈtjʊ]	→	/l̥atju/	*'nice'*
[da:ⁱyʌ]	→	/ɻāya/	*'to stand'*
[ɾ̥ʌkuⁱñ]	→	/ɾ̥akunj/	*'dead'*

In all other positions vocoid glides are contrastive with the corresponding simple vocoids.

Examples:

[ɻa:ˈkʌ]	→	/ɻāyka/	*'woman'*
[ɻa:kaˈ]	→	/ɻā.kay/	*'taste'*
[waˈɻʊn]	→	/way.ɻun/	*'to swim'*
[ɾ̥ʌɻʌʔ]	→	/ɾ̥a.ɻà/	*'baby'*

These are interpreted as VC in accord with the non-suspect syllable patterns (as described in 2.1. above), which lack VV sequences, and permit C clusters word-medially:

[djɪnʌkuˈ]	→	/tjɪ.na.kuy/	*'this* (ASSOC)'
[ŋæⁱkʌm]	→	/ŋay.kam/	*'to go* (plural)'
[wʌr̃aᵘʔŋa]	→	/wa.r̃àw.ŋa/	*'shade* (LOC)'
[l̥ɪᵘʔyʊmʌn]	→	/l̥ɪ̀w.yu.man/	*'to surround'*
[duˈŋʌʔ]	→	/ɻuy.ŋà/	*'edible root* (sp.)'
[wʊlæⁱ]	→	/wu.lay/	*'(dual marker)'*

Further evidence for this interpretation may be found in the form of various suffixes occurring following one of these glided vocoids. As exemplified in 4.1. above, a number of suffixes undergo vowel deletion when they occur in a post-vocalic position. An example is the accusative case marker -ɲa, which appears as -ŋa post consonantally, and as -nj post vocalically. When it occurs on stems such as wulay *'dual'*, or ɻuway *'husband'*, it always takes the post-consonantal form -ŋa:

yūlŋu-yu l̥iyuwan ɻāyka-nj wulay-ŋa
man-ERG *hit* *woman*-ACC *dual*-ACC

Were the glide [aˈ] in wulay functioning either as a single vowel unit or a VV sequence, the form expected would be:

*wulaⁱnj

5.2. *VOCOID SEQUENCES*

Vocoid sequences occur, contrasting with the vocoid glides described above, in that two syllable peaks are discernible. The interpretation of these as VCV sequences is the only one consistent with the non-suspect syllable patterns, which do not include VV sequences (cf. 2.1. above):

[bæʸɪku] → /pa.yi.ku/ *'that* (DAT)'

is contrastive with:

[ŋæ^{i}kʌm] → /ŋay.kam/ *'to go'*

Other examples are:

[ŋæʸɪŋʌ] → /ŋa.yi.ŋa/ *'camp* (LOC)'
[bæ^{i}mʌ] → /bay.ma/ *'place'*

[ɻɪ:řɪʷu] → /ɻi.ři.wu/ *'sickness* (DAT)'
[wɪrɪ^{u}ʔwɪřɪ^{u}yun] → /wi.řiw.wi.řiw.yun/ *'to throw'*

[ŋu:ʸɪ] → /ŋū.yi/ *'to sleep'*
[ŋu^{i}mulu] → /ŋuy.mu.lu/ *'snake* (sp.)'

Once again further evidence for this VCV interpretation, as opposed to the VC interpretation, is provided by suffixes affected by the vowel deletion rule of 4.1. above. For example the focus device -Ma, which takes the form -ma in post consonantal positions, and -m in post vocalic positions, appears as -m when suffixed to a stem ending in a vocoid sequence:

#ŋayi + Ma# → ŋayim
camp *focus*

5.3. *PALATALS AND DOMALS*

The lamino-palatal segments /nj/ and /tj/, and the apico-domal segments /ṇ/, /ṭ/, /ḍ/ and /ḷ/, are interpreted as C on the basis of:

(a) Their occurrence word-initially, where the non-suspect syllable patterns do not allow for C clusters.

[ñu:ṇ] /njūṇ/ *'fish poison'*
[dja:ḷkɪʔ] /tjāḷ.kì/ *'snake* (gen)'
[ṇuku] /ṇu.ku/ *'foot'*
[ṭʌmʌlʌ] /ṭa.ma.la/ *'bird* (sp.)'
[ḷɪñgu] /ḷinj.ku/ *'(completive aspect)'*

(b) Their occurrence in medial C clusters, where, were they interpreted as CC, syllable patterns inconsistent with the non-suspect patterns would result, such as CCV and CVCCC.

[wʌřñu]	→	/wař.ñu/	*'flying fox* (gen)'
[ḷuḷñɪn]	→	/ḷuḷ.ñɪn/	*'deep (as hole)'*
[mɪṭṭjɪ]	→	/miṭ.tjɪ/	*'crowd, group'*
[bʌɪtjʌm?ɖun]	→	/paɪ.tjàm.ʈun/	*'to light a fire'*
[mʌḷŋ?ɖun]	→	/màḷŋ.ʈun/	*'to appear'*
[mɪḷŋ?mɪḷŋɖun]	→	/mɪ̀ḷŋ.mɪḷŋ.ʈun/	*'to flash, shine'*

Were examples such as [wʌřñu] above interpreted as */wař.nyu/, a CCV pattern would result. In addition, the sequence /n-y/ is disallowed by the morpheme structure constraint against CC sequences of continuant followed by noncontinuant (cf. 1.4.1.(c)). Furthermore, in slow articulation for the benefit of European learners, Yuulngu speakers make a clear break at the point marked by the dot in the above examples.

5.4. *HOMORGANIC NASAL-STOP SEQUENCES*

The following factors argue for a CC interpretation of suspect medial C clusters of nasal + homorganic stop;

(a) The separate medial occurrence of both nasals and stops (see (1.2.2.7. and 1.2.3. above);

(b) The absence of prenasalised stops word-initially or finally, where, however, nasals and stops both occur separately (1.2.2.7. and 1.2.3.);

(c) Occurrences of two of the suspect sequences reversed medially (non-contrastive voicing differences aside):

[mʌřkʌpmɪ]	*'term of accection'*
[ŋʌnʌkŋʌ]	*'meat* (LOC)'

(d) The occurrence of heterorganic nasal plus stop sequences:

[bu̪nbu]	*'house'*
[ŋaˈñbʌk]	*'armlet'*
[wɪŋ?gu]	*'left hand'*
[mʌn?djʌř]	*'leaf'*
[gʌn̪djuřmʌ]	*'sorcery implement'*
[nʌngu]	*'his/hers'*

5.5. *GLOTTAL STOP*

5.5.1. The widespread occurrence of glottal stop is not predictable, and in the examples below data containing it is shown to be contrastive with data not containing it. Examples with a word-final oral stop are in-

cluded to demonstrate that glottal is not merely a variant of any stop or stops; however, their inclusion should not be understood to imply that glottal functions as a segmental stop. For, although it must be accorded **contrastive status**, several factors will be presented which argue against according it **segmental status**.

[ṛʌřyun]	*'to pour out'*
[ṛʌř?yun]	*'to throw down'*
[bɪlyun]	*'to turn'*
[yɪl̤?yun]	*'to sit cross-legged'*
[gul̤ku]	*'lots, plenty'*
[gul̤ku?]	*'fish* (sp.)*'*
[ɖa:ṛɪaṛ]	*'trail of turtle or boat in the water'*
[ɖaṛ?ɪaṛ]	*'pressure'*
[bʌlʌ]	*'direction away'*
[bʌlʌ?]	*'house, building'*
[wʌlʌk]	*'perhaps'*
[gʌřʌmʌt]	*'above, on top'*
[bʌṛʌlaˈtJ]	*'sand bar'*
[l̤ʌpl̤ʌp]	*'open'*

5.5.2. There are a number of factors related to the distribution of glottal which do not find a parallel in the distribution of any segment, and argue against a segmental interpretation:

(a) Its occurrence is restricted to syllable-final position only.

(b) It frequently occurs in this position following a nasal. If glottal is interpreted as a consonant, these nasal + glottal sequences set up a pattern in which nasals occur as the initial member of a CC sequence within a syllable. There are no cases elsewhere of nasals in this position (cf. 1.4.3.):

[l̤uŋ?ɪumʌn]	*'to gather, muster'*
[gʌm?]	*'look out!/this is it!'*
[wa:wun?mɪ]	*'promised wife'*
[yawʌřɪñ?]	*'adolescent men'*
[wʌṇ?guřʌ]	*'bandicoot* (sp.)*'*

The post-nasal position occupied by glottal in these examples is not occupied by any oral consonant. Nor would it seem that the function of the glottal is syllabic, since it neither carries a syllabic peak, nor occurs in inter-consonantal position in the initial syllable of a word, as all vowels do. viz. *#C?C.

(c) There are a number of occurrences of glottal following a CC sequence.

Examples:

[ñu:ɽŋ?ñuɽŋɖun]	*'to whine (as a dog)'*
[ɳu:ɾŋ?ɖun]	*'to snore'*
[ñʌɾʌmʌlŋ?]	*'shy, coy'*
[mɪlŋ?mɪlŋɖun]	*'to flash, shine'*

The segmental status of glottal is here immediately in doubt, since, if glottal is interpreted as C, the result is the only occurrence of CCC sequences within the syllable. C sequences not involving glottal are restricted to CC only (cf. 2.1.)

(d) In 4.1. above a vowel deletion rule is presented to account for alternations in the form of a number of suffixes. This rule ignores the presence of a glottal, with the form of suffixes such as accusative -Na (-ŋa/-nj), and the focus device -Ma (-ma/-m), being determined in relation to the **segment immediately preceding the glottal.** That is, the vowel of the suffix is retained if the segment preceding the glottal is a consonant, and deleted if the segment is a vowel. Furthermore, when the vowel of the suffix is deleted, glottal **metathesises** with the consonant of the suffix:

#ɽaɭa? + Ma#	→	raɭa?m#	→ ɽaɭam?
baby FOC		vowel deletion	metathesis

not: #ɽaɭa? + Ma# → *ɽaɭa?ma as might be expected were glottal functioning as a consonantal segment. Compare:

#bulal? + Ma#	→	bulal?ma
two FOC		

not: #bulal? + Ma# → *bulal?m as might be expected were glottal functioning as a syllabic segment. Some further examples are:

#ma:lu? + Na#		#ma:lu?ŋ#	#ma:lu?ñ#	#ma:luñ?
father ACC		V deletion	ŋ ⟹ ñ (cf. 1.4.2.)	metathesis

#yawaɾıñ? + Na#	→	yawaɾıñ?ŋa
adolescent men ACC		

#bala? + Ma#	#bala?m#		balam?
house FOC	V deletion		metathesis

#balyuɾ? + Ma#	→	balyuɾ?ma	
footprint sign FOC			

5.5.3. Two factors are now clear: (1) there is considerable evidence, in 5.5.2. above, particularly point (d), that glottal does not function as a segment; (2) as exemplified in 5.5.1., it is phonemically relevant. These two factors, considered together, suggest that glottal functions in a manner reminiscent of 'suprasegmentals' or 'prosodies'. Furthermore, the metathesis phenomenon argues that it is an element associated with the syllable (cf. points (a) and (d) above), rather than with the segment as suggested by Capell (1967:91-2). Hence the interpretation of glottal as a **prosodic syllable feature** is the one I have adopted as that best able to account for the behaviour of glottal.

5.5.4. While the treatment of glottal as a prosody[1] or suprasegmental[1] is unusual in the analysis of Australian languages, it is not new in other parts of the world. Firth (1934-57:124) suggests that

> "more detailed notice of 'h' and the glottal stop in a variety of languages will reveal the scientific convenience of regarding them as belonging to the prosodic systems... rather than to the sound systems",

and goes on to point out their nonsegmental character in a number of languages.[2] Pike (1947:63, 65, 147; 1967:538), while preferring to confine the concept of suprasegmental to stress, pitch, and duration, includes glottal as a possible suprasegmental.

The actual type of prosody that glottal has been analysed as varies. Firth (1934-51:124, 132) makes reference to it as a prosodic feature of junction in a variety of languages,[2] and Robins (1970:221-2, 264-5) describes its function in Sundanese as the phonetic realisation of junction between units such as syllables and morphemes. At first glance several aspects of the behaviour of glottal in Yuulngu are also suggestive of junctions: (1) not only is it restricted to syllable-final position, but its occurrence stem finally preceding a suffix is far more frequent than it is stem-medially; (2) two suffixes generate glottal on the preceding syllable (cf. 4.2.), and stem reduplication generates it at the root boundary (cf. 4.3.). However, the minimal pairs in 5.5.1. above show that, synchronically at least, it is not merely a junction phenomenon.

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[1] These two terms are often used in an identical sense. However the use of the term 'prosody' by those following a prosodic analysis approach is generally more embracing than the use of either term by others.

[2] American English, Tamil, German, Yorkshire and Cockney dialects of English.

In other languages glottal is closely associated with tone or stress. In Lalana Chinantec[1] (Rensch and Rensch, 1966:455-463), and in Nong[2] (Freiberger, 1966:16-20), it is said to function as a consonant in word-initial position, but as a feature of particular tones in syllable-final position. For example, in Nong a low falling tone terminating in a glottal stop contrasts with a low falling tone that does not. Danish stød (Haugen 1949:281; Firth 1934-51:132; Uldall 1936:54-55; Lehiste 1970:89-90) is perhaps the best known example of a prosody represented (in some environments) by a glottal stop. According to Firth (132) it "occurs chiefly with sounds said to be originally long, and in final position only in stressed syllables. If the word...loses its stress for rhythmical or other reasons, it also loses the glottal stop."

5.5.5. Schebeck (1974:1) has, much earlier than myself,[3] adopted an interpretation of glottal in Yuulngu as "a syllable feature", and McKay (1975:1.5.2.), has taken a similar position in his study of Rembarnga.[4]

5.5.6. It is, I believe, quite possible that Proto-Yuulngu possessed phonemic stress or tone, and that glottal was associated with it, as in Nong. Or on the other hand, it may be that the feature represented phonetically by glottal is, psycholinguistically, a tensing or hardening of the syllable. There is a little psycholinguistic evidence for the latter. In a brief discussion with a Yuulngu friend who is literate in both Yuulngu and English I was told that, in the pair ṛařyun and ṛàřyun, ṛàř- is "ṭāl, *'strong, hard'*", whereas ṛař- is "yalŋkl, *'soft, weak'*". With the notion of tensing or hardening in view, I have, throughout this paper used the terms fortis/tense to refer to the feature. However, this is basically for want of a name for the feature.[5] I do not consider it at all conclusive that this is the nature of the feature psycholinguistically.

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[1] An Amerindian language of southern Mexico (genetic affinities uncertain)

[2] A Vietnamese language of the Tai family.

[3] Schebeck's explanatory note in his 1974 paper was of considerable help to me in confirming my early intuition that glottal is nonsegmental. I understand that his 1972 thesis contains a fuller treatment of glottal.

[4] Rembarnga is spoken to the southwest of the Murngic area; although differing greatly in syntax from Yuulngu, it has much in common with it phonologically, and overlaps lexically to some degree (see McKay 1975:Introduction).

[5] I am reluctant to use the term "glottalisation" since this is normally used to refer to such things as laryngealisation and glottalised stops.

5.5.7. The use of an accent symbol for the phonemic notation of glottal seems to best represent its nonsegmental function. I have chosen the grave symbol since Schebeck has already used it.

5.6. *VOCOID LENGTH*

5.6.1. Lengthened vocoids occur, and in words spoken in isolation are clearly contrastive with short vocoids in word-initial syllables (exemplified in 2.2.3. above). Occurrence of length elsewhere is correlated with intonational influences.

There are two possible interpretations of length: a segmental one which interprets it as a feature of a set of long vowels opposed to a set of short vowels; or a prosodic solution which interprets vocoid length as the manifestation of a long syllable. Although I recognise that the choice is somewhat arbitrary, the latter solution has been chosen for two reasons: (1) an analogy with glottal[1] in respect of three factors:

(a) Like glottal, length occurs only once in a word normally (cf. 2.4.3.). No segment or contrastive feature of a segment is quite so restricted.

(b) Like glottal its distribution is restricted in position (cf. 5.5.2.(a)), although within the word (to word-initial syllable) rather than within the syllable as with glottal.

(c) As described in 4.2,3. above, the presence of both glottal and length are affected by suffixation and reduplication processes. Only glottal and length display this fluidity.

(2) an extra syllable feature seems to me to be preferable to three extra phonemes.

5.6.2. Syllable length is symbolised by macron over the syllable nucleus: $\bar{\imath}$, $\bar{a}$, $\bar{u}$.

5.7. *THE OPPOSITION IN THE ORAL STOPS*

As stated above in 1.3.1., an underlying opposition in the oral stops occurs in Yuulngu, with the opposition restricted to inter-continuant

[1] Bearing in mind that glottal is interpreted as a syllable feature.

position. All dialects, so far as I am aware, maintain this opposition on the surface in the case of the Apical set. In the case of the Laminal and Peripheral sets the opposition is maintained on the surface in some communalects, and either partially or totally deleted from it in others, by means of the Lenition rule (see 1.3.2. above).

5.7.1. There are three possible positions to be taken regarding this opposition:

(a) The **segmental solution:** there is an opposition between a fortis series and a lenis[1] series of stops:

[yæřʌt̪ʌ] → /yařaṭa/ *'line, row'*
[yæřʌd̪ʌ] → /yařaḍa/ *'lightning'*

(b) The **geminate solution:** the phonetically fortis, voiceless and, in some situations, long stops are phonologically geminates (i.e. a sequence of two homorganic stops), and the lenis, voiced, short stops are simple (i.e. a single stop):

[yæřʌt̪ʌ] → /yařaṭṭa/ *'line, row'*
[yæřʌd̪ʌ] → /yařaṭa/ *'lightning'*

(c) The **prosodic solution:** the phonetically fortis, voiceless series is actually a phonetic variant, occurring after a fortis syllable, and the result of a phonetic fusion between a stop and the glottal terminating a fortis syllable. That is, this theory assumes that all stops were originally lenis phonetically in the relevant position, and acquired their fortis quality by assimilation of an originally preceding glottal. Thus a fortis quality on a stop would simply be the manifestation of a preceding fortis syllable:

[yæřʌt̪ʌ] → /yařàṭa/ *'line, row'*
[yæřʌd̪ʌ] → /yařaṭa/ *'lightning'*

5.7.2. The **geminate solution** has been favoured by Schebeck (1974:1), and by myself in an earlier paper (1975). It has a number of advantages:

(a) Phoneme economy: the number of consonants required would be only 18 as against the 19 required for the segmental solution. This

[1] Or voiceless and voiced.

is more critical for dialects possessing the full set of lenis stops on the surface, such as Gupapuyngu. The segmental solution requires 24 consonants in their case.

(b) It provides an explanation for the very restricted environment in which the opposition occurs, viz. in inter-continuant position. Since it occurs in this position only, the geminate solution is permitted by the non-suspect syllable patterns. For example, in the Gupapuyngu minimal pair:

$_1$[buřbuřyun] *'to cry for the deceased'*

$_2$[buřpuřyun] *'to get stuck'*

The geminate interpretation is in accord with the CVCC syllable pattern (see 2.1.):

→ $_1$/puř.puř.yun/

→ $_2$/puřp.puř.yun/

Were the opposition present in word-initial position, or in medial position following a noncontinuant C, the geminate solution would not work, since it would produce aberrant syllable patterns such as: *#CCV.

(c) The geminate solution provides an explanation of the difficulties experienced by new literates using the existing Yuulngu orthography.[1] This orthography is based on the segmental solution, and so utilises the voiced and voiceless symbols. However, many Yuulngu literates are constantly confused between 't' and 'd', 'p' and 'b'. For example:

baḏayala [bʌḏæyʌlʌ] *'light, flame'*

may be written as: *baṯayala. The geminate solution would suggest that a factor in the error is that the contrast is one of /t/ versus /tt/, rather than a contrast between two different single segments as the orthography represents it.

(d) In 1.3.4. above I described how the initial stop of the second root of a compound stem is often affected by the lenition rule (1.3.2.) and changes to a semivowel. The geminate solution provides a ready explanation for this, in that it interprets word-initial stops as simple, and applies the lenition rule to simple stops rather than to underlying lenis stops; viz. ṯ ⟹ y, rather than: D̲ ⟹ y (cf. 1.3.2.).

[1] See Appendix 1

(e) The geminate solution is at first sight supported by the phonetic length characteristic of the +tense stops in words like [yʌk:ʌ] *'no, not'*, even though that length is restricted to certain environments (see 1.2.2.2.).

5.7.3. However, there are two types of data that are difficult to account for with the geminate solution. The most difficult of these involves verbalising suffixes, an example of which is -ku, a suffix deriving verbs from nouns, adjectives and numerals:

1	#yɪndɪ + ku + m#	[yɪndɪkum]	*'big'* + causative + PRES → *'to enlarge'*
2	#yʌkuř + ku + m#	[yʌkuřkum]	*'sleep'* + causative + PRES → *'to put to sleep'*
3	#ma:řmʌʔ + ku + m#	[ma:řmʌʔkum]	*'two'* + causative + PRES → *'make into two'*
4	#bu:řʔ + ku + m#	[bu:řʔkum]	*'portion'* + causative + PRES → *'to divide a carcass'*
5	#wʌŋgañ + ku + m#	[wʌŋgañgum]	*'one'* + causative + PRES → *'to unite'*
6	#djɪnbulk + ku + m#	[djɪngulkum]	*'sharp'* + causative + PRES → *'to sharpen'*

The geminate solution will work for examples 1, 2, 5, and 6, if it assumes that either the underlying form of the suffix is -ku, geminating to -kku in a post-continuant position, or that the underlying form is -kku, appearing as -ku following a -continuant C. Examples 1, 2, 5, and 6 would then be interpreted as:

1 /yin.tik.kum/
2 /yak.kurk.kum/
5 /waŋ.kanj.kum/
6 /tjin.pulk.kum/

However examples 3 and 4 are more difficult. The metathesis phenomenon occurring with suffixes such as -Ma (cf. 5.5.2.(d)) conditions us to expect that -ku will take the same form following V? sequence as it does following V. So that if the form following V is -kku, as the geminate solution interprets it to be in example 1, we would expect the same -kku form in example 3. Based on the model of:

#ɾaɻaʔ + Ma# → #ɾaɻaʔm# → ɾaɻamʔ

as in 5.5.2.(d) above, we would expect:

*3 #ma:řmʌ? + kku# → #ma:řmʌ?kkum#

→ ma:řmʌk?kum[1]

(although it is difficult to know exactly what the final phonetic form would be; presumably either *ma:řmʌk?kum as above, or possibly the same problematical form as the examples discussed in 2.4.5. above).

5.7.4. The position of the geminate solution is further weakened by the common occurrence of minimal pairs which appear to have developed through stem reduplication. For example, the appearance of the Gupapuyngu pairs:

7 [bʌlbʌlyun] *'to be balanced on something'*
8 [bʌlp̪ʌlyun] *'to generate fire with sticks'*
9 [ɖuřɖuřyun] *'to stamp feet'*
10 [ɖuřʈuřyun] *'to cover up'*

suggests a derivation involving reduplication. For example, one possible route[2] this could have taken:

7 *[bʌlyun] ⟹ *[bʌlbʌlyun]
8 *[p̪ʌlyun] ⟹ *[p̪ʌlp̪ʌlyun] ⟹ [bʌlp̪ʌlyun]

(assuming that a lenition rule operative on word-initial stops:

*[-son] → [-tense] / # ____

developed after the reduplication did).

It cannot be proven that data of this type is derived via reduplication, but the probability seems high. The case for the geminate solution is weakened in that, if it were the correct solution, and the reduplication hypothesis is also accurate, it is difficult to imagine what the original form of examples 8 and 10 could have been; i.e.:

7 *[bʌlyun] ⟹ *[bʌlbʌlyun] ⟹ /pal.pal.yun/
8 *[? ?] ⟹ *[bʌlp̪ʌlyun] ⟹ /palp.palyun/[3]

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[1] An even better model for this than -Ma is provided by -njtja, the equivalent of -Ma in the Dhuwala dialect:
#pala? + njtja# → palanj?tja

[2] Note that the rejection of the geminate solution here does not mean that this precise derivation is accepted. In fact an alternate derivation, also involving reduplication, is discussed in 5.7.6.(b).

[3] A derivation for example 8:
*[ppʌlyun] ⟹ *[ppʌlppʌlyun] ⟹ *[p̪ʌlppʌlyun]
proto form reduplication geminate reduction word-initially
is of course logically possible. However this seems highly improbable because of: (1) the synchronic absence of CC clusters syllable-initially, either in Gaalpu specifically, or in Yuulngu generally; (2) the rarity of word-initial CC clusters over most of Australia (Wurm 1972:56).

5.7.5. Of course it is still possible to disregard the evidence for a prosodic interpretation of glottal,[1] and treat it as a segmental stop. However, as this evidence for the prosodic interpretation of glottal is considerable, and there is no decisive evidence for the geminate solution of stops, it seems the latter must be set aside.

5.7.6. The **prosodic solution**, which argues that the feature value [+tense] on a stop is the phonetic realisation of a preceding fortis syllable, shares with the geminate solution the advantages listed in (a), (b), (c) and (d) in 5.7.2. above. In addition it is attractive for several other reasons:

(a) As stated in 2.4.4. above, the only occurrences within morphemes of a fortis syllable preceding a syllable initiated by a stop, are those in which the fortis syllable terminates in a nasal. That is, there are no occurrences of a fortis syllable (manifested by a glottal) terminated by a continuant preceding a stop:

within morphemes: *[+cont] [ʔ] [-son]
i.e. no data of the following type:

*[yʌʔkʌ] → */yà.ka/
*[buř̃ʔtjʌ] → */ùř̃.tja/
*[gaˈʔpu] → */kày.pu/

The occurrence of such data would be expected, since fortis syllables terminating in a continuant occur preceding all groups of sonorant consonants:

[d̂uɪʔnʌ] → /t̂u.lì.na/ *'ear/bottle, jar'*
[buɻʔmaˈñdɪ] → /ùɻ.manj.tji/ *'shark* (sp.)*'*
[djɪ:ʔlʌ] → /tjì.la/ *'salt'*
[gaˈʔwu] → /kày.wu/ *'string bag'*

and fortis syllables terminating in a nasal occur preceding stops:

[djʌn̩ʔbʌ] → /tjàn̩.pa/ *'tree* (sp. *Banyan*)
[yɪñʔdjɪ] → /yìnj.tji/ *'plant* (sp.)*'*
[mʌnʔgu] → /màn.ku/ *'edible sap'*

The prosodic solution provides an explanation of this, in that it posits that fortis syllables terminating in a continuant do occur preceding stops, but are manifested by the feature value [+tense] in the stop, rather than by the presence of a glottal:

[1] That is, within the frameworks of the models of phonological analysis most commonly in use, either structualist or generative.

[ɾʌʈ:ʌʔ] → /rà.ʈà/ *'baby'*

[ɖʌr̃ʈjʌlk] → /ʈàr̃.tjalk/ *'clean'*

[gʌlpu] → /kàl.pu/ *'woomera'*

This solution is further supported by the forms of two variants of the verb 'to ascend':

[ŋʌlʔyun ∿ ŋʌlʈ·un]

suggesting the interpretation:

→ /ŋàl.yun ∿ ŋàl.ʈun/[1]

(b) The prosodic solution is able to account for the data 7 to 10 discussed in 5.7.3. above more satisfactorily than can the geminate or segmental solution. It would hypothesise that this data is derived as follows:

7 *[bʌlyun] ⟶ *[bʌlbʌlyun]

8 *[bʌlʔyun] ⟶ [bʌlʔbʌlyun][2] ⟶ [bʌlpʌlyun]

and thus could be interpreted:

7 → /pal.pal.yun/

8 → /pàl.pal.yun/

(c) The prosodic solution provides some explanation of the fact that the majority of stops occurring in inter-continuant position in Yuulngu languages are phonetically fortis, voiceless, and frequently lengthened, when in so many Australian languages lenis, short, and often voiced stops are the norm in this position. This includes languages in western Arnhem Land, such as Gunwinggu, and in south-eastern Arnhem Land, such as Anindilyagwa.

5.7.7. However, like the geminate solution, the prosodic solution has difficulty in accounting for certain data. As stated in 2.4.4. above, preceding a stop within morphemes, no cases of fortis syllables terminating in a continuant occur. However, such syllables do occur preceding a stop across morpheme boundaries.

[+cont] [ʔ] + [-son]

There are three types of data in which this occurs: compound stems, reduplicated stems, and verbs derived by means of -ku. Examples of compound and reduplicated stems are:

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[1] One Yuulngu friend does in fact sometimes write this verb as ŋal'thun.

[2] See 4.3. for rule preventing bʌlʔyun ⟶ *bʌlʔbʌlʔyun.

11	[ŋʌḍɪʔʈuːkun]	*'sulky'* (ŋʌḍɪʔ *'dissatisfaction'*, ḍuːkun *'stomach/seat of emotions'*)
12	[mayʌlɪʔtjaᵘyun]	*'to draw a conclusion'* (mayʌlɪ *'meaning'*, djawyun *'to take'*)
13	[djɪkʌʔtjɪkʌr̃]	*'pimples'* (djɪkʌr̃ *'pimple* (sing.)*'*)
14	[guyuʔkuyukʌm]	*'to carry (plurality of the action)'* (guyukam *'to carry (single action)'*)

In reduplications indicating plurality such as examples 13 and 14, there is usually a transformation to [+tense] of the syllable immediately preceding the boundary (see 4.3. above). In both compounds and reduplications in rapid speech, it is often difficult to be certain that it is not a single fortis stop that is heard, rather than a sequence of glottal+stop. For example, [k] rather than [ʔk]. However, accepting that the glottal+stop sequence is the norm, this data can be accounted for by noting that between the roots of compound stems and reduplicated stems (that is, anywhere between roots within a stem), there is a distinct boundary type. This boundary includes the feature value [-seg] and can be symbolised as ++. We can then assume that when a fortis syllable encounters such a boundary, the glottal is retained as the manifestation of fortis syllable, rather than replaced by the feature value +tense in the stop. This allows these examples to be interpreted as:

12	[ŋʌḍɪʔʈuːkun]	→	/ŋaʈì++ʈū̀kun
14	[guyuʔkuyukʌm]	→	/kuyù++kuyùkam/

More difficult to account for, however, are some relatively rare occurrences of minimally contrastive sets of three words. Notice that in the following examples [b], [p] and the sequence [ʔ-p] are in opposition in inter-continuant position:

15	[buř̃buř̃yun][1]	*'to cry for the deceased'*
16	[buř̃puř̃yun][1]	*'to get stuck, bogged'*
17	[buř̃ʔuř̃yun][1]	*'to fall (leaves)'*. Possibly derived from a plural form of buř̃ʔyun *'to dance'*
18	[buɻbuɻyun][1]	*'to come in (of tide)'*
19	[buɻpuɻyun][1]	*'to burn (as a fire)'*
20	[buɻʔpuɻyun]	*'to swell'* (plural of buɻʔun *'to swell'*)

Similarly the examples 1 to 6 in 5.7.3. above exhibit an opposition between [k] and [ʔ-k]:

[1] Vocabulary items Lowe (n.d.).

1 [yɪndɪkum]

2 [yʌkuřkum]

3 [ma:řmʌ?kum]

4 [bu:ř?kum]

5 [wʌŋgañgum]

6 [djɪnbulkum]

The prosodic solution is, I believe, unable to account for this opposition between nontense stop, tense stop, and sequence of glottal+stop.

5.7.8. The **segmental solution** has been favoured by Lowe (1975). Its main advantage is that it alone can account for the data 1 to 6 and 15 to 20 above, since it assumes that there is an opposition between fortis and lenis stops in inter-continuant position. This opposition is neutralised elsewhere. This allows the interpretation of examples 15 to 20 and 1 to 6 as follows:

15 [buřbuřyun] → /puřbuřyun/

16 [buřpuřun] → /puřpuřyun/

17 [buř?puřyun] → /pùřpuřyun/

1 [yɪndɪkum] → /yintikum/

2 [yʌkuřkum] → /yakuřkum/

3 [ma:řmʌ?kum] → /mārmàkum/

4 [bu:ř?kum] → /puřkum/

5 [wʌŋgañgum] → /waŋkanjkum/

6 [djɪnbulkum] → /tjinpulkkum/

This solution has several disadvantages also:

(a) Loss of phoneme economy, as discussed in 5.7.2.(a) above.

(b) The literacy problem discussed in 5.7.2.(c) above.

(c) Failure to explain the absence within morphemes of fortis syllables preceding a stop as discussed in 5.7.3. and 2.4.4. above.

5.7.9. Conclusion

Of the three theories the segmental one is accepted here as the most viable solution. In addition, it is hypothesised that the development of two opposing series of stops has possibly taken a prosodic route. That is, at an earlier stage in the development of the Yuulngu languages, the prosodic solution was in fact valid; the feature value [+tense] in a tense stop was associated with the preceding syllable. At a later stage it became associated instead with the segmental stop.

6. PROTO-YUULNGU?

The material presented in 1.2.1., 1.3.2., 1.4.2., 1.4.4.(b), above suggests that Gaalpu, and by analogy the other Yuulngu languages, which display similar phonological characteristics, is descended from a language with a set of 16 segmental oppositions as shown in Chart 6 below:

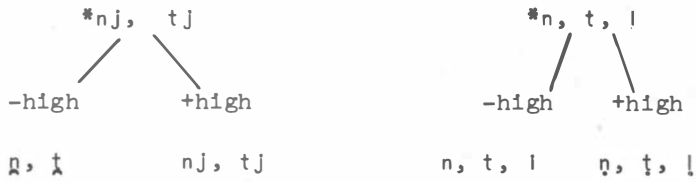
CHART 6

Hypothesised Proto-Yuulngu Oppositions.[1]

	coronal		noncoronal	
	laminal	apical	labial	dorsal
nasals	nj	n	m	ŋ
stops	tj	t	p	k
semivowels	y	r	w	
lateral		l		
vibrant		r̃		
vowels	i	u		
		a		

It is further hypothesised that three developments took place:

(a) The feature [high] became contrastive throughout the non-continuants, bringing about a split in the coronals:



(b) The stops developed a fortis versus lenis contrast (possibly as a result of assimilating the feature [tense] from the fortis syllable):

*ʈ	tj	t	ʈ	p	k	
	ʈ	tj	ʈ	t	p	k
⟶	↑	↑	↑	↑	↑	↑
	ɖ	dj	d	ɖ	b	g

[1] There is no attempt made here to speculate what the original features were dividing both coronals and noncoronals into two groups each.

(c) Contemporary with, or shortly after the development of the double series of stops, the lenition rule arose to maintain a single series in many communalects, the pattern of (b) above becoming realised as:

t	tj	t	t	p	k
	y		ḍ		w

APPENDIX 1

YUULNGU LITERACY

1. ORTHOGRAPHY

The orthography currently in use for all Yuulngu dialects throughout North Eastern Arnhem Land was developed by Ms. Beulah Lowe.

Its use is well established in four bilingual schools (Milingimbi, Galiwinku, Gapuwiyak, Yirrkala), in adult education, and in all written material for use within North Eastern Arnhem Land (e.g. town council affairs, church use, local notices, place and personal names). This orthography is set out in Chart 7 below.

CHART 7

Yuulngu Practical Orthography

	laminals		apicals		peripherals		
	-hi	+hi	-hi	+hl	-hi	+hl	glottal
stops: fortis	th	tj	t	t̲	p	k	'
stops: lenis	dh	dj	d	d̲	b	g	
nasals:	nh	ny	n	n̲	m	ŋ	
liquids: nonlat.			rr				
liquids: lateral			l	l̲			
semivowels:		y		r		w	
vowels: short		i		a		u	
vowels: long		e		ä		o	

Hyphen is used to mark root boundaries within compound stems:

buku-dhumuk	*'stupid'* (puku *'forehead/mind'*, ɻumuk *'blunt'*)

Voiced stop symbols are used in inter-continuant position for lenis stops. They are also used word-initially, and medially following nasals:

gadhubaḻa	*'paddle* (kaɖubaḻa)'
wargugu	*'sorrow* (waṛgugu)'
mengum	*'to forget* (mTṉkum)'
bunbu	*'house, building* (puṉpu)'

Apostrophe marking glottal is placed in syllable-final position:

warraw'	*'shade* (wařàw)'
rarr'yun	*'to throw* (ṛàřyun)'

1.1. *LITERACY PROBLEMS*

The problems discussed here are not the only ones encountered by people learning to read and write in their language with the Yuulngu orthography. They are however, some of the most persistent problems, with inconsistency in writing them continuing in the case of people who have been literate for quite some time, and who write well in most other respects.

1.1.1. As mentioned in 2.4.5. above, many if not all Yuulngu literates are inconsistent in their use of the apostrophe used to symbolise glottal. It is often left out where it belongs, and sometimes put where it does not belong. This may be due, at least in part, to the fact that it is taught as a **segment** rather than as a prosodic syllable feature. The method used to teach literacy in North Eastern Arnhem Land[1] is the Gudschinsky method, which teaches segments within the matrix of the syllable. Glottal is presented[2] as one of a sequence of sounds composing a syllable. However, if the analysis of glottal offered in this paper is correct, it would be better taught as a **prosody**; that is, as a **non-segmental** syllable feature. For example, the difference between ṛařyun and ṛàřyun might be taught as follows:

> 'The words rarryun and rarr'yun are different in that the first syllable of rarr'yun is hard and strong. To show this hard/strong pronunciation we put an apostrophe at the end of the hard syllable. This apostrophe is not the same as the letters of the alphabet, such as p, n, or l. It is just to show that rarr'- must be pronounced in a hard/strong manner.'

[1] In all places within the area as far as I am aware.

[2] Invariably, as far as I am aware.

It may be that, if glottal is taught in this way, it will be better understood by the new literate, and more consistently used. However, glottal is notorious as a difficult item to teach in many parts of the world, and a change in the way it is taught may not produce any significant results. I simply propose here that such an approach be experimented with.

1.1.2. A similar approach might be tried with vocoid length, with it being taught as a syllable feature rather than a feature of vowels. However, it should be noted that, whereas the evidence for a prosodic interpretation of glottal is quite strong, the evidence for such an interpretation of length is not. As stated in 5.6. above, the choice between a prosodic interpretation of length and a segmental interpretation is somewhat arbitrary, with the evidence for the former being only slightly stronger. Once again I merely propose an experiment.

1.1.3. Some experimentation in teaching the contrast between fortis and lenis stops based on the geminate and prosodic solutions (cf. 5.7.1,2,6.) may also be worthwhile. Although I have not been able to make either solution work, I do not consider it conclusive that neither is valid, and there remains some evidence for them for which the segmental solution does not provide an explanation (e.g. 5.7.6a.). It would be interesting to see if greater or lesser difficulties would be encountered by a person taught to read and write using one of these solutions.

APPENDIX 2

GLOSSARY OF VOCABULARY IN CHARTS 4 AND 5 (1.4.4.)

ʈalnjlř	*'foam'*
ʈalwaʈpu	*'turtle* (sp.)'
ʈuṛpu	*'behind, end'*
tjanŋař	*'hunger'*
tjlnmlṛ	*'edge'*
tjiřmaŋa	*'echidna'*
ʈařtjalk	*'clean'*
ʈuyŋà	*'shellfish* (sp.)'
paŋʈa	*'rock'*
palŋanak	*'balance'*
pālʈji	*'yam* (sp.)'
paṛka	*'upper arm/armlet/sleeve'*
plŋʈàřyun	*'to swear'*
punʈuř	*'crippled (of a bird)'*
puṛwù	*'flower'*
kakanŋàn	*'rash'*
kalkl	*'nearby/nearly'*
kantař	*'waist/middle'*
kaŋtjuřma	*'part of sorcerer's equipment'*
kařʈan	*'to get stuck, caught'*
kàywu	*'string bag'*
kaṛma	*'ceremony (in camp)'*
kuḍatpa	*'type of wood used for spear shaft'*
kūnjtjùy	*'beeswax'*
kuřŋàn	*'black/dark'*
kulku	*'many'*
kuṛtjal	*'plant* (sp.)'

nininjŋu	*'everlasting, great'*
matjka	*'strings worn on body'*
mattjuř	*'flying fox* (gen)'
manjmak	*'good'*
màntjař	*'leaf'*
manpaŋu	*'bird* (sp.)'
maŋmařk	*'scab, dandruff'*
maiʈanti	*'right in* (e.g. *knife penetrating)'*
malwaɾ	*'thin'*
maɭwiya	*'emu'*
maɾʈaŋa	*'ship'*
miʈtji	*'group, crowd, mob'*
muŋkuypa	*'sister (avoidance term)'*
muřyil	*'Torres Strait Pigeon'*
muɾnjàŋ	*'vegetable food'*
ŋanjpak	*'armlets'*
ŋaykam	*'to go* (plural)'
ŋultjiyi	*'to go out (fire, torch)'*
ɭinjku	'(verbal auxiliary, completive aspect)/*because'*
ɭiřwi	*'coals'*
ɭiɭpam	*'wide'*
ɭuɭnjìn	*'deep (hole or hollow)'*
ɾatjpa	*'pinkish bulldust/pink (colour)'*
ɾalpa	*'immediately, quickly'*
ɾuɳʈùyun	*'to rock gently, drowsily* (e.g. *boat, persons he person's head)'*
waŋpana	*'rain'*
wampal	*'lower leg/animal's tail'*
wařpuɾu	*'smell (scent, odor)'*
wařnju	*'flying foxes'*
wālŋa	*'alive/life'*
wìnku	*'parrot fish* (sp.)'
wìŋku	*'left hand'*
wiɾyař	*'turtle* (sp. *immature)'*
wūlma	*'thunder'*
yaɭŋař	*'shed skin of snake'*
yuʈuŋkuř	*'upper leg/tree root'*
yumuřku	*'little things* (e.g. *children)'*

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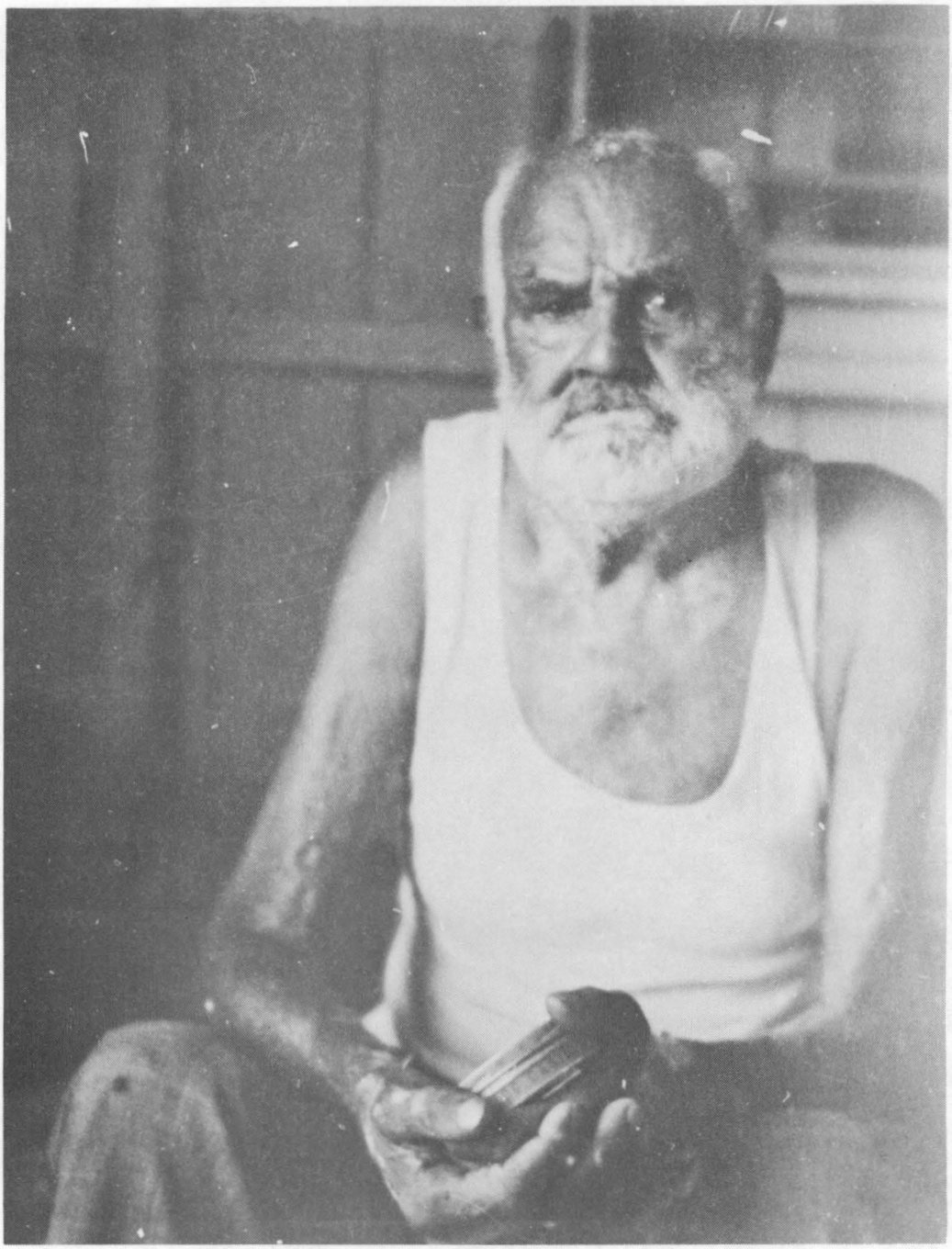
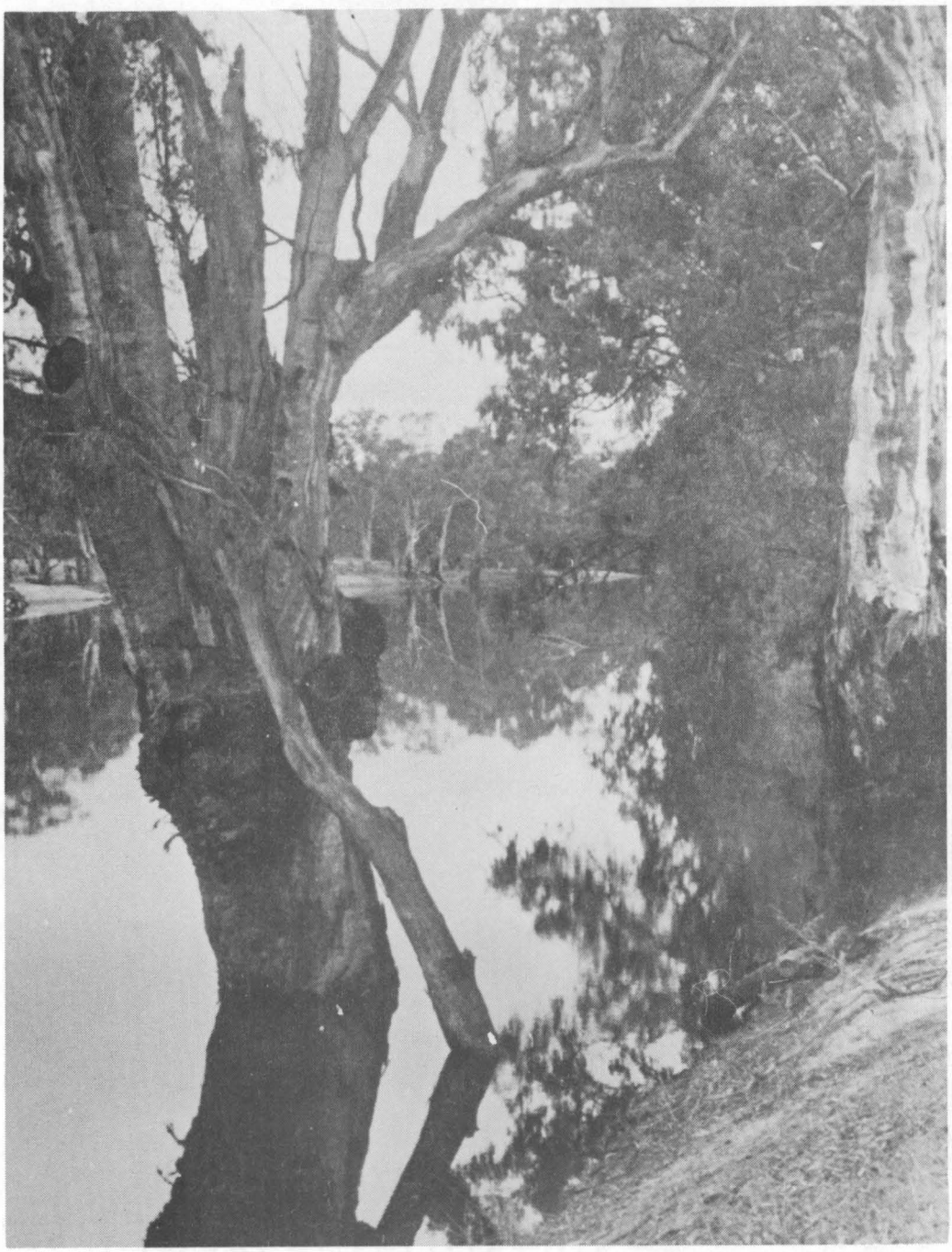


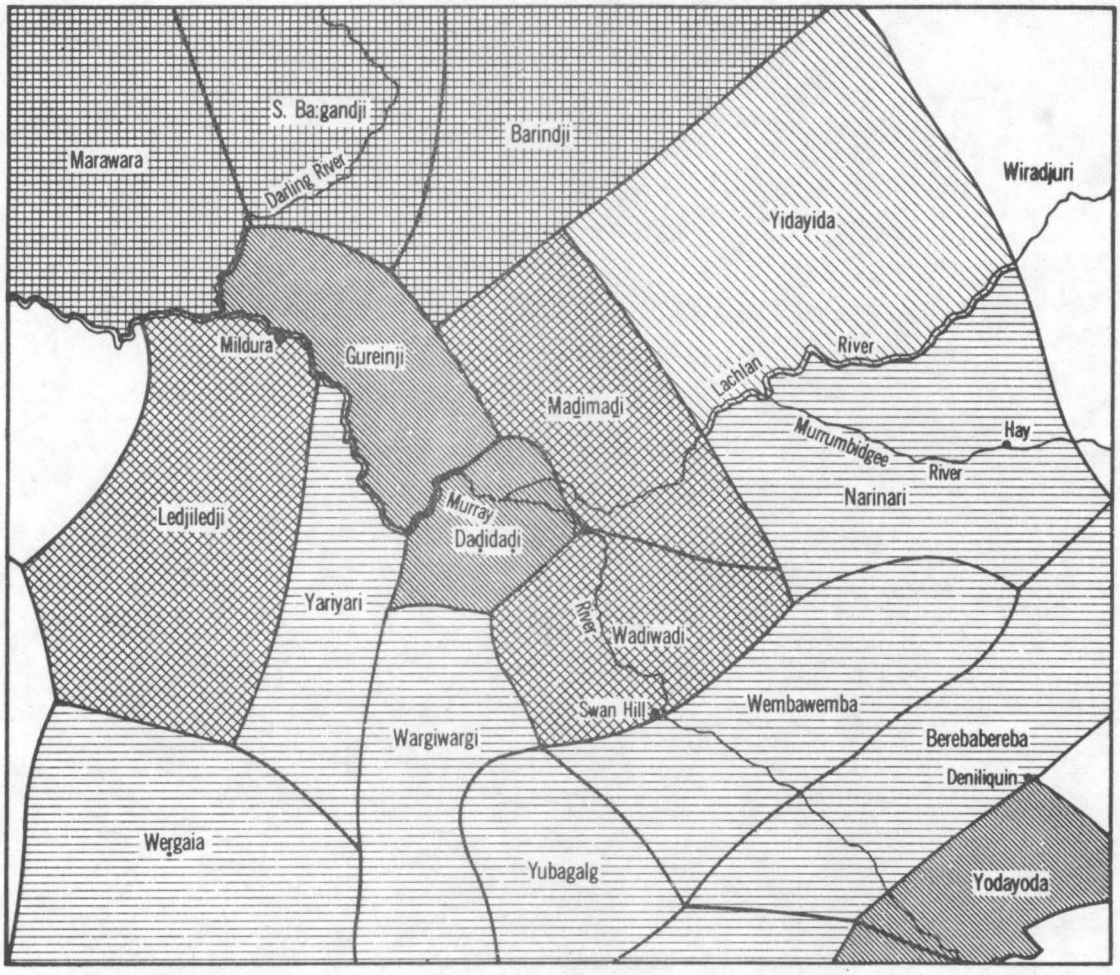
Photograph 1: Charlie Kirby of Balranald.

Photograph 2: Mrs. Mary Moore and one of her grandchildren.



Photograph 3: In Narinari Country.

Photograph 4: Jack Long.



The boundaries on these maps are based on Tindale 1974

Map 1. Language map

A NOTE ON NARINARI

L.A. Hercus

INTRODUCTION

Tindale (1974:197) gives the following information on Narinari:

> **Narinari** **Na:rina:ri**
>
> Loc. Southern bank of the Lachlan River from Booligal to near Balranald, up the Murrumbidgee River to Hay; south to about Booroorban. According to Cameron, the Narinari were also called Wathiwathi, my information suggests they were separate tribes.
> Coord. 144° 25'E x 34° 30'S.
> Area 3,500 sq.m. (9,100 sq. km.).
> Alt. None has been reported.
> Ref: Cameron 1885, Tindale 1940.

The entry in A. Capell (1963:12) is even more depressing:

> 'There is no information on this language'.

From the geographical position of Narinari there is no hope of hazarding a guess as to its linguistic affiliations: it is not in the middle of any obvious dialect chain. To the north Narinari borders on Yidayida.[1] This language was identical with Daḍidaḍi of the Euston area, as indicated by Radcliffe Brown (1918:249) and confirmed by Jack Long. Yidayida - Daḍidaḍi is known only from a very scanty grammatical sketch by R.H. Mathews (MS), some notes and a short vocabulary by J.A. Macdonald in Curr (1887:286) and some other brief vocabularies, particularly Larmer (1898), Beveridge in Smyth (1876:72) and Cameron (1885:347). Yidayida-Daḍidaḍi has been extinct for some time, but Jack Long recorded some vocabulary (Hercus 1969:141, 361). Yidayida-Daḍidaḍi belonged to the Upper Murray language group and was totally different from the Victorian type 'Kulin' languages which bordered Narinari to the south and south-east. To the north and north-east Narinari borders on the Wiradjuri language of central N.S.W. whose

affiliations are with languages further to the north, in particular with Waŋaybuwan-Ŋiyamba: (Donaldson 1976). Geographically therefore Narinari could be associated with any of these three groups.

1) The Upper Murray Languages
2) The Kulin Languages
3) Wiradjuric
   or possibly even with one other group.
4) Ba:gandji, from the Darling River.

There appeared to be no adequate information that might have enabled us to decide on any linguistic affiliation.

In the course of my work on Victorian languages I spoke on many occasions with Mrs. Mary Moore of Swan Hill who knew a few words of Narinari, some of these words were later confirmed by her son, Jack Wise of Coomealla. I felt uncertain about this information in view of possible confusion with neighbouring languages. Narinari therefore still had to remain as a blank in the map of language affiliations (Map 1, Hercus 1969 and 1974: map).

There seemed to be no chance of ever solving the problem. But in December 1976 Jack Long, the centenarian speaker of Maḍimaḍi happened to mention the Narinari. 'They had a lot of land, but somehow they all finished early. The last one that could still talk the language well was Angus Myers, but it wasn't his own language because he was a Yidayida'. Angus Myers was in fact R.H. Mathews's informant for Yidayida (Mathews MS). Jack Long himself had heard Daḍidaḍi-Yidayida and Narinari spoken in his youth and 'could join in if other Daḍidaḍi or Narinari people were talking' as well of course as being fluent even today in his own Maḍimaḍi.

With his usual clarity and concern for accuracy Jack Long recalled just a few words from this very distant past of the turn of the century.

List of Words

English	Daḍidaḍi	Maḍimaḍi	Narinari	(Weṛgaia	Wembawemba)
man	ṇana	wuḍuŋi	wuḍuŋ	(wudju	beŋ)
woman	beṛeb	layur	layurg	(layurg	lerg)
fire		wanabi	waṇab [wɔnʌp]	(wanjab	wanab)
water	ŋug	gaḍini	gayini	(gadjin	gadən)
stone	daṇga[2]	guḍabi	guḍab	(gudjab	lar)
sun	naṇg	ṇawiŋi	ṇawiŋ (?)	(ŋjawi	njawi)
tree		biyali	bayli	(biyal	biyal)
sky		dirili	diril	(direl)	
rain		miḍagi	miḍag	(midjag	miḍəg)

English	Daḍidaḍi	Maḍimaḍi	Narinari	(Weṛgaia	Wembawemba)
wind		wɪlaŋi	wɪlaŋ [wɪɪlaŋ]	(wɪla [wɪɪlʌ]	merinj)
foot	ḍin	ḍinaŋi	ḍinaŋ [ḍiⁿaŋ]	(djine	djinə)
arm		ḍaḍagi	ḍaḍjag	(dadj-	ḍaḍeg)
nose	gab	ḍɪndɪ [ḍɪ:ndɪ]	ḍɪndɪn [ḍɪ:ndɪn]	(ganj(ug)	gar)
bread	ḍarugi (?)	banemi	banɪm [baⁿɪm]	(banjim	banem)
dog		wiraŋan	gall [gallɪ]	(gai	wireŋən, gall)
kangaroo	bɪguru	bugumanama			
musk-duck		ḍiŋguru			
no	yida	maḍi	nari [na:rɪ]	(weṛgaya	wemba)

This list represents an approximate phonemic rendering of the Daḍidaḍi, Maḍimaḍi and Narinari words recorded by Jack Long. Phonetic details have been supplied where appropriate and the corresponding Weṛgaia and Wembawemba forms have been added in brackets for comparison.

Jack Long confirmed the view of Cameron (1885) and others that nari means *'no'*: the entry in Hercus (1969:160), therefore, needs to be corrected.

The Position of Narinari.

This list may seem pathetically small, but the comparative data we have from work on the Kulin languages enable us to arrive at a number of conclusions. The most important and obvious of these is that Narinari is a Kulin language. The linguistic affiliations with the Kulin group are clear, but interestingly enough the Narinari vocabulary appears to be similar to the more distant Weṛgaia of the Lake Hindmarsh area rather than to the immediately adjoining Maḍimaḍi.

The information from the short Narinari vocabulary further enables us to obtain a clearer picture of the geographic extent of certain phonotactic and phonemic features which are of particular interest in Aboriginal languages.

(a) Vowel Length

Vowel length is phonemic in Ba:gandji (Hercus MS), in Wiradjuric (Donaldson 1976) and in Yidayida-Daḍidaḍi (ŋug : ŋu:g, Hercus 1969:362), but not in the Kulin group. Although nothing conclusive can be said from the small specimen of Narinari that has been recorded, it would nevertheless seem that length in Narinari was conditioned in the same

way as in other languages of the Kulin group. Only two words with long vowels were noted: [dl:ndɪn] and [na:rɪ], and two occur in the words previously recorded from Mary Moore [ml:m] *'cousin'* and [nje:mbʌ] *'to sit'*. These last two words and [dl:ndɪn] show length in accordance with rules in Madimadi (Hercus 1969:153) and similar rules in Wembawemba (ibid.:30) and Werǧaia (ibid.:120) prescribing length of accented vowels before final nasals and before medial nasal + plosive clusters. [na:rɪ] is consistent with the lengthening before -r- which is to be found in Werǧaia. With regard to non-phonemic vowel length, therefore, Narinari appears to be in line with the other Kulin languages.

(b) Gemination of Consonants.

Gemination of consonants after accented vowels is a widespread regional development in the east of South Australia and western N.S.W.: it is a conspicuous phonetic feature of Maljaŋaba and Ba:gandji. The Kulin languages on the whole do not show gemination of consonants after the accented vowel, it is unknown in Wembawemba and Madimadi. In Werǧaia, however, -l- is geminated after the tonic vowel as in [wɪllʌ] *'wind'*, [ballʌk] *'lark'*. This is exactly parallel to the situation in our Narinari fragments: [wɪllәŋ] *'wind'*, [gallɪ] *'dog'*.

In Narinari it seems that also -n- after an accented vowel was lengthened, but at least in our fragments it was only lengthening and not full gemination as in the case of -l-. This minor phonetic feature was not shared by the main Kulin languages, but there is evidence to show that it occurred in Wadiwadi. Thus even with regard to gemination, Narinari is consistent with the Kulin language group.

(c) Laminals.

The Kulin languages bear out R.M.W. Dixon's contention that 'Proto-Australian had a single laminal series' (Dixon, 1970). Only Wembawemba has any laminal contrast, and that contrast is limited. The new evidence of Narinari is too slight for any conclusions on this difficult topic, but the use of different laminals in

mɪd̪ag *'rain'*

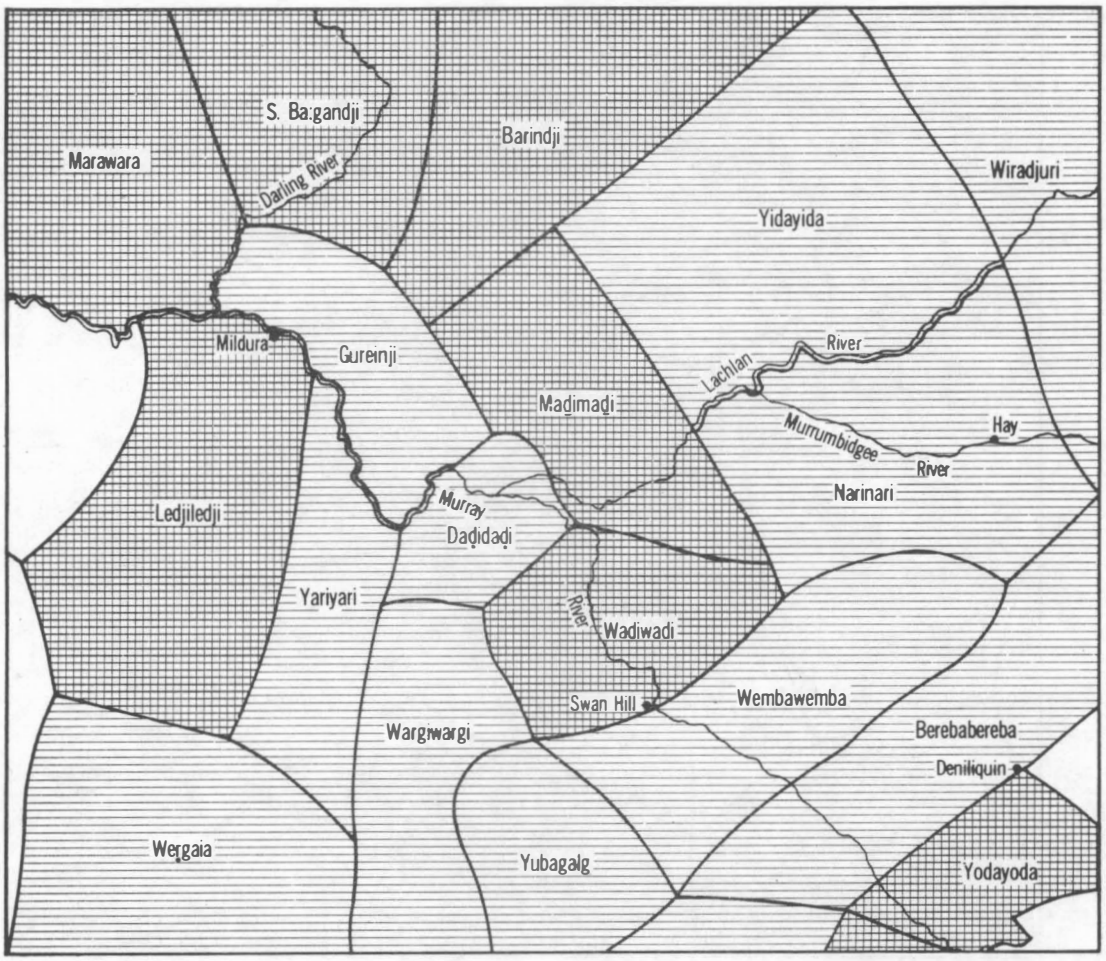
and

d̪adjag *'arm'*

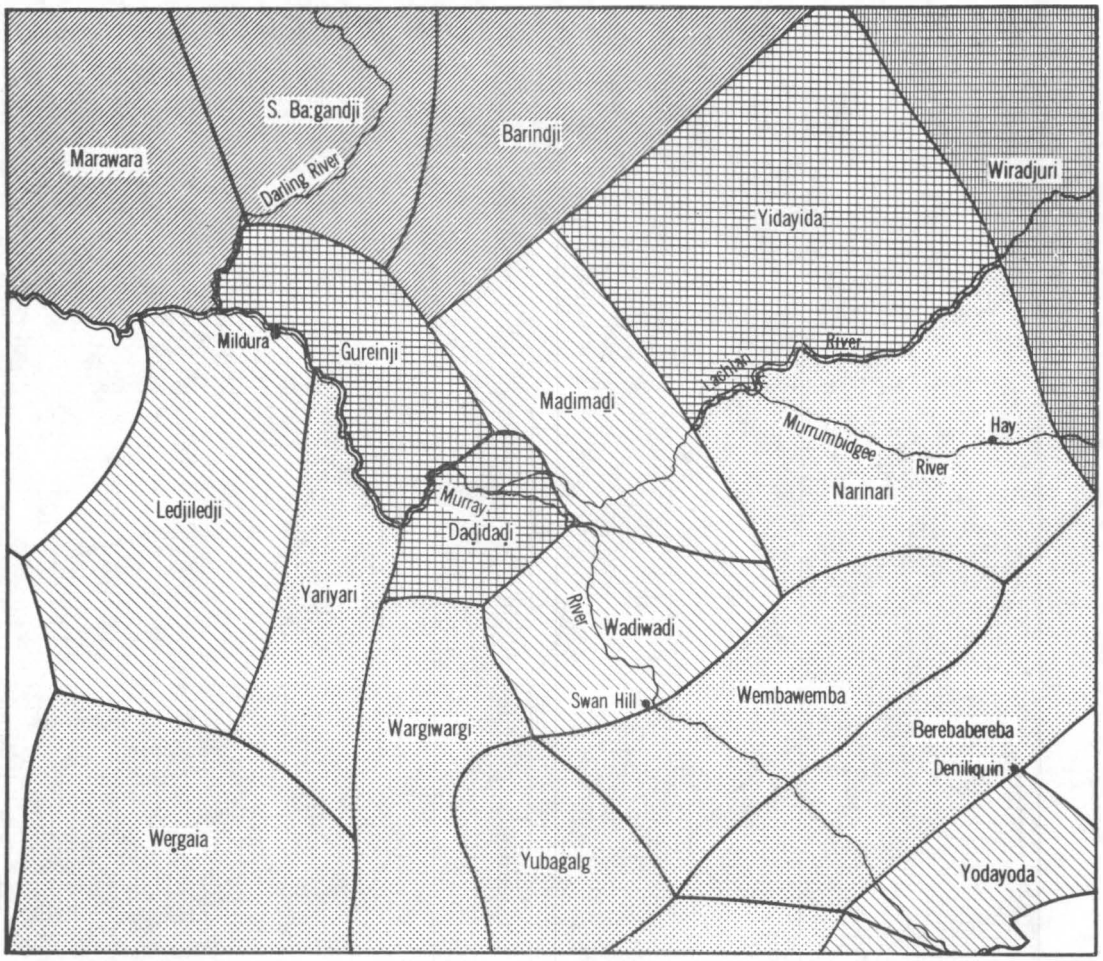
seems to point towards the possible presence of two laminal plosive phonemes in Narinari, as in Wembawemba.

(d) Finals.

(i) In the standard Kulin languages, both eastern and western, as exemplified by Werǧaia, Wembawemba and Woiwuru, a word can end in any



Map 2. Monosyllables



No final consonants

Only vowels and continuants common in final position, very few plosives, no final clusters

Only vowels and continuants in final position

Final plosives common, some clusters

Final plosives common, numerous clusters

Map 3. Final consonants

consonant whatsoever, plosive, nasal, lateral or vibrant, as well as any vowel. Final clusters consisting of vibrant + peripheral plosive are also permissible. It is clear that Narinari follows this pattern.

(ii) In the Murray River languages as exemplified by Yidayida-Daḍidaḍi the preference for final consonants and clusters goes further and final nasal + plosive clusters are common. (The occurrence of initial r- is also a conspicuous characteristic of this group.)

(iii) The Wiradjuric group prefers final vowels but final nasals and laterals are also permissible.

(iv) The Ba:gandji or Darling River language group has only vowels in final position.

(v) Maḍimaḍi and, as will be seen Wadiwadi, are aberrant from the main Kulin group with regard to finals and approximate to the Darling River languages: practically all words end in vowels. Final plosive consonants are most exceptional; final nasals, -l and -r occur occasionally.

Narinari, belonging to group (i) is therefore standard Kulinic and more clearly connected with Weṛgaia and Wembawemba in this respect than with Maḍimaḍi.

(e) Word-length and Accentuation.

The preference for vocalic endings means that normally Maḍimaḍi (and Wadiwadi) words are longer by one syllable than the corresponding words in neighbouring Kulin languages: Maḍimaḍi wanabi *'fire'*, Wembawemba wanab.

Not only does the length of Maḍimaḍi words differ from standard Kulin, but also the accent which falls on the second syllable if this begins with an intervocalic non-peripheral consonant: Maḍimaḍi [wanǽ.pɪ], Wembawemba [wǽnʌp]. Narinari is again unlike Maḍimaḍi in this respect and is in agreement with the other Kulin languages: in all the words recorded the accent falls on the first syllable, as in Weṛgaia and Wembawemba.

It seemed that in Maḍimaḍi (Hercus 1969:161) there was a suffix -i,[3] -ŋi that was added to the majority of nouns in the nominative/accusative. This would account for instance for the Maḍimaḍi wuḍuŋi as opposed to Weṛgaia wudja *'man'*, or wileŋi as opposed to wile *'possum'*. -ŋi, I thought, was simply the post-vocalic allomorph of -i. In purely descriptive terms such an analysis of the Maḍimaḍi situation is justifiable (nom/acc. -i, -ŋi: general oblique -a, -ga as in wuḍuŋi, obl. wuḍuga). But the Narinari evidence, limited as it is, still shows that historically the matter was different. Narinari has what looks superficially like an intermediate form with final -ŋ, where Maḍimaḍi has final -ŋi and Weṛgaia and Wembawemba have zero as in:

	Madimadi	Narinari	Wergaia
sun	ŋawiŋi	ŋawiŋ	njawi
foot	dinaŋi	dinaŋ	djine

Narinari in fact gives strong support to the views of A. Capell (1956: 84). He contended that final -ŋ (which is found particularly in the Eastern Kulin languages, e.g. Woiwuru djinaŋ *'foot'*) was 'original Australian' in such words but has been generally lost. Narinari can thus be regarded as preserving the original form, while Wergaia and Wembawemba have lost the final -ŋ.

Madimadi (and Wadiwadi) has simply added final -i, as in the rest of the vocabulary, thereby forming a tri-syllabic word.

wuduŋi, dinaŋi thus correspond to wuduŋ, dinaŋ
in exactly the same way as
wanabi corresponds to wanab.
Historically there is then no suffix -ŋi, only the preservation in the nominative of the old final consonant -ŋ, which was thus characteristic of the Western Kulin languages as much as of Eastern Kulin.

The evidence of Narinari, however slight, is therefore of vital significance not only in the history of the Kulin languages, but for Proto-Australian as well.

Comments on Wadiwadi.

A comparison between the new Narinari data and old published Wadiwadi materials fully confirms Tindale's view that Wadiwadi and Narinari are not identical. Linguistically it can in fact be shown that Wadiwadi formed a very close group with Madimadi and Ledjiledji but differed considerably from Narinari, Wergaia and Wembawemba.

The old published material on Wadiwadi is relatively extensive, but of indifferent quality, apart from the Piangil vocabularies by Macredie and by Curr in Curr (1887:448 and 450), much of it is the work of Peter and John Beveridge, who lived at the famous Tyntynder homestead on the Murray downstream from Swan Hill. Both brothers obviously had considerable knowledge of Wadiwadi, though they made mistakes which already Curr noticed. They had little sympathy or understanding for the language. Peter writes (1884:83) 'These dialects are quite innocent of anything in the shape of grammar' and 'the dialects of these people are about as meagre in quality and quantity as they can well be'. John Beveridge has contributed a vocabulary and some phrases to Curr (1887:439) but his attitude carried through to Curr himself who writes: 'In addition to the foregoing phrases and short dialogues Mr. Beveridge sent me many others which I have not thought it necessary to insert. Though they

show well the rude form of conversation prevalent in our tribes...'. Nevertheless, the works of the Beveridge brothers are important in that they give us information on Wadiwadi. A few of the words and phrases from Curr (1887:441) are given here, followed by the corresponding Madimadi forms, in order to show the close similarity between the two. Comparative material in Ledjiledji from the Kulkyne[4] area has also been been given.

Wadiwadi sentence	Madimadi
(Do) you see that woman	
'nginna ngakin ngata laioor'	ŋindi ṇag-in maṇi layur
	you NOM *see*-PAST *that woman*

'nginna'was probably [ŋina] with lengthening of n. Beveridge frequently also writes 'nginma'. The view was that -n- as well as -l- was lengthened after the main accent is supported by numerous spellings such as 'chellingoo', *'tongue'*, 'liannoo', *'teeth'* and similar instances in Ledjiledji such as 'nginna', *'you'*, 'jennagi, chinnangi', *'foot'*. '-nn-' is particularly noticeable in these old Wadiwadi and Ledjiledji vocabularies. This cannot be regarded as proof, only as an indication: spellings of this kind are not reliable,'-nn-' was often also written last century for simple -n-, or for interdental -ṉ-.

Wadiwadi sentence	Madimadi
By and by many Blacks will arrive	
'Darti koko woortongi barnin'	daḍi biṉ - inj gugu wuḍuṇi
	soon come - FUT *many man*

'woortongi' implies that Wadiwadi had the same suffix -i as Madimadi,[3] with conservation of the original final -ŋ as discussed above,

	Wadiwadi	Ledjiledji	Madimadi	Narinari
man	'woortongi'	'woortongi'	wuḍuṇi	wuḍuŋ
wind	'weelangi'	'wilangi'	wilaṇi	wilaŋ
ground	'thungi'	'gangi, janji'	daṇi	
fire	'wurnaway'	'wunabi'	wanabi	wanab
	'woonobi'			

This reflects the opposition between Narinari on the one hand, and the Wadiwadi group on the other.

Wadiwadi sentence	Madimadi
How many Tommy got wife	ṇabu Tommy maŋgaḍa maḍim - u
'Anaboo Tommy magna murtamoo'	*how-many Tommy take* PRES *spouse* 3sg POS

'murtamoo' shows that Wadiwadi, like the other two dialects of this group had a 3rd person singular possessive marker -u, as opposed to the general Kulin -ug: Wembawemba maḍimug *'his spouse'*.

There are numerous examples in the old vocabularies to illustrate this, e.g.

	Wadiwadi	Ledjiledji	Maḍimaḍi	Wembawemba
egg -(its)	'mikko'	'mirkoo'	mɪgu	mɪɽgug
child (her)	'pinko' baɪŋgu	'piungo'	baɪŋgu	baɪŋgug
children (her)		'paimbango'	baɪŋgu	bembeŋgug

Likewise the first person singular possessive marker is -aɪ throughout the Wadiwadi group, but -eg elsewhere in the Western Kulin languages:

	Wadiwadi	Ledjiledji	Maḍimaḍi	Wembawemba
father-mine	'marmi'	'mamai'	mamaɪ	mameg

These forms of the possessive are indicative of the absence of final -g as in

	Wadiwadi	Ledjiledji	Maḍimaḍi	Narinari	Wembawemba
woman	'laioor'	'laiyoo'	ɪayur	ɪayurg	ɪerg

The three dialects Maḍimaḍi, Ledjiledji and Wadiwadi differed in some items of vocabulary, but they are striking in their unity with regard to the possessive suffixes and in other respects. They contrast with Narinari and the other standard Western Kulin languages. There can thus be no question of Narinari and Wadiwadi being the same.

N O T E S

1. The plosive in the name Yidayida was heard as distinctly alveolar, not interdental, from Jack Long, Mary Moore and Charlie Kirby. This is also in agreement with Tindale (1974:194).

2. ɖaŋga does not correspond to the words for 'stone' given for Yidayida by J.A. Macdonald (Curr 1887:286) and by Beveridge in Smyth 1878:72, it does however correspond to the entry by Jamieson (ibid.:74) 'thank, stone'.

3. It has been pointed out by M.A. Macdonald (MS) that in Yaraldi on the Lower Murray all nominative and accusative forms of the singular pronouns end in -i and that there is an optional suffix -i that was often added to mark the singular of nouns. This Yaraldi usage could be related to the Werɣaia situation where -i fulfils the function of a 'vocative and particularising suffix' (Hercus 1969:127). In Maɖimaɖi -i was not optional, it was obligatory:

   a) as a nominative marker in the personal pronouns which show a nominative-accusative distinction, yidi *'I'* (cf. Wembawemba ŋjed), ŋindi *'you'*.
   b) as a nominative-accusative marker in the demonstrative pronouns which follow an ergative system: ɖuli, ɖuɖi, ɖuwi, giɖi, ɖini, etc.
   c) as a nominative-accusative marker in the majority class of nouns and adjectives.

The use of the suffix -i thus shows a gradation in the better-known languages of the area

   1) Yaraldi - pronominal nominative and accusative singular and optional nominal singular marker;

2) i) Wembawemba - vocative marker for kinship terms and certain adjectives;
   ii) Werɣaia - vocative and particularising suffix.
3) Maɖimaɖi - obligatory nominative marker for pronouns and most nominals, i.e. maximum extension of suffix -i.

The wide use of the suffix -i had the effect of ELIMINATING ALL MONOSYLLABLES from the Maɖimaɖi language, and it therefore brought Maɖimaɖi into line with the nearby Ba:gandji language group which had no monosyllables. The use of the suffix -i also had the effect of eliminating final consonant clusters and of inhibiting imparisyllabic declension.

The origin and wider associations of this suffix still need to be investigated further, there are a number of possible though not necessarily probable cognates far afield such as for instance the 'irregular' nominative forms of the noun markers of class I in Djirbal (bayi, giyi, in Dixon 1972:44).

4. The Kulkyne and Bumbang vocabularies given in Curr (1887:454 and 452) are in Ledjiledji, as well as the Kulkyne vocabulary contributed by Angus MacIntyre to Smyth (1878:70). But the vocabulary also labelled 'Kulkyne' and obtained by Smyth himself 'from a native named Wye-wye-a-nine' (1878:71) is pure Wembawemba and even the phrases given there are only comprehensible in the light of Wembawemba, not Ledjiledji, e.g.

parry ang all kooray
we will look out kangaroo

is Wembawemba

baṛaya -ŋal gure
chase PRES -1 Dl *kangaroo*

we two are chasing kangaroos

man -ak buiedya kooyon
You bring him two fellows' spear

is Wembawemba

man -ag buiedya guyun
bring-Impv Sg *two* *spear*

bring two spears

Ledjiledji, as can be gathered from other sources, has goyangi, *'kangaroo'*, and kooiooni, *'spear'*.

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ILLUSTRATIONS

1. The renowned Charlie Kirby of Balranald (about 1870 - 1964), a first generation half-caste, was the last man of part Yidayida descent; but he spoke Waŋaybuwan. He was joking on this occasion: 'I am a Yidayida black, so I had better look fierce'.

2. Mrs. Mary Moore (born about 1885) and one of her grandchildren near her camp by the Murray at Swan Hill (1964).

3. In Narinari country.
   The Murrumbidgee above Balranald.

4. Jack Long.

M A P S

Map 1 shows the genetic affiliations of languages in the area.

Maps 2 and 3 show regional features that cut across genetic boundaries.

THE MURINBATA MODE OF EXISTENCE

Chester S. Street & Harry Palada Kulampurut

The Murinbata[1] show by the choice of six existential verbs the mode of existence of all items of reality. This is twice as many existential verbs as are reported for the Western Desert Languages (Douglas 1976).

1. EXISTENTIAL VERBS AND CLASSES OF ITEMS

These existential verbs are listed below together with the items of reality that are normally used with each verb:

1.	to exist (sitting)	man, wallaby, turtle, crab, rainbow, billabong, cave, hill
2.	to exist (lying)	baby, dog, snake, lizard, goanna, worm, crocodile, fish (caught), long food (out of ground/water e.g. yam), boomerang, clapsticks, knife, road, river (not flowing), log, book, clothes
3.	to exist (standing)	dingo, buffalo, horse, bird's nest, sugarbag (wild honey), trees, plants, stone, sand, sun, moon, stars, rain, water, fire, smoke, cloud, didjeridu, axe, spear, billy can, house, shelter, truck, aeroplane, damper, food in ground or water (e.g. yam, water lily, etc.)

[1]Murinbata belongs to the Garaman Language Family, and is spoken by approximately 900 people, the majority of whom live at Port Keats, Northern Territory, 250 kilometres to the south-west of Darwin, Australia.

All the information for this paper was given and later re-checked by Harry Palada Kulampurut; these data were put together by Chester S. Street of the Summer Institute of Linguistics, Australian Aborigines Branch. Thanks are due to Mike Ray and Alan Healey, also of the Summer Institute of Linguistics, who gave useful comments in the format and wording of this paper.

4.	to exist (aloft)	fruit on tree, birds
5.	to exist (moving (1))	fish, wave, river (flowing), ocean, beach, fence, aeroplane (flying)
6.	to exist (moving (2))	as for No. 5

Note: The human, non-human and moveable inanimate items (see page 137 for description of these terms) can be described by more than one existential verb, depending on their physical orientation, but what has been listed is regarded as the normal physical orientation for these items. For instance, 'man' is described by the existential verb 1 (sitting), but could also be described by any of the other five existential verbs depending upon his physical orientation.

Explanation of some terminology used in the following examples:

Paucal (pc):	refers to a group numbering from 3 to approximately 15.
Plural (pl):	refers to a large group numbering from about 15 upwards.
Male (m):	refers to a total male group.
Female (f):	refers to a group of whom at least one is a female.
Sibling (s):	refers to a group of at least 2 brothers or sisters, or both, both real and classificatory.

The abbreviations of these terms used in the following examples have been shown in parenthesis.

NC	denotes noun class, of which there are nine.

Examples:

1a. nukunu kem kanhl
he exist(sg-*sitting*) *here*
'He's here.'

1b. ku lawarnka kem pangu
NC *wallaby exist*(sg-*sitting*) *over there*
'The wallaby is over there.'

2a. kardu wakal kablm kanhl
NC *baby exist*(sg-*lying*) *here*
'The baby is here.'

2b. nanthl book kabimnlntha kanhl
NC *book exist*(dual m-*lying*) *here*
'The two books are here.'

3a. thay karrlm pana
tree exist(sg-*standing*) *there*
'The tree is there.'

3b. warnak karrlm pangu
smoke exist(sg-*standing*) *over there*
'The smoke is over there.'

4a. ku kalampitplt kanthlm pangu
NC *peewee exist*(sg-*aloft*) *over there*
'The peewee is over there.'

4b. mi yldi kanthimkaneme pana
NC *apple exist*(pc m-*aloft*) *there*
'There are a few apples (wild) there.'

5a. nglpilinh kurran pana
river exist(sg-*moving*) *there*
'The river is there.'

5b. penlngintha kurranngintha pangu
pronoun *exist*(dual f-*moving*) *over there*
'The two women are over there.'

6a. nanthl aeroplane kunungam kem pangu
NC *aeroplane exist*(sg-*moving*) *over there*
'The aeroplane is over there.'

6b. ku ngurlmirl kunungam kem pana
NC *fish exist*(sg-*moving*) *there*
'The fish is there.'

2. VERB PARADIGMS

In Table 1 overleaf are the paradigms of the six existental verbs which show the modes of existence. Each verb has eight forms depending upon number, and for some, on sex and kinship also.

Note: Movement (1) usually signals movement toward the speaker for any human or non-human items, while movement (2) usually signals movement in any other direction for human and non-human items.

TABLE 1.

	1. to exist (sitting)	2. to exist (lying)	3. to exist (standing)
singular	kem	kabim	karrim
dual male	kemnintha	kabimnintha	karrimnintha
dual female	kemngintha	kabimngintha	karrimngintha
dual sibling	karrimka	karrimka	kibimka
paucal male	karrimkaneme	karrimkaneme	kibimkaneme
paucal female	karrimkangime	karrimkangime	kibimkangime
paucal sibling	karrim	karrim	kibim
plural	karrim	karrim	kibim
	4. to exist (aloft)	5. to exist (moving (1))	6. to exist (moving (2))
singular	kanthim	kurran	kunungam kem
dual male	kanthimnintha	kurrannintha	kunungamnintha kem
dual female	kanthimngintha	kurranngintha	kunungamngintha kem
dual sibling	kanthimka	kumpanka	kunnungamka karrimka
paucal male	kanthimkaneme	kumpankaneme	kunnungamkaneme karrimka
paucal female	kanthimkangime	kumpankangime	kunnungamkangime karrimka
paucal sibling	kanthim	kumpan	kunnungam karrim
plural	kanthim	kumpan	kunnungam karrim

3. DERIVATION OF EXISTENTIAL VERBS

These existential verbs are defective in that they only occur for third person, and only take present tense.

Example:

The verb 'to sit' (singular form only)

	past tense	present tense	future tense
1st person	nginidha	ngem	nginu
2nd person	thinidha	thim	thinu
3rd person	dinidha	dim	pinu
3rd person (exist.)	——	kem	——

4. USE AND RESTRICTION OF VERB FORMS

Table 2 shows, for all six paradigms, the usage and restrictions of these affixed forms of the existential verbs with all items of reality. All items are here grouped into three main categories: human, non-human (animals, birds, marine life, insects, etc.) and inanimate (trees, rocks, water, etc.)

TABLE 2

human	non-human	inanimate	
x	x	x	singular
x	x	x	dual male
x	x		dual female
x	x		dual sibling
x	x	x	paucal male
x	x		paucal female
x	x		paucal sibling
x			plural

These three categories of items occur with the number-sex-kinship affixation as follows:

Human: The only class of items of reality that can use all forms of the existential verbs.

Non-human: All forms of the existential verbs can be used except for the plural. Plurality is expressed by the special forms kem and kurran as described below. The forms dual female, dual sibling, paucal female and paucal sibling are not common, as their use presupposes that the sex and relationship of the animal is known. However, when it is known (e.g. a dog) then these forms are used. When the sex or relationship is not known the male form is always used.

Inanimate: Only three forms are used here. Dual and paucal always use the male forms, as there is no distinction of sex or relationship with inanimate items. The plural form is not used, but the special plurals kem and kurran are used as with the non-human categories.

5. SPECIAL PLURALS KEM AND KURRAN

As was mentioned above, the plural non-human and inanimate categories do not use the normal plural verb form, but rather revert to the use of kem or kurran which are normally singular forms (see paradigms 1 and 5). These are substituted for the plural of all six existential verbs.

kem - When used as a plural verb, kem carries the meaning of a group or heap of items.

Examples:

1a. thay karrim pana
tree exist(sg-*standing*) *there*
'The tree is there.'

1b. thay kem pana
tree exist(pl) *there*
'Many trees are there.' or *'There is a stand of trees there.'*

2a. thungku thay kabim kanhi
fire stick exist(sg-*lying*) *here*
'The firewood (one piece) is here.'

2b. thungku thay kem kanhi
fire stick exist(pl) *here*
'There is a heap of fire wood here.'

3a. ku murrurrbe kanthimkaneme pangu
NC *bird exist*(pc m-*aloft*) *over there*
'There are a few birds over there.'

3b. ku murrurrbe kem pangu
NC *bird* *exist*(pl) *over there*
'There is a flock of birds over there.'

kurran - When used as a plural verb, kurran carries the meaning of a group of items running along in a line, as well as movement in any direction of a group of items.

Examples:

1a. thelput karrimnintha pana
house *exist*(dual m-*standing*) *there*
'The two houses are there.'

1b. thelput kurran pana
house *exist*(pl) *there*
'There is a row of houses there.'

2a. nanthi palyerr karrim pangu
NC *stone* *exist*(sg-*standing*) *over there*
'There is a stone over there.'

2b. nanthi palyerr kurran pangu
NC *stone* *exist*(pl) *over there*
'There is a row of stones over there.'

Non-human and inanimate items of reality of paradigms 1 and 5 use kem and kurran in both the singular sense and the plural sense.

Examples:

1a. ku lawarnka kem kanhi
NC *wallaby* *exist*(sg-*sitting*) *here*
'The wallaby is here.'

1b. ku lawarnka kem kanhi
NC *wallaby* *exist*(pl) *here*
'There is a mob of wallabies here.'

2a. ku lathparr kurran pangu
NC *duck* *exist*(sg-*moving*) *over there*
'The duck is over there.'

3b. ku lathparr kurran pangu
NC *duck* *exist*(pl) *over there*
'There is a flock of ducks over there.'

So for these particular items, unless the context is clear regarding the number of items, an extra word may have to be added to the construction for clarity, giving the meaning of many: wurnangat or teret

Example:

1. ku lawarnka teret kem pangu
   NC *wallaby many exist*(pl) *over there*
   'There is a mob of wallabies over there.'

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DJAMBARRPUYNU CLAUSES

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ABBREVIATIONS

Cl	Clause
compl.asp	completive aspect
cont	continued
di	discourse particle
dir	direction
emph	emphasis
Erg.Subj	Ergative Subject
excl	exclamation
grandfr	grandfather
gr+grandfr	great-grandfather
hab.asp	habitual aspect
incl	inclusive
Ind	Indirect
ind.obj	indirect object
ind.o	indirect object
Nom.Subj	Nominative Subject
obj	object
pl	plural
Plural.excl	plural exclusive
poss	possessive
Pin	Intransitive Predicate
Ptr	Transitive Predicate
Pdt	Ditransitive Predicate
Pst	Semitransitive Predicate
Pex	Existential Predicate
Pde	Descriptive Predicate
Peq	Equational Predicate

Plo	Locational Predicate
refl	reflexive
rel	relation
Se	Ergative Subject
Semitrans	Semitransitive
Sn	Nominative Subject
Subj	Subject
Trans	Transitive

0. INTRODUCTION

The purpose of this paper is to describe the clause structure of Djambarrpuyŋu, using Longacre's (1964) tagmemic approach. Djambarrpuyŋu has eight types of clause structure. It uses three different case-marking systems, depending on the word class of the nominal. It uses an accusative system for pronouns, an ergative system for demonstratives and for animate nouns in an unambiguous context, and a hybrid of the two systems for personal nouns and for animate nouns an ambiguous context.

Djambarrpuyŋu is the language of approximately 250 people in North-East Arnhem Land, Northern Australia, living at Elcho Island, Milingimbi and Lake Evella. It is also becoming the lingua franca for children and young people of several other North-East Arnhem Land dialects, in preference to their fathers' tongues, thus increasing the number of Djambarrpuyŋu speakers by several hundred.

Most Djambarrpuyŋu speakers have a high level of comprehension of several related dialects, and varying degrees of comprehension of English. Very few if any are fluent English speakers.

Djambarrpuyŋu is a dialect in the Murŋgic family of languages, as listed in Voegelin and Voegelin (1977:241).

The author has had limited exposure to Djambarrpuyŋu and several related dialects for eight years, with a more specific interest for four years, as a member of the United Church in North Australia. Most of the data used in this analysis was collected in the four months March-June 1977. Appreciation goes to Wanymuli and to Stephen Bunbatju for their help in providing text and their patience during elicitation.

This paper was written during a workshop conducted at the Summer Institute of Linguistics in Darwin in July-August 1977. The author is grateful to Alan Healey for consultant help in the write-up of this paper, to Beulah Lowe for the use of her "Grammar of Gupapuyŋu", and to Joyce Ross for the use of her "Gumatj Clauses".

The literacy orthography used in Djambarrpuyŋu examples in this paper is in line with that of other written North-East Arnhem Land dialects:

Vowels a, i, u are symbolised in their lengthened form by ä, ë, o.
Interdentals are symbolised by digraphs nh, dh, th.
Alveolars are written as t, d, n, l.
Retroflex alveolars are written as ṯ, ḏ, ṉ, ḷ, r.
Alveopalatals are written as tj, dj, ny.
Bilabials are written as p, b, m.
Velars are written as g, k, ŋ.
Alveolar flap is written rr.
Glottal stop is symbolised by '.
y and w symbolise the same continuants as in English.

Throughout the examples given in this paper a suffix identified by the gloss di occurs frequently. This is a discourse particle which could be loosely identified as:

-na ∿ -a ∿ -n-nha *'inception or focus'*

-ny ∿ -nydja ∿ -dja ∿ -tja *'intensity or termination'*

A more specific identification requires extensive analysis.

All Djambarrpuyŋu verbs have four forms that are labelled primary, secondary, tertiary and quaternary for convenience. The first three forms are unaffixedm but other parts of speech, nouns, adjectives and adverbs, can be derived from the quaternary form by the addition of suffixes.

Generally speaking the primary form of the verb indicates perfect, present and yesterday past tense, the secondary form indicates tomorrow-future, hortatory and imperative, the tertiary form is used for today past and distant past tense, and the quaternary form indicates negative past and also distant past tense.

The four forms of a few common verbs are listed below:

Primary	Secondary	Tertiary	Quaternary	
waṉḏirr	waṉḏi	waṉḏin	waṉḏinya	*'run'*
ḷuka	ḷuki	ḷukan	ḷukanha	*'eat'*
gurrupan	gurrupul	gurrupar	gurrupana	*'give'*
rulwaṇdhun	rulwaṇdhurr	rulwaṇdhurr	rulwaṇdhuna	*'put'*
ḷawum	ḷawuŋ	ḷawuŋal	ḷawunha	*'bite'*
moma	moŋu	moŋal	monha	*'forget'*
marrtji	marrtji	marrtjin	marrtjinya	*'go'*

1. INDEPENDENT CLAUSES

1.1. *CLAUSE LEVEL TAGMEMES*

Clause level tagmemes are described hence before the description of clause types, as most tagmemes take the same form in whatever clause

type they occur. Note that if a suffix is used to mark the tagmeme filled by a phrase or clause, usually this suffix will be attached to every word in that phrase or clause.

1.12. Description of Tagmemes

Nuclear Tagmemes:

Subject: (i) Ergative. The Subject Tagmeme of a Transitive or Ditransitive clause is filled by a pronoun, personal noun, personal noun phrase, animate noun, animate noun phrase, or demonstrative, to which ergative suffix -dhu ∿ -thu ∿ -yu ∿ -y is added to the Subject. (See Table 1 for morphophonemic Rules). Pronouns do not take this suffix.
Example:

Ŋayi God-thu Bäpa-y ŋanya bulu walŋakum.
he God-subj *father*-subj *she*+obj *again made+alive*
'God restored her life.'

(ii) Nominative. The Subject Tagmeme of a Semitransitive, Reflexive or Stative Descriptive clause is filled by a pronoun, personal noun, personal noun phrase, animate noun, animate noun phrase, or demonstrative.
Example:

Wuŋgan djäl bulikl-w.
dog desirous meat-ind.cbj
'The dog wants some meat.'

The Subject Tagmeme of all other clause types is filled by a pronoun, personal noun, personal noun phrase, animate noun, animate noun phrase, inanimate noun, inanimate noun phrase, or a demonstrative.
Example:

...ga narra-ku-ny gäthu ga märl'mu ŋunha-l Ŋaḻumara.
and I-poss-di *gr+grandfr and grandfr there-at Ŋaḻumara*
'...and my great-grandfather and grandfather were there at Ŋaḻumara.'

Instrument: The Instrument Tagmeme is filled by a pronoun, personal noun, personal noun phrase, animate noun, animate noun phrase, inanimate noun, inanimate noun phrase, or a demonstrative or embedded clause. Suffix -gal ∿ -kal ∿ -wal is added to pronouns and personal nouns, and suffix -dhu ∿ -thu ∿ -yu ∿ -y is added to all other fillers of the Tagmeme.

Examples:

1. Gapu dhaniya-y' dhiṯthun.
   water paperbark+cup-by scoop+out
   'Get water in a paperbark cup.'

2. Manḏa marrtji marthaŋay-yu walal-aŋ-gal.
   they go boat-by they-poss-*by*
   'They went in their boat.'

3. Mandi-ny munhawu djamarrkuḻi ŋorra-n ŋarra-kal
   Monday-di *night children sleep*-di *I-by*

   ḏar'ṯaryunara-y.
   sing-by
   'On Monday night the children went to sleep with my singing.'

Object: The Object Tagmeme is filled by a pronoun, animate noun, animate noun phrase, personal noun, personal noun phrase, inanimate noun or inanimate noun phrase, or demonstrative. Suffix -nha ∿ -ny is always added to a pronoun, personal noun or personal noun phrase.
Example:

God-thu Bäpa-y bulu walŋakum ŋanya yothu-ny.
God-subj *father*-subj *again gave+life her*+obj *child*-obj
'God restored the child's life.'

Suffix -nha ∿ -ny is optionally added to animate nouns, animate noun phrases, unless ambiguity is possible, in which case the suffix is obligatorily added.
Example:

Ṉayi ŋuli märranha ŋunhi meṉḏuŋ-nha.
she hab.asp *get that snail*-obj
'She would get snails.'

The suffix is not usually added to inanimate nouns or noun phrases.
Example:

Raŋan dharpuŋ.
paperbark cut
'Cut some paperbark.'

The suffix is never added to demonstratives.

Indirect Object: The Indirect Object Tagmeme is filled by a pronoun, personal noun, personal noun phrase, animate noun, animate

noun phrase, or demonstrative, to which is added suffix -wu ∿ -w ∿ -gu ∿ -ku..
Examples:

1. Rruplya ŋayi räli gäŋal ŋarra-ku.
   money he this+dir brought I-for
   'He brought money for me.'

2. Ŋarra boŋguŋ yänguŋ nho-kal girri' ŋarra-kalaŋa-w
   I tomorrow send you-by things I-poss-for
   djamarrkuli-w'.
   children-for.'
   'Tomorrow I'll send some things with you for my children.'

Purpose: The Purpose Tagmeme is filled by an inanimate noun, inanimate noun phrase, demonstrative or embedded clause, to which is added suffix -wu ∿ -w ∿ -gu ∿ -ku.
Examples:

1. Napurr marrtji diyamu-w.
   we go shellfish-for
   'We went for shellfish.'

2. Go, räli marrtji guya-w nhänhara-w.
   come this+dir go fish-for see-for
   'Come and see the fish.'

Association: The Association Tagmeme is filled by a pronoun, personal noun, personal noun phrase, animate noun or animate noun phrase, inanimate noun or inanimate noun phrase, demonstrative or embedded clause.
Suffix -galaŋawuy ∿ -kalaŋawuy ∿ -walaŋawuy is added to pronouns, personal nouns and personal noun phrases, and suffix -buy ∿ -puy ∿ -wuy is added to all other fillers of the Tagmeme.
Examples:

1. Dhuwan-dja djitama-wuy.
   this-di yam-about
   'This (story) is about yams.'

2. Ŋayi dhäwu ḻakaraŋal ŋarra-kalaŋawuy.
   he story told I-about
   'He told a story about me.'

Direction: The Direction Tagmeme is filled by a pronoun, personal noun, personal noun phrase, animate noun, animate noun phrase,

inanimate noun, inanimate noun phrase, place name, demonstrative or embedded clause. Suffix -gal ∿ -kal ∿ -wal is added to pronouns, personal nouns, personal noun phrases, and demonstratives qualifying any of the above, and suffix -lll is added to all other fillers of the Tagmeme. Direction word bala *('movement away from speaker')* is frequently used as part of a phrase filling this Tagmeme. Example:

1. Djatatl napurr marrtjl bala Ŋayawal-lll.
   Saturday we go that+dir Ŋayawali-towards
   'On Saturday we went to Ŋayawali'.

2. Marrtjl ŋama'wal.
   go mother-towards
   'Go to mother'.

Location: The Location Tagmeme is filled by a pronoun, personal noun, personal noun phrase, animate noun, animate noun phrase, inanimate noun, inanimate noun phrase, place name, demonstrative or embedded clause. Suffix -gal ∿ -kal ∿ -wal is added to pronouns, personal nouns, personal noun phrases and demonstratives qualifying the above, and suffix -ŋur is added to all other fillers of the Tagmeme except place names. These usually occur without the Location marker. Examples:

1. Nhlnl ŋama'-wal.
   sit mother-with
   'Sit with mother.'

2. Ga ŋunha-l Mäḻuwa....
   and there-at Mäḻuwa
   'And there (we were) at Mäḻuwa...'

Means: The Means Tagmeme is filled by a pronoun, personal noun, personal noun phrase, animate noun, animate noun phrase, inanimate noun, inanimate noun phrase, demonstrative or embedded clause. Suffix -galaŋawurr ∿ -kalaŋawurr ∿ -walaŋawurr *('through, by')* is added to pronouns, personal nouns and personal noun phrases, and to demonstratives qualifying any of the above. Suffix -gurr ∿ -kurr ∿ -wurr is added to all other fillers of the means Tagmeme except for the demonstrative, which takes an irregular form. (See Table 4)

Examples:

1. Ŋäŋ'thurr nhuna-ny Djesu-walaŋakurr...
   ask you+obj-di Jesus-through
   '(We) ask you in Jesus' (name)...'

2. Ŋarra dhu malthun dhuwalatjan dhukarr-kurr.
   I will follow this+along road-along
   'I'll follow along this road.'

Source: The Source Tagmeme is filled by a pronoun, personal noun, personal noun phrase, animate noun, animate noun phrase, inanimate noun, inanimate noun phrase, demonstrative or embedded clause. Suffix -galaŋuŋur ∿ -kalaŋuŋur ∿ -walaŋuŋur or suffix -gal ∿ -kal ∿ -wal is added to pronouns, personal nouns, personal noun phrases, or demonstratives qualifying any of these. Suffix -ŋur is added to all other fillers of the Source Tagmeme.
Source word räll *('movement towards speaker')* is frequently used as part of a phrase filling this Tagmeme.

Examples:

1. Gäthur ŋayi marrtjin räll Galiwin'ku-ŋur.
   today he went this+dir Galiwin'ku-from
   'Today he came from Galiwin'ku.'

2. Bill ŋayi marrtjin dhipu-ŋur natha-ŋur nyaŋ'thuna-ŋur.
   compl.asp *he went here-from food-from eat-from*
   'He has already gone from having his lunch here.'

Origin: The Origin Tagmeme is filled by a pronoun, personal noun, personal noun phrase or demonstrative, to which is added suffix -guŋ ∿ -kuŋ ∿ -wuŋ.
Examples:

1. Dhuwan-dja mundhurr nhanu-kuŋ.
   this-di gift he-from
   'This gift is from him./ This is a gift from him.'

2. Ŋarra barpuru dhäwu märram ŋuru-kuŋ ḏirramu-wuŋ.
   this yesterday story got that-from man-from
   'I got the story from that man yesterday.'

Predicate: (a) The Predicate Tagmeme of a Transitive Clause is filled by a transitive verb or transitive verb phrase.

Example:

Ŋäŋ'thurr Janet-nha.
ask *Janet*-obj
'Ask Janet.'

(b) The Predicate Tagmeme of a Ditransitive Clause is filled by a ditransitive verb or ditransitive verb phrase. Ditransitive verbs are a restricted group as follows:

gurrupan *'give'*
gombum *'take away, dispossess'*

Example:

Dhuwal yothu-ny ŋatha gombuŋ.
this *child*-obj *food* *take+away*
'Take the food away from this child.'

(c) The Predicate Tagmeme of a Semitransitive Clause is filled by a restricted group of verbs which take the indirect object with high frequency.
The following are a few of the semitransitive verbs:

märr-ŋamathirr *'love, like, welcome'*
malthun *'follow'*
djäga *'look after'*
wäthun *'call'*
gumurr-waŋdirr *'meet'*

Example:

Bala gan yoŋu-ny walal ḻarruŋal-nha nhanŋu.
then cont *people*-di *they* *looked+for*-di *him*+ind.obj
'Then the Aboriginal people looked for him.'

(d) The Predicate Tagmeme of an Intransitive Clause is filled by an intransitive verb or an intransitive verb phrase.
Example:

Mirithin ŋayi ŋäthin.
very *he* *cried*
'He cried loudly.'

(e) The Predicate Tagmeme of an Existential Clause is filled by an existential verb or existential verb phrase.
Existential verbs are a restricted group as follows:

nhina *'be, exist'* (Intrans: *'sit'*)
ŋorra *'be, exist'* (Intrans: *'lie, sleep'*)

gorrum *'be in, be on, be at'*
dhärra marrtji *'be, exist'* (Intrans: dhärra *'stand'* marrtji *'go, walk'*)

Example:

Manda-ŋ ga djäma ŋorra yindi.
they-poss cont *work be big*
'They have a lot of work.'

(f) The Predicate Tagmeme of the Descriptive Clause is filled by the following:

1. An adjective or adjectival phrase.
Example:

Ga bäyŋu rindjin manymak.
and not engine good
'And the engine was not good.'

2. Stative adjectives djäl *'desirous'* and marŋgi *'informed, knowledgeable.'*
Example:

Ŋarra-ny dhuwal djäl marrtjinyara-w-nha.
I-di *focus desirous go*-ind.obj-di
'I want to go.'

3. The tertiary form of a restricted group of verbs describing bodily or emotional conditions.
Example:
Ŋarra dhuwal djanŋarrthin.
I focus became+hungry

(g) The Predicate Tagmeme of an Equative Clause is filled by a pronoun, noun or noun phrase to which suffix -buy ∿ -puy ∿ -wuy *'associated with'* is added, or by a pronoun, personal noun or personal noun phrase to which suffix -guŋ ∿ -kuŋ ∿ -wuŋ *'originator'* is added, or by an unaffixed noun or noun phrase.
Example:

Ga dhuwan-dja ḻuwiya'wuy.
and this-di *root+food-about*
'And this (story) is about root-food.'

(h) The Predicate Tagmeme of a Locational Clause is filled by a demonstrative, noun or noun phrase to which is added suffix -ŋur, by an unaffixed place name, or by an unaffixed

demonstrative if the clause refers to the present time.
Example:

...ga rra-kal wäŋa-ŋur.
and I-poss *house-at*
'...and (we were) at my house.'

Peripheral Tagmemes:

Negative: The Negative Tagmeme is filled by negative words yaka *'not'*, and bäyŋu *'none, nothing, not'*.
Example:

Bäyŋu yoŋu dhuwal.
no people here
'There are no people here.'

Time: The Time Tagmeme is filled by any of a group of time words, or by a noun, noun phrase, demonstrative or embedded clause to which is added suffix -dhu ∿ -thu ∿ -yu ∿ -y.
Examples:

1. Ŋayl ŋull· yoŋu-ny rur'yunha-n
he hab.asp *person*-di *get+up*-di

walu-goŋ-djalkthunminyara-y.
sun-hand-throwout-at
'He got up at sunrise.'

2. Yalala nhe dhu marrtji.
later you will go
'You'll go later.'

Manner: The Manner Tagmeme is filled by any of a class of manner words.
Example:

Bondi räll marrtji.
*quickly this+*dir *go*
'Come here quickly.'

Mode: The Mode Tagmeme is filled by any of the following group of mode words:

mak, mak bäy, ŋula bäy	*'perhaps'*
yanbi	*'mistakingly thought'*
yän	*'just, only'*
gäna	*'alone, by itself'*
bulu	*'again, more, also'*
wiripu	*'another, sometimes, different'*

ŋuli	*'habitual aspect'*
bili	*'completive aspect'*
baḏak	*'incomplete aspect'*
biyak bili/ biyak bili yan	*'in just the same way'*
warray /muka	*'focus'*
bäydhi	*'doesn't matter'*

Examples:

Yanbi yuṯa.
mistakenly+thought new
'I thought it was new but it wasn't.'

2. Bili ŋarra ḻukan.
compl.asp *I ate*
'I've finished eating./ I've already eaten.'

1.13. Order of Tagmemes

(a) Within a Clause

Peripheral tagmemes tend to occur at the beginning of a clause.
Negative always precedes the predicate, or at least the verb.
Example:

Dhuwan-dja nhuma dhu yaka dharpum.
this-di *you will not spear*
'You will not spear this one.'

Apart from these two rules, the order of tagmemes in a clause considered in isolation seems to vary freely. However, as soon as that clause is put into its context in conversation, narrative, or other discourse, the order of the tagmemes is fairly predictable and there is only a limited amount of free variation. My understanding of the contextual factors that determine tagmeme order is vague at this stage, and a thorough investigation is required.

(b) Divided Phrases

The noun phrase can be divided to have part preceding and part following another tagmeme. The part following the other tagmeme usually amplifies the first part.
Example:

Yothu-ny ŋunhi ŋai'yurra gurrmul-nydja....
child-di *that climbed young+lad*-di
'The lad climbed (into the dinghy)...'

The verb phrase can also be divided.
Example:

Walal ŋuli ganha wurriy gänha.
they hab.asp cont *pannikin took*
'They used to take pannikins.'

1.14. Morphophonemics

The suffixes identifying clause level tagmemes change morphophonemic ally according to the shape of the morphemes they follow.

Table 1. shows these changes.

TABLE 1

Suffixial Allomorphs

Function of suffix (e.g. tagmeme marker)	Allomorph of the Suffix when it follows:			
	stops	nasals	other consonants (except V')	vowels vowel + glottal
Association	-puy	-buy	-buy -wuy	-wuy
Instrument Trans.subject	-thu	-dhu	-yu	-y
Purpose Ind.Object Possessive	-ku	-gu	-gu -wu	-wu
Object	-nha	-nh-	-nha	-ny
Originator	-kuŋ	-guŋ	-wuŋ -guŋ	-wuŋ
Means	-kurr	-gurr	-gurr -wurr	-wurr
Source Direction Location Possessive	-kal	-gal	-gal -wal	-wal
Association	-kalaŋawuy	-galaŋuwuy	-galaŋawuy -walaŋawuy	-walaŋawuy

continued over

Table 1 continued

Function of suffix (e.g. tagmeme marker)	Allomorph of the Suffix when it follows:			
	stops	nasals	other consonants (except V')	vowels vowel + glottal
Means (human)	-kalaŋuwurr	-galaŋuwurr	-galaŋuwurr -walaŋawurr	-walaŋuwurr
*Inception, focus	-nha	-nha -na	-nha -a	-n
*Intensity, termination	-tja	-dja	-nydja	-ny
*Emphasis	-thi	-dhi	-dhi -yi	-yi -pi (pronouns only)

Note (i): Suffixes occurring at higher levels than clause structure have been included in this Table, as they occur throughout the data in this paper.

(ii) When suffixes -y, -w, or -ny, are attached to words ending in vowel plus glottal stop there is metathesis of the consonants and the resultant forms end in w', y', or ny'.

1.15. Distribution of Clause-Level Tagmemes

TABLE 2

Tagmemes \ Clause Types		Intransitive	Transitive	Ditransitive	Semi-Transitive	Existential	Descriptive	Equative	Locational
Predicate:	Pin	+							
	Ptr		+						
	Pdt			+					
	Pst				+				
	Pex					+			
	Pde						+		
	Peq							+	
	Plo								+
Subject:	Sn	±							
	Se		±						
	Se			±					
	Sn				±				
	Sn					+			
	Sn						±		
	Sn							±	
	Sn								+
Instrument		±	±	±	±				
Purpose		±	±	±	±	±	±	±	
Ind. Object		±	±	±	±	±	±	±	
Association		±	±	±				±	
Object		±		±±					
Source		±	±						
Direction		±	±						
Means		±	±		±				
Location		±	±	±	±	±		±	
Originator		±	±	±					
Negative		±	±	±	±	±	±	±	±
Mode		±	±	±	±	±	±	±	±
Time		±	±	±	±	±	±	±	±
Manner		±	±	±	±	±	±		

1.16. Clause Juxtaposition

Sequences of up to four verbs (either transitive, intransitive or both) are frequently observed. Although they are usually associated with few non-predicate tagmemes, it has been suggested that these are the predicates of juxtaposed clauses. More investigation of these sequences is needed, but presumably they will be described at sentence level.

1.2. *VERBAL CLAUSES*

1.21. Indicative Clauses

1.211. *Transitive Clause*

The following formula shows the tagmemes which occur in the Transitive Clause.

±Subject +Predicate ±Object ±Ind.Object ±Purpose ±Instrument ±Association ±Source ±Direction ±Means ±Originator ±Location ±Negative ±Mode ±Time ±Manner

The Subject and Predicate Tagmemes take a distinctive form in the Transitive Clause (See 1.12.).

Observation to this point indicates that normally three or four tagmemes occur in one clause, with a maximum number of six.

Examples:

1. ...bala ḻaw'maraŋu-n ŋuli-ŋur gapu-ŋur-nydja raypiny-ŋur
   then lift-di *there-from water-from*-di *fresh-from*
   mulkurr-yu-n.
   head-by-di
   '...then lift (it) from the water to the head.'

2. Ga buku-gurrpan ŋayi God-nha Bäpa-ny Djilwuywuy-yu
   and head-give he God-obj *Father*-obj *Djilwuywuy*-subj
   ŋunhi-ŋuwuy-dhi.
   that-about-emph
   'And Djilwuywuy prayed to God about that.'

3. ŋanapurr maḻŋ'maram bäpa-w.
   we pick+up father-for
   'We got (it) for father.'

4. ŋupan ŋanya dhukarr-kurr.
   *follow him+*obj *road-along*
   '(He) followed him along the road.'

5. ...ga warrkthuna milmitjpa-n·
and scraped+out afternoon-di
'...and (we) scraped (it) out in the afternoon.'

6. Ga yaka bulu galkurr bala-yi nyälka'-lil.
and not again put that+dir-emph bag-towards
'And (we) didn't put (it) into the bag again.'

7. Barpuru ŋarra yaka nhäma nhuna bunha-lil bathi-lil.
yesterday I not see you+obj make-towards bag-towards
'I didn't see you making a basket yesterday.'

1.212. *Ditransitive Clause*

The following formula shows the tagmemes which occur in the Ditransitive Clause.

±Subject +Predicate ±Object 1 ±Object 2 ±Originator ±Negative ±Mode ±Time ±Manner ±Ind.Object ±Instrument ±Purpose ±Association ±Location

Object 2 tagmeme is filled by a pronoun, personal noun or personal noun phrase with suffix -nha ∿ -ny, or by an animate noun or animate noun phrase with or without the same suffix, or by a demonstrative.

Object 1 tagmeme is filled as described in Section 1.12.

Examples:

1. Bala marrtji 0.1 ŋunha 0.2 gurruŋu-mirri-nha-ny gurrupul-a.
then go that relative-having-obj-di *give*-di
'Then give it to the relatives.'

2. Ga gurrupan napurr 0.2 maŋŋ-ny 0.1 borum-dja ŋunha-l raŋi-ŋur.
and give we they-obj *fruit*-di *there-at beach-at*
'And we gave them fruit there at the beach.'

3. 0.1 Rrupiya ŋarra 0.2 nhuna ŋunhi gombum.
money I you+obj that take+away
'I got money from you.'

4. 0.1 Ŋunha yiki gombuŋ 0.2 Burrminy-nha dhiyak wäyin-gu.
that knife get+from Burrminy-obj *this+for meat-for*
'Get the knife from Burrminy for this meat.'

1.213. *Semitransitive Clause*

The following formula shows the tagmemes in the Semitransitive Clause.

±Subject +Predicate ±Ind.Object ±Location ±Instrument ±Direction ±Purpose ±Means ±Time ±Negative ±Mode ±Manner

Examples:

1. Barpuru munhawu ŋäṉḏi'-mirriŋu wäthun djamarrkuḻi-w ŋatha-w.
   yesterday night mother-blood+rel call children-to food-for
   'Last night mother called the children for supper.'

2. Yaka barrari wuŋgan-gu.
   not be+frightened dog-of
   'Don't be frightened of the dog.'

3. Yaka malthurr rra-ku djäma-lil.
   not follow I-ind.obj *work-towards*
   'Don't follow me to work.'

4. Waial ga bitjan bili gitkitthun-mirr bawa'mirri-w
   they cont *thus* compl.asp *laugh*-refl *silly+having*-ind.o
   miyalk-ku.
   woman-ind.object
   'They always laugh at the silly woman.'

5. Ṉiliimurr märr-ŋamathirr yäku-y Garray-wal.
   we feeling-become+good name-by Lord-by
   'We love (people) in the name of the Lord.'

6. Boŋguŋ liimurr ḻarruŋ nhanu-kalaŋa-w girri-w'.
   tomorrow we seek he-poss-ind.obj *things*-ind.obj
   'Tomorrow we'll look for his things.'

7. ..bili nhe-pi ŋanapurr-uŋ ga djäga bukmak-ku.
   because you-emph *we*-ind.obj cont *care+for all*-ind.obj
   '..because you care for us all.'

8. Galkurr napurr nhaŋu ŋunhi-li-yi ḏiltji-ŋur.
   *wait we he+*ind.obj *there-at*-emph *bush-at*
   'We waited for him there in the bush.'

9. ..bala gumurr-waṉḏin ŋunha Maŋgatharra-w.
   then chest-ran there Maccassan-ind.obj
   '..then we went to meet the Maccassan.'

1.214. *Existential Clause*

The following formula shows the restricted number of tagmemes which occur in the Existential Clause.

+Subject +Predicate ±Location ±Purpose ±Time ±Negative ±Mode ±Manner.

Examples:

1. Ŋunha Sydney dharrwa bala' dhärra marrtji.
there Sydney lots house be be
'There are lots of houses in Sydney.'

2. Djesu-ny dhiyal munatha'-ŋur baman' gan nhinan.
Jesus-di *here+at earth-on long+ago* cont *be*
'Jesus lived here on earth a long time ago.'

3. Ŋunha buŋbu-ŋur girri'-mirri-ŋur girri' mala dhärra
there house-at things-having-at things group be
ŋuli marrtji.
hab.asp *be*
'There are lots of things in the furniture factory.'

4. Mutika dharrwa mirithirr dhärra marrtji wakal-mirri-ŋur.
car lots very be be play-having-at
'There were many cars at the show.'

5. Dhuwal ŋorra marrtji dharrwa maypal.
here exist be lots shellfish
'There was lots of shellfish here.'

6. Ga balanya warraga'-wuy-nydja dhuwal ŋanapurr-uŋ ga rom ŋorra.
and thus cycad-about-di *this we*-poss cont *custom be*
'And this is our custom (preparing and cooking) cycad.'

7. Dhuwal djorra-ny' gay'yi gorruŋal ŋayi.
here paper-di excl*+of+pleasure be+on it*
'Oh, here's the paper.'

1.215. *Intransitive Clause*

The following formula shows the tagmemes which occur in the Intransitive Clause.

±Subject +Predicate ±Indirect Object ±Purpose ±Instrument ±Association ±Source ±Direction ±Means ±Origin ±Location ±Negative ±Mode ±Time ±Manner.

Observation to this point indicates that a probable maximum of six tagmemes can occur in any one Intransitive Clause, with an average of three or four.

Examples:

1. Ga wiripu-ny napurr marrtji dhipu-ŋur bala Guḻumarri-lil
and another-di *we go here-from that+*dir *Guḻumarri-to*
ḏiyamu-w.
shellfish-for
'Again we went from here to Guḻumarri for shellfish.'

2. Maṉḍa ga gäna marrtji.
they cont *alone go*
'They went by themselves.'

3. Napurr yaka marrtji wäŋgam-an raŋi-kurr-a.
we not go go+pl-di *beach-along*-di
'We didn't go along the beach.'

4. Gundirr muka ganha ŋaw'yuna ŋuli be muka ŋutu'
antbed focus cont *burn+fiercely* hab.asp focus focus *big*
l̪uwiya-w-ny'tja.
root+food-for-di
'The antbed will become very hot (to cook) the root-food.'

5. Ṉayi gan gapu-ŋur bulyurr munha l̪urrkun'-mirr-a.
he cont *water-in soak night three-having*-di
'He had been in the water three nights.'

6. ..ga nhäri gi.
and cooked cont
'..and (it) cooked.'

7. Ga djawul̪pa gan rirrikthurr.
and old+man cont *became+sick*
'And the old man got sick.'

1.22. Imperative Clause

Any Indicative Clause with a verbal predicate can be made into an Imperative Clause in the following ways:

(a) The Subject Tagmeme is usually omitted.
(b) The Predicate Tagmeme is filled by an imperative verb or imperative verb phrase.
(c) The number of tagmemes is restricted to four.

Examples:

1. Ṉuru-ku-n gurrupul.
that-ind.obj-di *give*
'Give (it) to that one.'

2. l̪arruŋ nhanŋu djäl-wu.
seek he+poss *desire-for*
'See what he wants.'

3. Ṉäŋ'thurr Wanymuli-ny ŋarra-ku djorra-w'.
ask Wanymuli-obj *I*-poss *paper*-ind.obj
'Ask Wanymuli for my paper.'

4. Yaka ŋäthi.
   not cry
   'Don't cry.'

5. Yaka roŋiyi wäŋa-iii girri-w'.
   not return home-towards things-for
   'Don't go home for (your) things.'

1.23. Hortatory Clause

Indicative Clauses with verbal predicates can be changed to Hortatory Clauses in the following way:

±Initiator +Vocative +Predicate

(a) Initiator Tagmeme is filled by go *'come'*.
(b) Vocative Tagmeme is filled by either of the pronouns
    iimurr (inclusive plural)
    ŋaii (inclusive dual)
(c) Predicate Tagmeme is filled by the primary form of the verb with optional suffix -n ∿ -na.

Examples::

1. Limurr nhina.
   we sit
   'Let's sit down.'

2. Ŋaii marrtji-na raŋi-iii
   we go-di beach-towards
   'Let's go to the beach.'

3. Go, iimurr manikay ḏar'ḻaryun miriihirr.
   come we song sing very
   'Let's sing the song loudly.'

4. Limurr ḻarrum nhanŋu mayaŋ-kurr.
   we seek he+ind.obj river-along
   'Let's look for him in the river.'

1.24. Subjunctive Clause

Indicative Clauses with verbal predicates can be changed unto Subjunctive Clauses by inserting a Subjunctive Tagmeme (usually immediately) before the Predicate, and by changing the Predicate.

(a) The Subjunctive Tagmeme is filled by any of the following words:

balaŋ *'should'*
bäynha balaŋ, ŋuli bäynha, ŋuli bän *'might'*

The Subjunctive Tagmeme usually occurs immediately following the Subject Tagmeme.

Word order in the Tagmeme fillers may be reversed.

(b) The Predicate Tagmeme in the Subjunctive Clause is filled by the secondary form of the verb or verb phrase when referring to the future, and the quaternary form of the verb or verb phrase when referring to the past.

Examples:

1. Ŋarra ŋuli bäynha dhiŋguŋ ŋawulul-yu.
   I might might die smoke-by
   'I might die from the smoke.'

2. Walal balaŋ bäynha bäyŋu key märraŋ.
   they might might not key get
   'They might not have got a key.'

3. Nhe ŋuli bän meŋguŋ ŋunhi-li-yi.
   *you might might forget there-at-*emph

4. Nhe balaŋ mitthun-minya nhunapinya nhe marwat.
   *you should cut-*refl *you+*obj-refl *you hair*
   'You should have cut your own hair.'

5. Yaka balaŋ nhe marrtjinya Darwin-li.
   'You should not go to Darwin.'

1.25. Reflexive Clauses

All transitive and Intransitive Clauses can be changed to Reflexive Clauses by addition of a Reflex and Reflexive Subject Tagmeme, and/or by filling the Predicate Tagmeme with a reflexive verb or reflexive verb phrase.

The Reflexive Clause is shown in the following formula:

+Subject +Predicate ±Reflex ±Reflexive Subject.

The Subject Tagmeme is filled by a pronoun, noun or noun phrase.

Predicate Tagmeme is filled by a reflexive verb or reflexive verb phrase, or by a regular verb or verb phrase.

The Reflex Tagmeme is filled by a reflexive pronoun.

The Reflexive Subject Tagmeme is filled by a subject form of the pronoun in the Reflex Tagmeme.

If the Predicate Tagmeme is filled by a regular verb or regular verb phrase, the Reflex and Reflexive Subject Tagmemes are obligatory.

Reflexive pronouns are shown in Table 3.

TABLE 3

Reflexive Pronouns

	Number	Object	Indirect Object	Direction
First Person	Singular	ŋarrapinya	(ŋa)rrakuwuy	(ŋa)rrakiyingal
	Dual.incl	(ŋa)litjalanhawuynha	litjalaŋguwuy	litjalaŋgiyingal
	Dual.excl	linyalanhawuynha	linyalaŋguwuy	linyalaŋgiyingal
	Plural.incl	limurrunhawuynha	limurruŋguwuy	limurruŋgiyingal
	Plural.excl	napurrunhawuynha	napurruŋguwuy	napurruŋgiyingal
Second Person	Singular	nhunapinya	nhuŋuwuy	nhokiyingal
	Dual	nhumalanhawuynha	nhumalaŋguwuy	nhumalaŋgiyingal
	Plural	nhumalanhawuynha	nhumalaŋguwuy	nhumalaŋgiyingal
Third Person	Singular	ŋanyapinya	nhanŋuwuy	nhanukiyingal
	Dual	maṉḏanhawuynha	maṉḏaŋguwuy	maṉḏaŋgiyingal
	Plural	walalanhawuynha	walalaŋguwuy	walalaŋgiyingal

Examples:

1. Ŋayi gulkmaranha-min ŋanya-pinya ŋayi marwat.
   she cut-refl *she*+obj-refl *she hair*
   'She cut her own hair.'

2. Limurr dhu gapu limurr-uŋgu-wuy limurr gäma.
   we will water we-ind.obj-refl *we take*
   'We'll take water for ourselves.'

3. ..bala nhuma makarr'yun-mina-n dhuwali.
   and you be+happy-refl-di *there*
   '..and you were pleased with yourselves.'

4. ..nhanŋu-wuy ŋayi gurruṯu-mirri-ny gurrupana...
   she+poss-refl *she relation-having*-obj *give*
   '..(she) gave (it) out to her relations..'

5. Wal-nydja ŋunhi waŋanha-mina-ny bili-n.
   they-di *there talk*-refl-di *finished*-di
   'They finished their conversation together.'

1.26. Predicate Ellipsis

All five types of verbal clause have been described as having an obligatory Predicate Tagmeme. Although this is generally the case, in certain circumstances a verbal Predicate may be partially or completely

ellipted, provided that the hearer/reader can infer the appropriate lexical form from the context. In a response in conversation very frequently the utterance consists of just one clause-level tagmeme.. often a non-predicate tagmeme. Such an abbreviated response may be in any mood - Indicative, Imperative, Hortatory, Interrogative.

(i) The Predicate of an Intransitive Clause may be wholly or partially ellipted if the clause contains a Direction or Purpose Tagmeme.

Examples:

1. Gatjuy nhuma nyoka-w ga ŋarra-ny dhu mekawu-w.
   off+you+go you crab-for and I-di will oyster-for
   'Off you go, you go for crabs and I'll go for oysters.'

2. Räll ŋarra-kal.
   this+dir I-towards
   'Come close to me.'

(ii) Some verbs can be abbreviated and the stem alone used as an Imperative Clause. (See Section 1.22.).

Examples:

1. Muk. (=mukthun)
   be+quiet
   'Be quiet.'

2. Wap. (=wapthun)
   jump
   'Hop out.'

Other verbs have a complementary interjection which can also be used as a command.

Examples:

1. Dharr. (=nhäma)
   look+at
   'Look.'

2. Dhut-nha. (=nhina)
   sit-di
   'Sit down.'

3. Bat. (=ŋayatham)
   hold
   'Hold it.'

(iii) The Hortatory Clause can be expounded by the Subject Tagmeme alone. (See Section 1.23.).

Example:

1. Ŋali.
   we
   'Let's go.'

(iv) Interrogative words (See Section 1.4(c).) are often used by themselves to expound an Interrogative Clause.

Examples:

1. Nhäkurr?
   where+to
   'Where are you going?'

2. Nhally?
   what+with
   'What did you do it with?/What did you go in?'

1.3. *NON-VERBAL CLAUSES*

1.31. Descriptive Clause

(a) The following formula shows the tagmemes which occur in the Descriptive Clause.

±Subject +Descriptive Predicate ±Indirect Object ±Negative ±Time ±Mode ±Manner

Fillers of the Descriptive Predicate Tagmeme are adjectives and adjectival phrases.

Examples:

1. ..bili dhuŋa napurr dhäwu-w.
   because ignorant we story-about
   '..because we were ignorant of the story.'

2. Ga bäyŋu rindjin manymak.
   and not engine good
   'And the engine was no good.'

3. Ga yuwalk muka
   and true focus
   'That's true.'

(b) The same formula shows the Stative Descriptive Clause.
However (i) Subject Tagmeme is filled as described in 1.12(e)..
(ii) The Descriptive Predicate is filled by stative adjectives djäl *'desirous'*
marŋgi *'informed, knowledgeable.*
(iii) The Indirect Object is obligatory unless understood in context.

Examples:

1. Gapu-w nhe djäl?
   water-ind.obj *you desirous*
   'Do you want water?'

2. Ga yaka maṉḏa marŋgi dhäwu-w.
   and not they informed story-ind.obj
   'And they were ignorant of the story.'

3. Yaka marŋgi.
   not informed
   '(I) don't know.'

(c) When the Descriptive Clause describes a bodily or emotional condition in the first person singular, it takes an irregular (idiomatic) form. See 1.215(6). for example of such a bodily or emotional condition in third person.

The Tagmemes of this Clause are shown in the following formula:

+Subject +Descriptive Predicate

See 1.12(f)3. for fillers of this Descriptive Predicate.

Examples:

1. Ṉarra dhuwal djawaryurr-a.
   I focus *became+tired*-di
   'I'm tired.'

2. Ṉarra dhuwal rirrikthurr.
   I focus *became+sick*
   'I'm sick.'

1.32. Equative Clause

The following formula shows the tagmemes which occur in the Equative Clause. Probably no more than three tagmemes occur in any one clause.

±Subject +Equative Predicate ±Purpose ±Association ±Location ±Negative ±Time ±Mode

Examples:

1. Yurr marthaŋay-nydja maṉḏa-ŋ ŋunhi.
   and boat-di *they*-poss *that*
   'And it was their boat.'

2. Nhe-pl ŋanapurr-uŋ djäga-mirr-nydja.
   you-emph *we*-poss *look+after-having*-di
   'You are our shepherd.'

3. Ga Gumatj ŋunhi-yi matha
and Gumatj that-emph *language*
'And the language was Gumatj.'

4. ..ga goŋ-banikin-mirr-a mala.
and hand-pannikin-having-di *group*
'..and (they were) pannikin carriers.'

5. ..ga be ŋayi ŋurruk.
and should+be it lump
'..and (it) should be one lump.'

6. Ga dhuwan-dja l̪uwiya-wuy.
and this-di *root+food-about*
'And this (story) is about root-food.'

1.33. Locational Clause

The following formula shows the tagmemes which occur in the Locational Clause.

(a) +Subject +Locative Predicate ±Negative ±Time ±Mode

Examples:

1. Ŋanapurr dhuwal ŋarra ga Guymun ga Garriŋba.
we here I and Guymun and Garriŋba
'It's us here - myself, Guymun and Garriŋba.'

2. Ga ŋarra-ku-ny gäthu ga märi'mu ŋunha-l Ŋal̪umara.
and I-poss-di *gr+grandfr and grandfr there-at Ŋalumara*
'And my great-grandfather and grandfather were there at Ŋal̪umara.'

(b) +Locative Predicate

This type of Locative Clause occurs as a setting in narrative discourse.

Examples:

1. Ga ŋunhi-li-n warraw'-ŋur ŋunha-l Mäl̪uwa.
and there-at- shade-in there-at Mäl̪uwa
'And there (we were) in the shade at Mäl̪uwa.'

2. Ga rra-kal wäŋa-ŋur.
and I-poss *house-at*
'And (we were) at my house.'

1.4. *INTERROGATIVE CLAUSES*

All Indicative Clauses, Subjunctive and Reflexive Clauses, and Non-Verbal Clauses can be transformed to Interrogative Clauses in one of the following ways:

(a) Interrogative intonation is added to the clause.
Examples:

1. Djäl nhe dhiyak?
   desirous you this+ind.obj
   'Do you want this?'

2. Dhuwal nhuŋu wäŋa?
   this you+poss *place*
   'Is this your place?'

(b) Mode Tagmeme filler bill *'finished,* completive aspect' is commonly added to a question in the past tense.
Examples:

1. Rrupiya-ny walala-ny bill gurrupar?
   money-obj *they*-obj compl.asp *gave*
   'Have they given them the money?'

2. Connair bill bunan?
   Connair compl.asp *arrived*
   'Has Connair (airline) arrived?'

(c) The Interrogative Marker ni ∿ ŋani ∿ muka *'is it, doesn t it, don't you agree'* can be added to the end of any clause. An affirmative answer is expected.
Examples:

1. Way, bäyŋu rra-ku dhuwal yothu, ni?
   hey not I-poss *here child is*+*it*
   'Hey, my child's not here, is she?'

2. Yindi waltjaɳ, muka?
   big rain isn't+*it*
   'It's heavy rain, isn't it?'

(d) Interrogative words can be used to transform any clause to an Interrogative Clause. Most tagmemes in the clause can be expounded by interrogative words. The interrogative word normally occurs at the beginning of the clause. Table 3 shows the four basic interrogative words which occur in Djambarrpuyŋu, and their forms in each tagmeme position.

TABLE 3

Interrogative Words

Tagmeme	*'who'* yol	*'what'* nhä	*'where'* wanha	*'how many'* nhämunha'
Predicate of Indicative+Cl		nhaltjan*		
Instrument Trans.Subj	yolthu	nhaliy		nhämunhay' nhämunharay'
Purpose Indirect+Obj	yolku	nhaku	wanhaŋuw wanhaŋuw	nhämunhaw' nhämunhaw'
Association	yolkalaŋuwuy	nhäpuy	wanhaŋuwuy	nhämunha'wuy
Object	yolnha	nhä		nhämunha'
Direction	yolkal	nhälil	wanhawal	nhämunha'wal/ nhämunha'lil
Means	yolkalaŋuwurr	nhäkurr	wanhawltjan*	
Location	yolkal	nhäŋur	wanhal	nhämunha'wal nhämunha'ŋur
Time		nhätha		
Manner		nhämirr		nhämunha'mirr
Source	yolkal	nhäŋur	wanhaŋur	nhämunha'ŋur
Origin	yolkuŋ			
Mode		nhäthlnya		

*Agrees with verb tenses

Examples:

1. Mukul, wanhaŋu-w nhe ga girri-w-ny'tja ḻarrum?
   mother+in+law where-ind.obj *you* cont *things*-ind.obj-di *look+for*
   'Mother-in-law, where did you look for the things?'

2. Nhämunha-w' yolŋu-w nhe ga djälthirr?
   how+many-ind.obj *people*-ind.obj *you* cont *want*
   'How many people do you want?'

3. Yol-nha nhe ga guyaŋa?
   who-obj *you* cont *think*
   'Of whom are you thinking?'

4. Nhämunha-y' wuŋgan-dhu ⱡukan ŋatha?
how+many-subj *dogs*-subj *ate* *food*
'How many dogs ate the food?'

5. Nhaltjarr dhuwan-dja?
what+do *this*-di
'What's happening here?/What are they doing?'

6. Wanhawltjan walal dhu marrtjl-n?
which+way *they* *will go*-di
'Which way will they go?'

7. ⱡuŋlny-dja ga ŋorra nhä-ŋur?
pipe-di cont *lie* *what-on*
'What's the pipe on?'

8. Nhä-mlrr llmurr dhu ga dhuwal maŋutjl-ⱡaw'maraŋ?
what-having we *will* cont *this* *eye-open*
'How about we read this?'

9. Nhally burakln nhe?
what+with broke *you*
'What did you injure yourself with?'

10. Yol-kal nhe ganarrthaŋal glrrl-ny'?
who-at *you left* *things*-di
'With whom did you leave your things?'

11. Nhuma ŋull bukumlrrlyam yol-kalaŋuwurr yäku-kurr?
you hab.asp *pray* *who-through* *name-through*
'In whose name should you pray?'

12. Nhä-lll ŋall dhu?
what-towards we *will*
'Where will we go?'

13. Wanha-l ŋayl ŋorran?
where-at he *slept*
'Where did he sleep?'

14. Wanha nhe-ny?
where you-di
'Where are you?'

15. Nhäthlnya ŋayl rumbal?
what+like he *body*
'What's he like?'

16. Yol nhe-ny yäku?
who you-di *name*
'What's your name?'

2. DEPENDENT CLAUSES

2.1. *RELATIVE CLAUSE*

The following formula shows the tagmemes of the Relative Clause.

+Relator +Axis

The Relator Tagmeme is filled by demonstrative ŋunhi *'who, which, that'* or by nhaltjan *'how'*.

The Axis and Relator together constitute a clause. The word in the Relator Tagmeme has a double function: on the one hand it manifests one of the tagmemes (e.f. subject, object, manner) of the Relative Clause, and on the other hand it marks that clause as embedded within the main clause as its Object, Manner or similar Tagmeme.

The Relative Clause always occurs immediately following the clause to which it relates.

Examples:

1. Dhuwali-ny ḏirramu ŋunhi ŋuli ga djäma woktjap-ŋur.
   that-di *man who* hab.asp cont *work workshop-at*
   'That's the man who works in the Mechanics' Workshop.'

2. Wanha weṯi ŋunhi nhe wutthurr?
   where wallaby that you hit
   'Where's the wallaby that you hit?'

3. Ṉarra nhokal dhu milkum nhaltjan nhe dhu wuklrrl.
   I you+towards will show how you will write
   'I'll show you how to write (your name).'

4. Dhuwan-dja dhorra' ŋunhi nhuŋu ga ḻakaram nhaltjan nhe
   this-di *book that you*+ind.obj cont *tell how you*
   dhu djäma mutlka.
   will work car
   'This is the book that tells you how to fix cars./This is the workshop manual.'

2.2. *EMBEDDED CLAUSE*

An Embedded Clause consists of one or two tagmemes:

+Predicate ±Supplement

The Predicate Tagmeme is filled by a verb or verb phrase in the quaternary form.

The Supplement Tagmeme is derived from Object, Subject, Time and other tagmemes of an unembedded clause, and has fillers that are appropriate to them but without their own case markers. The fillers of both Predicate and Supplement Tagmemes are suffixed for case appropriate to

the clause level tagmeme in which this clause embeds. The clause may embed in Object, Instrument, Purpose, Association, Direction or Source Tagmeme.

Examples:

1. Ŋarra ga dhuwal guyaŋa boŋganhara-w maranhu-gänhara-w.
   I cont focus *think tomorrow-about hunger-carry-about*
   'I'm thinking about going hunting tomorrow.'

2. Ŋarra ga dhuwal rathala' yan yothu-wuŋ ŋäthinyara-y.
   I cont focus *headache just child-by cry-by*
   'I've got a headache from the baby's crying.'

3. Dhuwan-dja dhäwu weṯl-walaŋawuy wapthuna-wuy.
   this-di *story wallaby-about hop-about*
   'This is a story about a wallaby hopping.'

4. Ŋarra dhu marrtji rurrwuyuna-lil girri'-lil.
   I will go wash-towards clothes-towards
   'I'll go and wash the clothes.'

5. Bili ŋayi marrtjin dhipu-ŋur ŋatha-ŋur nyaŋ'thuna-ŋur.
   compl.asp *he went here-from food-from eat-from*
   'He's finished his meal and gone.'

6. Wanha-wal nhe djäl nhinanhara-w?
   where-at you desirous sit-ind.obj
   'Where do you want to sit?'

3. APPENDIX

As the forms of pronouns and demonstratives change according to the clause level tagmemes in which they occur, Tables 4 and 5 show these forms.

TABLE 4

Demonstratives

Tagmeme	Suffix	this/here	that/there (close)	that/there (distant, unseen)
Object Nom.Subj	-ny ∿ -nha	dhuwal	dhuwali	ŋunha/ ŋunhi
Instrument Erg.Subj	-dhu ∿ -thu ∿ -yu ∿ -y	dhiyaŋ	dhiyaŋi	ŋuruŋ/ ŋuruŋi
Ind.Object Purpose	-gu ∿ -ku ∿ -wu ∿ -w	dhiyak	dhiyaki	ŋuruk/ ŋuriki
Association	-buy ∿ -puy ∿ -wuy	dhiyakalaŋawuy	dhiyakalaŋawuy	ŋurukalaŋawuy/ ŋurikalaŋawuy
Origin: (a) Place	-ŋur	dhipuŋur	dhipuŋur	ŋulaŋur/ ŋuliŋur
(b) Person	-wal/ -walaŋaŋur	dhiyakal/ dhiyakalaŋaŋur	dhiyakal/ dhiyakalaŋaŋur	ŋurikal/ ŋurukal
Direction: (a) Place	-lil	dhipal	dhipali	ŋunhawal/ ŋunhiwili
(b) Person	-gal ∿ -kal ∿ -wal	dhiyakal	dhiyakal	ŋurikal/ ŋurukal
Means: (a) Place	-wurr	dhuwalatjan		ŋulawitjan
(b) Person	-kalaŋuwurr	dhiyakalaŋawurr	dhiyakalaŋuwurr	ŋurukalaŋuwurr/ ŋurikalaŋuwurr
Location: (a) Place	-ŋur	dhiyal	dhiyali	ŋunhal/ ŋunhili
(b) Person	-gal ∿ -kal ∿ -wal	dhiyakal	dhiyakal	ŋurukal/ŋurikal

TABLE 5

Pronouns

	Number		Object -ny ∿ -nha	Indirect Object -gu ∿ -ku ∿ -wu ∿ -w	Location Origin Direction	Means -galaŋuwurr	Association -buy ∿ -puy ∿ -wuy
	singular	ŋarra	ŋarrany	(ŋa)rraku	(ŋa)rrakal	ŋarrakalaŋuwurr	ŋarrakalaŋuwuy
	dual incl	ŋali	(ŋa)litjalany	(ŋa)litjalaŋ	(ŋa)litjalaŋgal	ŋalitjalaŋgalaŋuwurr	litjalaŋgalaŋuwuy
	dual excl	(ŋa)linyu	(ŋa)linyalany	(ŋa)linyalaŋ	(ŋa)linyalaŋgal	linyalaŋgalaŋuwurr	linyalaŋgalaŋuwuy
	plural incl	limurr	limurruny	limurruŋ	limurruŋgal	limurruŋgalaŋuwurr	limurruŋgalaŋuwuy
	plural excl	(ŋa)napurr	(ŋa)napurruny	(ŋa)napurruŋ	(ŋa)napurruŋgal	napurruŋgalaŋuwurr	napurruŋgalaŋuwuy
	singular	nhe	nhuna	nhuŋu	nhokal	nhokalaŋuwurr	nhokalaŋuwuy
	dual	nhuma	nhumalany	nhumalaŋ	nhumalaŋgal	nhumalangalaŋuwurr	nhumalaŋgalaŋuwuy
	plural	nhuma	nhumalany	nhumalaŋ	nhumalaŋgal	nhumalangalaŋuwurr	nhumalaŋgalaŋuwuy
	singular	ŋayi	ŋanya	nhanŋu	nhanukal	nhanukalaŋuwurr	nhanukalaŋuwuy
	dual	maṉḏa	maṉḏany	maṉḏaŋ	maṉḏaŋgal	maṉḏaŋgalaŋuwurr	maṉḏaŋgalaŋuwuy
	plural	walal	walalany	walalaŋ	walalaŋgal	walalaŋgalaŋuwurr	walalaŋgalaŋuwuy

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SEVEN ARTICULATORY POSITIONS IN YANYUWA CONSONANTS

Jean F. Kirton And Bella Charlie

ABBREVIATIONS AND SYMBOLS

C	any consonant
dl	dual
fd	food (noun class 5)
incl	inclusive of hearer
ind	indicative marker
p gen	past general tense
pres part	present participle
rfl	reflexive marker
s	singular
V	any vowel
V_h	high vowel /i/ or /u/
V_l	low vowel /a/
-	morpheme break within a word
.	syllable break within a word
→	becomes
#	word boundary
x____	following x
/	(i) separates alternate choices (ii) in the environment of (in rule)
ø	zero
/ /	encloses phonemic representation
[ ]	encloses phonetic representation
{ }	encloses alternatives
+	phoneme boundary in consonant cluster
;	separating alternate choices

0. INTRODUCTION

Ladefoged (1971:43, 92), with a broad empirical base for his claim, has suggested that the maximum mumber of systematic phonemic contrasts of 'articulatory place' in any language is six. Examples of languages with six such contrasts are Malayalam of India (Ladefoged, 1971:40) and Yanyuwa[1] of Australia as described by Kirton (1967).

Yet subsequent re-evaluation of Yanyuwa data has made it clear that seven such contrasts must be posited - a discovery confirmed in the field during a brief visit by Professor Ladefoged in 1976.

The earlier description of Yanyuwa phonology (Kirton 1967) was prepared after twelve months' field work by the first author. Since that time it has become necessary to reconsider and re-analyse certain areas of the sound system in the light of (i) increased knowledge both of Yanyuwa and of phonetic possibilities and linguistic principles, and (ii) the need for well-established phonological analysis as a basis for preparation of vernacular literacy materials[2]. This further analysis led to a reconsideration of analysis of syllables and to a change in the analysis of consonants and consonant clusters. A palatovelar order of obstruents is now added to the previously recognised six orders and an additional series of obstruents, the prenasalised stops, is also posited (see Chart 1).

The purpose of this paper is (i) to present a reconsidered view of Yanyuwa syllables, (ii) to present a fresh description of consonants to include prenasalised stops and palatovelar consonants, and thus to establish that Yanyuwa consonants occur at seven articulatory positions, and (iii) to present a fresh description of consonant clusters in Yanyuwa.

The vowel phoneme inventory remains unchanged: the front and back high vowels /i/ and /u/, and the low vowel /a/. Vowel length and stress are subphonemic features.

1. SYLLABLES AS A BASIS FOR ANALYSIS

Yanyuwa has four phonological syllable[3] types: V, VC, CV, CVC. The three syllable types V, CV, CVC, occur in initial, medial, and final position in the phonological word. The syllable type VC is restricted to occurrence in the initial syllable of a stem: that is, it occurs as the initial syllable in a non-prefixed word construction. Two V syllables do not occur in succession, and any sequence of closed syllables is restricted to VC.CVC and CVC.CVC unless the morphological feature of reduplication is present. A CVC.CVC stem may be reduplicated; for example, ma.wuḷ.ŋuř.guḷ.ŋuř *'coconut'* consists of the prefix ma- (food

class marker), the stem wuḷŋuř, and its reduplicated form guḷŋuř:

In a dictionary listing of approximately 2,700 words, 66% of the entries are composed entirely of CV syllables while only 2% are composed entirely of closed syllables.

Percentage of stems in which CV syllables occur - 98%
Percentage of stems in which CVC syllables occur - 30%
Percentage of stems in which V syllables occur - 3%
Percentage of stems in which VC syllables occur - .8%

Only the low vowel /a/ is actualised in V or VC syllable types and the only vowel cluster to occur is /aa/ which occurs in a CV.V sequence.

CHART 1

YANYUWA PHONEMES

CONSONANTS:

	Bi-labial	Apico-dental	Apico-alveolar	Lamino-alveo-palatal	Apico-domal	Dorso-palato-velar	Dorso-velar
Stops	b	d̪	d	dj	ḍ	jg	g
Prenasalised Stops	mb	nd̪	nd	njdj	ɳḍ	jŋjg	ŋg
Nasals	m	n̪	n	nj	ɳ	jŋ	ŋ
Laterals		l̪	l	lj	ḷ		
Semivowels /Vibrant	w		ř	y	r̥		

VOWELS:

	Front	Back
High	i	u
Low	a	

The cluster is usually heard as a lengthened vowel, but stress placement indicates that there are two syllables. The three vowels occur in the CV and CVC syllable types but the low vowel is most frequently used.

V_h and V_hC syllables occur only below word level as the initial syllable of certain morphemes, but the initial V_h or V_hC of that morpheme

must take the last consonant of the preceding morpheme to then be actualised as a CV or CVC syllable within the word, or the V_h is lost. Morphophonemic rules in Yanyuwa verb description account for these changes. The two relevant rules and examples are given with V_h- and V_l- initial stems to illustrate the contrastive occurrence (morpheme breaks and morpheme translation have been simplified for examples throughout the paper):

Rule: V → ∅ / ____+(V_h-initial stem)

njamba-idja -njdjařa	njambidjanjdjařa
rfl *go to sleep* pres part	*'going to sleep'*
njamba-udja -njdjařa	njambudjanjdjařa
rfl *swell* pres part	*'swelling'*
njamba-ařgalařgana-ɳɖařa	njambaařgalařganaɳɖařa
rfl *choose* pres part	*'choosing'*
ga -wula-wula-idja-∅	gawulawulidja
ind *them they send* p gen dl dl	*'they sent them'*
ga -wula-wula-uma-∅	gawulawuluma
ind *them they cut* p gen dl dl	*'they cut them'*
ga -wula-wula-aɖama-∅	gawulawulaaɖama
ind *them they chase* p gen dl dl	*'they chased them'*

Rule: V_h → ∅ / # ____

ina -ɳɖařa	naɳɖařa
tell pres part	*'telling'*
uřa -ɳɖařa	řaɳɖařa
stop pres part	*'stopping'*
aga -ɳɖařa	agaɳɖařa
become stuck pres part	*'becoming stuck'*

The description of consonant clusters below (see 3) will indicate the limitations of consonant occurrence in the post-nuclear position. All consonants may occur as the pre-nuclear consonant of a syllable. The following words illustrate Yanyuwa syllables:

ga.wu.la.l̻u.wa.ři.la	*'they* (dl) *will go away'*
a.wuř.ganj	*'mosquito species'*
ma.a.ɖa.řa	*'water lily species'*
gi.lu.la.a	*'he recognised it'*
ař.gu.la	*'one'*

gi.ṇa.ař.ga.nu	*'I speared it'*
baṇ.gař	*'small bat species'*
a.wu.nař.gař.ga	*'sea-gull'*

The CCV Variant of /VC.CV/:

In Kirton (1967:24) a fifth syllable type, CCV, was postulated, and analysis of prenasalised stops as a consonant di-cluster was based on that syllable type. Most prenasalised stops occur in word-initial position and for them to have a valid status as two consonants there had to be an unambiguous CCV syllable established. The CCV syllable postulated at that time is now considered to be a variant of a /VC.CV/ unit and to be morphologically predictable.

The CCV syllable is an exceptional one resulting from the pressure exerted by a morphophonemic rule on verb stems of a certain phonological shape (see Kirton, forthcoming). The stems affected are those with VC as the initial syllable and a high vowel as the initial vowel of that syllable. The rule is:

$V_h \rightarrow \phi \; / \; \# \_\_\_\_$

Exception: $V_l \rightarrow \phi \; / \; \#$ { anba *'fall'*; ajŋjgařı *'hear'* }

When the rule is applied to verb stems in which the initial high vowel is a V syllable, there is no difficulty presented by the resultant phonological word; the word then commences with either a CV or a CVC syllable. There is an overt verb prefix in all verb constructions except intransitive and transitive participles and certain intransitive imperative forms, and in the prefixed occurrences the final vowel of the preceding prefix is replaced by the initial high vowel of the stem (described and illustrated above).

The problem comes when the initial vowel is lost from a verb stem in which the initial syllable is a VC syllable, because in this instance the post-nuclear consonant of that syllable remains as a remnant. In practice, this final consonant then attaches to the pre-nuclear consonant of the following syllable and occurs as a voiceless onset to it. At times the onset is imperceptible but at other times it is clearly distinguishable.

Of the fourteen listed V_h-initial verb stems, only the following five commence with a VC syllable in initial position: ınma *'discard (clothing), demolish (building)'*, ınmařı *'wear out, disintegrate'*, ıřbunda *'pull out (plants)'*, ɣrga *'burn* (transitive)', uřguwa[4] *'burn* (intransitive)'. It is observed that the five stems share a meaning component of 'destruction' of some kind. The results of morphophonemic

processes on the stems are illustrated in a prefixed and a non-prefixed form of the verb. The latter illustrates the CCV variant of the CV syllable:

gɪl-ɪnma	gɪ.lɪn.ma	*'he took it off'*
(*it he-take off*)		
nma-n̪d̪ařa	nma.n̪d̪a.řa	*'taking off'*
(*take off*-pres part)		
guw-uřguwa	gu.wuř.gu.wa	*'it* (fd) *burnt'*
(*it* fd-*burn*)		
řguwa-njdjařa	řgu.wa.njdja.řa	*'burning'*
(*burn*-pres part)		

Note that /n̪d̪/ and /njdj/ in the present particle suffixes above are single complex consonants so that /n̪̆d̪̆a/ and /njdja/ are CV syllables.

Of the five stems listed above, ɪřbunda *'pull out (plants)'* is irregular in that the entire VC syllable is lost when the stem is initial in the word:

gɪl-ɪřbunda	gɪ.lɪř.bu.nda	*'he pulled out'*
(*it he-pull out*)		
bunda-yařa	bu.nda.ya.řa	*'pulling up'*
(*pull up*-pres part)		

The two V_l-initial stems listed in the exception to the morphophonemic rule above, follow the same pattern of initial vowel loss as the V_h-initial stems. The stem ajŋjgařɪ *'listen'* then commences with a single consonant, a prenasalised stop, but the stem anba *'fall'* is left with the CCV variant syllable /nba/. This stem is shown in comparison with the stem anma *'stay'*:

guw-anba	gu.wan.ba	*'it* (fd) *fell'*
(*it* fd-*fall*)		
nba-yařa	nba.ya.řa	*'falling'*
(*fall*-pres part)		
guw-anma	gu.wan.ma	*'it* (fd) *remained'*
(*it* fd-*stay*)		
anma-n̪d̪ařa	an.ma.n̪d̪a.řa	*'staying'*
(*stay*-pres part)		

The conclusion reached then is that the CCV syllable, in its rare occurrence, is a variant of the unit /VC.CV/, resulting from the attaching of the post-nuclear consonant remnant of the VC syllable to the CV syllable which follows it, in those instances when a V_hC-initial verb stem or one of the irregular stems anba *'fall'* or ajŋjgařɪ *'hear'* occurs in an unprefixed form.

2. CONSONANT PHONEMES

In the earlier description of Yanyuwa, twenty consonants were described. These remain in the present phoneme inventory together with an additional nine consonant phonemes not then recognised as such. A brief review of the twenty consonants is given, and then more detailed attention is given to the palatovelar and prenasalised stop phonemes.

2.1. *PREVIOUSLY ESTABLISHED PHONEMES*

In the earlier description, stops, nasals, laterals, semivowels and a vibrant were described at labial, interdental, alveodental, alveolar, retroflexed and velar points of articulation. These phonemes are now listed with some alteration to terminology (see 2.2 and 2.3 for word lists demonstrating contrasts):

Stops: There are bilabial, apico-dental[5], apico-alveolar, lamino-alveopalatal, apico-domal and dorso-velar stop phenemes, /b, d̪, d, dj, ḍ, g/ respectively.

Nasals: There are bilabial, apico-dental, apico-alveolar, lamino-alveopalatal, apico-domal and dorso-velar nasal phonemes, /m, n̪, n, nj, ṇ, ŋ/ respectively.

Laterals: There are apico-dental, apico-alveolar, lamino-alveopalatal and apico-domal phonemes, /l̪, l, lj, ḷ/ respectively.

Semivowels: There are bilabial, lamino-alveopalatal and apico-domal semivowel phonemes, /w, y, ṛ/ respectively.

Vibrant: There is a single lamino-alveolar flap vibrant phoneme, /ř/.

2.2. *DORSO-PALATOVELAR PHONEMES*

There are three dorso-palatovelar phonemes, the stop /jg/, the nasal /jŋ/ and the prenasalised stop /jŋjg/.

Preliminary Discussion on Palatovelar Phonemes and their Analysis:

Certain factors prevented the establishing of these phonemes at the time of the earlier analysis. These included (i) the first author's ignorance of the palatovelar articulatory position, (ii) paucity of examples in the data, especially of the palatovelar nasal, and (iii) the false analogy made that because the cluster /djb/ was frequently recorded phonetically as a strongly glided vowel preceding /b/, that a strongly glided vowel preceding /g/ therefore indicated a cluster /djg/. When further data was obtained, including avoidance speech vocabulary, more dorso-palatovelar phonemes were recorded, and it was noted that the lamino-alveopalatal stop /dj/ was never once observed preceding

the velar stop /g/. The possibility of a consonant cluster of semivowel /y/ and stop /g/ was quickly dismissed because semivowels do not occur as the post-nuclear consonant of a syllable.

The next step was to establish whether there was a vowel glide phoneme causing allophonic variation of the dorso-velar consonants, or whether there were dorso-palatovelar consonants causing allophonic gliding of the vowel phonemes which preceded them. Initial aural reaction was always to the length and marked nature of the vowel glide, and a spectograph of the equivalent sounds in Garawa (Furby 1974) demonstrated a marked long vocoid glide and some palatalisation of the following contoid. These phonetic recordings suggested establishing vowel glide phonemes and consonantal variants, but two factors led to the over-ruling of that possibility. The first was the strength of the phonological pattern for Yanyuwa that the consonants are the more stable, clearly defined entities, causing a good deal of allophonic variation in the three vowels, but the vowels rarely affect the consonants. The second factor was that in a single verb, the dorso-palatovelar prenasalised stop occurs as the initial phoneme of the word, and thus its occurrence is not determined by the nature of the preceding vowel: jŋjgařinjdjařa *'listening'*.

The decision to analyse these sounds as dorso-palatovelar phonemes was supported by Chadwick's 1975 description of palatovelar phonemes in Djingili, a language to the south-west of Yanyuwa and separated from it by Kudandji (and earlier by Binbinga also), and by Furby's 1974 description of palatovelar phonemes in Garawa, the neighbouring language to the east.

Since that time more Yanyuwa have returned to Borooloola, and in the speech of some of these people it is noted that [djg] occurs as a variant of the consonant /jg/. There is no evidence, however, of such consonant cluster manifestation of the nasal or prenasalised stop phonemes. The variant occurrence of the stop as a di-cluster indicates the probable history of all three phonemes, that is, that they have resulted from the merging of earlier clusters of lamino-alveopalatal and dorso-velar consonants in the following way:

djg → jg
nJŋ → jŋ
njg → jŋjg

The process of merging is complete in the two latter instances but is still evident in the speech of some Yanyuwa for the first. Ladefoged reports Chadwick telling him of a similar origin for the palatovelar consonants in Djingili.

Phoneme Identification:

The three dorso-palatovelar phonemes /jg, jŋ, jŋjg/ are shown in contrast in the following set of words:

wajga	*'down'*
wajŋjga	*'specific lying or sitting position'*
ⱡuwajŋu	*'strip of fat (of sea turtle)'*

The dorso-palatovelar stop is shown in contrast with the remaining stop phonemes in the following two sets of words. Contrast is shown between bilabial, apico-dental, apico-alveolar, lamino-alveopalatal apico-domal, dorso-palatovelar and dorso-velar stops between low vowels and between high back vowels:

maba	*'disappointing'*
waɖa	*'young (bird or animal)'*
mada	*'fine tobacco'*
madja	*'this* (food class)'[6]
maɖa	*'also'*
wajga	*'down'*
waga	*'away'*
wubuwlŋgu	*'for the small one* (female or feminine class)'
wuɖuřumaya	*'laugh!'*
wuduřu	*'satisfied, replete'*
wudjuɭu	*'into the grass'*
wuɖulu	*'into the centre (of the canoe or dinghy)'*
gujguɭu	*'sacred'*
gugulu	*'to (your) great-uncle'*

The dorso-palatovelar nasal is shown in contrast with the remaining nasal phonemes in word medial position in the following set of words:

wumuwaɖala	*'in the canoe'*
wuɳuɳu	*'ready to eat, ripe, cooked'*
wunala	*'kangaroo, wallaby'*
njanjalu	*'tea'*
waŋuřa	*'white egret'*
majŋulu	*'for fat* (genitive case)'
waŋulu	*'adolescent boy'* (men's dialect)[6]

The dorso-palatovelar prenasalised stop is shown in contrast to the remaining prenasalised stop phonemes in medial position in the following two sets of words:

Set 1:	amba	*'on the west side'*
	aɲɖa	*'the sea'*
	anda	*'she, her'*
	banjdja	*'ant species'*
	aɳɖaaɳɖa	*'inside'*
	wajŋjga	*'specific lying or sitting position'*
	gaŋga	*'because'*
Set 2:	wumbuřa	*'on the plains'*
	wuɲɖuřu	*'first wet season storm'*
	mundulu	*'bony bream (fish)'*
	wunjdjuřu	*'into the fine grass'*
	muɳɖumuɳɖu	*'slowly'*
	awajŋjguwajŋjgu	*'blackwood tree'*
	wuŋguwuŋgu	*'black'*

Phoneme Distribution:

The three palatovelar consonants are rare phonemes in Yanyuwa. The stop has the highest frequency of occurrence in twenty words in a dictionary of approximately 2,700 words, and the nasal has the lowest frequency.

These phonemes all occur as the pre-nuclear consonant of a syllable, and the syllables in which they occur are most frequently unstressed syllables in the word. In current data, the palatovelar stop and nasal are never the initial consonant in a word and there is a single example of the prenasalised stop in this position: jŋjgařinjdjařa *'listening'*. There are no recorded instances of the syllables jŋa or jŋjgi.

Note: When the velar consonants /g/ and /ŋ/ precede the high front vowel /i/, fronted variants occur which the writer finds undistinguishable from the palatovelar stop and nasal phonemes. In this environment, it is only a clearly glided preceding low or high back vowel that distinguishes between consonants at the two articulatory positions. This means, therefore, that there is loss of contrast between the velar and palatovelar consonants between too high front vowels. In these instances the consonants are written as the velar consonants. Christine Furby has verbally indicated that there is the same loss of contrast in the same environment in Garawa.

2.3. *PRENASALISED STOP PHONEMES*

The seven prenasalised stop phonemes are the bilabial phoneme /mb/, the apico-dental phoneme /ɲɖ/, the apico-alveolar phoneme /nd/, the lamino-alveopalatal phoneme /njdj/, the apico-domal phoneme /ɳɖ/, the dorso-palatovelar phoneme /jŋjg/ and the dorso-velar phoneme /ŋg/.

Discussion of Analysis:

In the initial analysis of Yanyuwa, the prenasalised stops were analysed as a homorganic cluster of stop plus nasal, on the basis of the setting up of a CCV syllable type (see 1 above). Since the few exceptional CCV syllables are now analysed as variants of the unit /VC.CV/, prenasalised stops are now established as single complex consonants. This analysis is supported by the following facts: (i) the phoneme /ŋg/ occurs in the consonant cluster /řŋg/ and there is no pattern for a 3-consonant cluster in the language; (ii) it has been observed on several occasions that when a Yanyuwa speaker makes a syllable break, the break comes before the prenasalised stop, not between the nasal and the stop; (iii) in trial use of literacy materials, prenasalised stops are readily accepted as the pre-nuclear consonant in a syllable. Note, however, that morphophonemic rules which apply to a consonant cluster of nasal plus stop also apply to the prenasalised stop phonemes.

Phoneme Identification:

The seven prenasalised stop phonemes are seen in contrast in the final two sets of words listed in the preceding section (see 2.2.)

The bilabial prenasalised stop is shown in contrast with the bilabial stop, nasal and semivowel in intervocalic position:

ⱡamba	*'a burrow'*
ⱡaba	*'silent'*
lama	*'axe'*
lawa	*'spider web'*

The apico-dental prenasalised stop is shown in contrast with the apico-dental stop, nasal and lateral in intervocalic position:

wuⁿ̪d̪a	*'cool'*
wud̪a	*'material'*
wuⁿ̪uⁿ̪u	*'ready to eat, ripe, cooked'*
muⱡumuⱡu	*'quietly'*

The apico-alveolar prenasalised stop is shown in contrast with the apico-alveolar stop, nasal, lateral and flap vibrant in intervocalic position:

wunda	*'river bank'*
wudawuda	*'stones'*
wunala	*'wallaby, kangaroo'*
wula	*'they, them* (dl)*'*
wuřa	*underwater'*

The lamino-alveopalatal prenasalised stop is shown in contrast with the lamino-alvelpalatal stop, nasal, lateral and semivowel in intervocalic position:

banjdja	*'ant species'*
madja	*'this* (fd)*'*
njanjalu	*'tea'*
walja	*'sea turtle, dugong (sea mammal)'*
waya	*'wireless'*

The apico-domal prenasalised stop is shown in contrast with the apico-domal stop, nasal, lateral and semivowel in intervocalic position;

maṇḍaa	*'on foot'*
maḍaǩin	*'tree species'*
maṇayi	*'water lily species'*
maḷambi	*'with outstretched arms'*
maṛagi	*'tomahawk, carving knife'*

The dorso-palatovelar phonemes have been shown in contrast (see 2.2.).

The dorso-velar prenasalised stop is shown in contrast with the dorso-velar stop and nasal in intervocalic position:

galuwaŋgala	*'they shot it'*
galuwagaṛama	*'they found it'*
galuwaŋala	*'they will shoot it'*

During his field visit, Ladefoged observed that the Yanyuwa velar articulatory position is further back than the velar norm and thus makes more room for the seventh articulatory position.

Phoneme Distribution:

The prenasalised stops are all illustrated in pre-nuclear position in the syllable and this is the only position in which they are found.

Bilabial, apico-alveolar, lamino-alveopalatal, apico-domal and dorso-palatovelar prenasalised stops all occur in word initial position, although there is only one recorded instance of each of the latter three phonemes in that position. In word initial position, the nasal onset of the complex phoneme is voiceless in almost every occurrence:

mbilawaniya	*'come back (you two)!'*
ndawulaya	*'your* (s) *head'*
njdjawuma	(place name)
ṇḍulmaṇḍaǩa[7]	*'commencing (corroboree song)'*
jŋjgaǩinjdjaǩa	*'listening'*

The only prenasalised stop which occurs in a consonant cluster is the dorso-velar phoneme /ŋg/. It occurs as the second consonant of a cluster following the apico-alveolar vibrant /ř/ in a single word. This cluster is shown in contrast with the same two consonants separated by the high back vowel /u/:

mawuřŋgu	*'fishing line'*
amawuřuŋgu	*'small crab species'*

3. CONSONANT CLUSTERS

Yanyuwa consonant clusters[8] are of three types and are described in terms of two distinct patterns of consonant co-occurrence and a small group of other miscellaneous examples with a very limited occurrence (see Chart 2.). The primary pattern is for a central consonant to precede a peripheral consonant; that is, for an apico-alveolar, apico-domal or lamino-alveopalatal consonant to precede a bilabial or dorso-velar consonant. This pattern accounts for 96% of Yanyuwa words in which clusters occur. The secondary pattern is for a non-lamino-alveopalatal central consonant to precede a lamino-alveopalatal consonant. This pattern accounts for a further 3% of words in which consonant clusters occur. Note that the patterns of co-occurrence are almost identical with those in Garawa phonology and are very similar to Djingili. Djingili has an additional pattern for the co-occurrence of front and back consonants, for example /bg/ and /gb/ (see Chadwick 1975). In the three languages there is a noteworthy absence of clusters of two consonants at the same point of articulation other than the clusters of nasal plus stop. In Yanyuwa these are now analysed as complex consonants rather than consonant clusters and the consonant co-occurrence patterns would support this analysis.

Type I Consonant Clusters (Primary Pattern):

Type I consonant clusters consist of a central consonant plus a peripheral consonant according to one of the following formulae:

(1) + / ř ; l ; ḷ ; n ; ṇ / + / b ; m ; g ; ŋ /
(2) + / ř ; l ; ḷ / + /w/
(3) + / nj ; dj / + /b/
(4) + /nj/ + /m/
(5) + /ř/ + /ŋg/

These consonant clusters are illustrated in the following words:

(1) guřba *'in gulps'*, wařman *'burnt grass'*, ařgula *'one'*, nandamuřŋu *'her nape of neck'*, alban *'ashes'*, aṛalmuř *'kookaburra'*, algu

CHART 2

YANYUWA CONSONANT CLUSTERS

TYPE I:

	b	g	m	ŋ	w	ŋg
ř	řb	řg	řm	řŋ	řw	řŋg
l	lb	lg	lm	lŋ	lw	
ḷ	ḷb	ḷg	ḷm	ḷŋ	ḷw	
n	nb	ng	nm	nŋ		
ṇ	ṇb	ṇg	ṇm	ṇŋ		
nj	njb	(njg)*	njm	(njŋ)		
dj	djb	(djg)				

*Bracketed clusters are merged or merging into lamino-palatovelar consonants with only remnants of the original clusters remaining.

TYPE II:

	dj	nj	y
ř	řdj	řnj	řy
ṇ	ṇdj	ṇnj	
ḍ	ḍdj		

'vomitus', galŋiya *'truly'*, daḷbu *'heaped up'*, wuḷaṉḍařa[9] (intransitive verb) *'baling out (canoe), bursting open (boil, flower), exploding (bullet)'*, aḷgu *'fish'*, wuḷŋar[9] *'smoke'*, awulanbi *'senior wife'*, anmaya *'stay'*, anga *'up'*, adjanŋu *'stingray species'*, maaṇbaga *'cycad palm'*, nandaaṇma *'her ears'*, aṇgiř *'stump (of tree)'* waṇŋiřinjdjařa *'wanting'*.

(2) mayařwi *'marksman'*, abulwa *'white ochre'*, waḷwan *'chips'*

(3) dinjbu *'joey (young wallaby or kangaroo)'*, wudjbi *'egg'*

(4) walanjamaya *'come out!'*

(5) mawuřŋgu *'fishing line'*.

Three other clusters of this type have merged to become dorso-palatovelar consonants (see 2.2.) and yet remnants of the cluster remain. It has already been noted that in the speech of some Yanyuwa, [djg] occurs as a variant of /jg/. There is also one example of the cluster /njŋ/ at a morpheme boundary: wiřinj-ŋala *'tipping to the side'*. There is one occurrence of the cluster /njg/ in an avoidance speech verb stem: wunjguṇiya *'come!'*.

Type II Consonant Clusters (Secondary Pattern):

Type II consonant clusters consist of a non-lamino-alveopalatal central consonant plus a lamino-alveopalatal consonant according to the following formulae:

(1) + /ř ; ṇ ; ḍ / + /dj/
(2) + /ř ; ṇ / + /nj/
(3) + /ř/ + /y/

These consonant clusters are illustrated in the following words:

(1) amařdjunjdju *'small seabird species'*, djuluwuṇdji *'rod for fishing line'*, muḍdji *'blunt'*.

(2) nandayiřnjin *'her fingernail'*, nandawaṇnji *'her flesh'*.

(3) wuřya *'fish species'*.

Type III Consonant Clusters (Miscellaneous)

Type III consonant clusters include one cluster which occurs medial in the word for which there is a single example, and several other clusters which occur only at morpheme boundaries.

There is a single example of the cluster /ŋm/: mabuṇaṛiŋma *'tree species (with fruit resembling custard apples)'*.

There is one example each of the clusters /řd/, /ḷḍ/, /ddj/ occurring at morpheme boundaries, and there are two words in which the cluster /ndj/ occurs in that same position: danguř-danguř *'red'*, a-ḍangaḷ-ḍangaḷ *'bush lily species'*, a-djiiiwid-djiiiwid *'species of bird'*, yiřgan-djiřgan *'decorated'*, yuḷgan-djuḷgan *'in one line'*.

There are two examples of the cluster /ŋg/ and three of the cluster /iy/ at morpheme boundaries: giyiŋ-giyiŋ / giyiŋ-giyi *'flying fox species'*, njamba-wuibiŋ-guibinjma-ṉḏařa *'rubbing one's eyes'* (reflexive action), yabii-yabima-ṉḏařa *'keeping on fixing'*, yibai-yibařa-ṉḏařa *'keeping on putting'*.

Residue: The other possible consonant cluster at morpheme boundaries is the cluster /nd/ which may result from a d-initial suffix following an n-final stem: ŋuřbun-da (bushes in) *'in the bushes'*. No testing has been done to ascertain whether the resultant /nd/ occurs as a pre-nasalised stop or whether the /n/ occurs as the post-nuclear consonant of one syllable and the /d/ as the pre-nuclear consonant of the next.

N O T E S

1. Yanyuwa is the only language of the Yanyulan family (O'Grady, Voegelin and Voegelin 1966:32, Oates 1975:24, Wurm 1972:118). It appears to have been omitted from Voegelin and Voegelin (1977). The speakers of the language live mainly at or around Borroloola in Australia's Northern Territory. The language is referred to in the literature as Anyula, Yanyula, Yanyuwa, Wadiri, with variations of orthography for these names. Yanyuwa is the name used by the speakers themselves in reference to themselves and their language, and is the spelling according to current A.I.A.S. conventions. Yanyuwa has reference number 28 in Oates and Oates, 1970:17, and in Oates 1975:24.

This paper is written using data obtained during an approximate fifty months' linguistic field work at both Borroloola and Doomadgee Mission since 1963, during the writer's work under the auspices of the Summer Institute of Linguistics. Bella Charlie has contributed most of the data in the paper and has verified it all. Jean Kirton is responsible for the analysis and writeup. Nero and Tim Timothy have given valuable assistance in checking the data. Thanks are due to Mary Huttar for her editorial assistance. The writer is grateful to George Huttar, S.I.L. Technical Studies Co-ordinator, for his interest in Yanyuwa consonants and his introducing of Professor Ladefoged to them! And she is most grateful to Professor Ladefoged for his readiness to visit such a remote corner and for his support in checking and confirming the data used in establishing seven articulatory positions.

Grateful acknowledgement is also made for the help of a concordance of approximately 19,000 words of Yanyuwa text compiled by the IBM computer at the University of Oklahoma by the Linguistic Retrieval Project, and sponsored by Grant GS-934 of the National Science Foundation.

2. The literacy method referred to is that presented by Gudschinsky (1973).

3. The analysis of the syllable is based on the theoretical concept of the syllable as presented by Pike (1967:365-392).

4. Note that uřguwa *'burn'* is irregular in that the initial vowel is lost when prefixes are added except for those of third persons male, masculine and food class.

gali- uřguwa-ø	galiřguwa	*'we burnt'*
we dl *burn* p gen incl		
gaṇa-uřguwa-ø	gaṇařguwa	*'I burnt'*
I burn p gen		
giwa-uřguwa-ø	giwuřguwa	*'he burnt'*
he burn p gen		
giɻa-uřguwa-ø	giɻuřguwa	*'it burnt'*
it burn p gen fd		

5. Yanyula, or Yanyuwa, consonants are included in Dixon's (1970) survey of laminal consonants.

6. Yanyuwa noun morphology, and men's and women's dialect differences (which primarily relate to noun morphology, but which then relate to other areas of the language where there is agreement with the nouns) are written up in a noun paper (Kirton 1971). The dialects are there referred to as men's and women's "speech". Nuclear, referent, directive and accessory tagmeme markers described in that paper are now referred to as nominative, genitive, ergative and ablative case markers, respectively.

7. The initial apico-domal prenasalised stop in this word is potentially apico-domal. There is loss of contrast between apico-alveolar and apico-domal phonemes in word initial position, but the occurrence of a prefix preceding apico-domal initial stems indicates the potential retroflexion of the phonemes in their word initial occurrences.

8. Certain clusters listed in the earlier phonology paper are omitted from the current description. Clusters listed at that time as /ɳm/ and /ɳnj/ are now perceived as /ṇm/ and /ṇnj/. The clusters /ŋdj/ and /ŋnj/ were based on inaccurate data.

9. In these two examples it is noted that the phoneme /ḷ/ is in free variation with the phoneme /ṇ/, so that the examples are more fully written: wuḷmaɳɖaɽa / wuṇmaɳɖaɽa *'baling out'*, wuḷṇaɽ / wuṇṇaɽ *'smoke'*. Such variation is restricted to a few vocabulary items and elsewhere the contrast is clear.

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