The Phonology and Morphology of Bachamal (Wogait)

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Unless otherwise acknowledged in the text, this thesis represents the original work of the author.

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PREFACE

My interest in Bachamal stems from a request from Wajiginy women that their language be recorded before the last speakers died. What follows sketches the phonology and morphology of Bachamal. The syntax, sentence intonation and genetic relationship of Bachamal to other Australian languages are not covered in this sub-thesis, but are to be investigated in a further study which will compare Bachamal and Emmi to establish the relationship of each language to each other, and to other neighbouring languages.

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ABBREVIATIONS

A	agent, transitive subject
ABS	absolutive case-suffix
ADM	admonitory modal suffix
ag	'again' clitic particle
ALL	allative case-suffix
ano	'another' clitic particle
at all	'at all' clitic particle
aud	audible
ASP	aspectual marker
AUX	auxiliary verb
C	consonant
CAU	causal case-suffix
CAUS	causative verb
CM	conjugation marker
COM	comitative case-suffix
D	dative argument
DAT	dative case-suffix
De	deictic
du	dual
edveg	edible vegetable
EMP	'empty' derivational suffix
ERG	ergative case-suffix
ever	'ever' clitic particle
ex	exclusive
f	feminine

Foc	focal clitic particle
FUL	'full of' derivational suffix
FUT	future tense
GEN	possessive case-suffix
gp	group
I	irregular verb
IMP	imperative
IMPL	implicative argument
inc	inclusive
INS	instrumental case-suffix
m	masculine
N	nasal
ncm	noun-class marker
Neg	negative particle
nev	'never' clitic particle
NF	non-future tense
NI	noun incorporation
now	'now' clitic particle
NP	noun phrase
O	transitive object
obl	'obligated' clitic particle
only	'only' clitic particle
P	free pronoun
PERF	perfective aspectual marker
pl	plural
PLAC	place derivational suffix
prnpx	pronominal prefix
px	prefix
re	'really' clitic particle

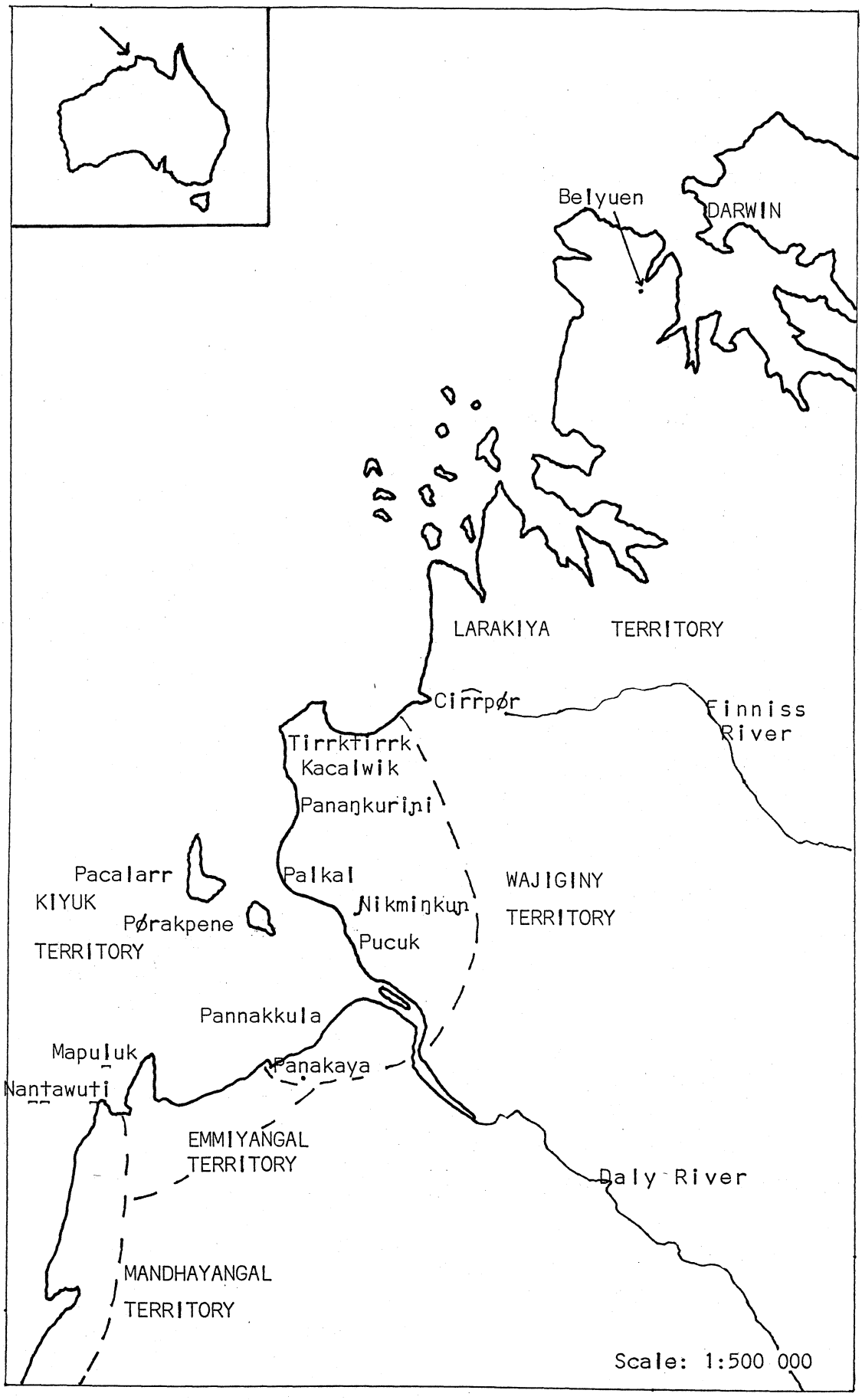
REF/REC	reflexive/reciprocal derivational suffix
REFL	reflexive pronoun
S	intransitive subject
sam	'same' clitic particle
SEMB	semblative case-suffix
sg	singular
tang	tangible
then	'then' clitic particle
tr	trial
V	vowel
vis	visible
1	first person
2	second person
3	third person
$	syllable boundary
X	variable element, may be null
*Y	Y is ungrammatical
+ or -	morpheme boundary
#	word boundary
[ ]	phonetic transcription
/ /	phonemic transcription
{ }	canonical form of morpheme

1. THE LANGUAGE AND ITS SPEAKERS.

1.1 Name of language. Bachamal [baccamal] is an Australian language, with about a dozen fluent speakers, most of whom live at Belyuen on the Cox Peninsula, west of Darwin. The oldest fluent female speakers live in Darwin; one fluent male speaker lives at Daly River Mission. All speakers contacted in the course of fieldwork were born into the Wajiginy [wajiɣi^{y}ɲ] tribe or reared by Wajiginy affines. Fluent Bachamal speakers call their mal 'language' Bachamal and reserve Wajiginy for the name of the tribe whose mal Bachamal is. A minority of semi-speakers use Wajiginy to describe tribe and language. Bachamal and Wajiginy are the spellings preferred by fluent speakers.

The Wajiginy are a saltwater people who describe themselves as [wɑɣac] 'beach-dwellers' from the Bachamal word wakac, [wɑɣac] 'beach'. The earliest written records refer to them as 'Wangites' (Herbert 1873:50), 'Waggites' (Wildey 1876:115), 'Wogites' (McKillop 1893:254), 'Waggait' (Parkhouse 1895:34), 'Wogait' (Basedow 1907:2), or 'Worgait' (Spencer 1912:14). Most subsequent records refer to the Wajiginy and their mal as 'Wogait'; the first Bachamal word-list is titled 'Wogait' (Basedow 1907:60).
All the early anglicisations of wakac miss the final laminal stop and intervocalic fricative of the original.

Map 1: Wajiginy traditional territory



In Bachamal, word-final stops are always voiceless and, intervocalically, peripheral stops become voiced fricatives.

1.2 Traditional territory. According to Bachamal speakers, Wajiginy territory was originally located on the shores of Anson Bay. Agnes Lippo and Kitty Moffat confirm that [bannakkʊla] and [bäṇaɣaya], south of the mouth of the Daly River, and [dɪrrktɪrrk], [ɲikmɪŋguʸɲ], [balɣal], [kajalʊɪk], [banaŋgʊriʸni], and [bʊjʊk], opposite the Peron Islands, are Wajiginy camp-sites. Map 1 shows the extent of Wajiginy traditional territory.

In the earliest written reference to the Wajiginy, dated 1874, surveyors exploring the hinterland of Darwin for the Overland Telegraph route note that 'the Waggites are located to the westward, about Anson's Bay' (Wildey 1876: 115). The 'Wangites' Reserve, proclaimed in 1892, granted the Wajiginy title to 388 sq. miles between the Finnis and Daly Rivers (South Australian Government Gazette, 1892, cited in NLC 1979:140). Father McKillop of the Uniya Mission knew the 'Wogites' as 'a powerful tribe' with land on the left bank of the Daly (McKillop 1893:254); Parkhouse (1895:634) described them as 'westerly neighbours' of the Larakiya, beyond Shoal Bay. In 1894, Knut Dahl explored the Daly with a 'Wogait' guide. Dahl recalls the 'Wogait' as 'a tribe entirely different from the Valli Valli (Daly)

people' and 'Wogait' territory as 'a very extensive coast area, reaching from the mouth of the Daly almost to Port Darwin' (Dahl 1927:15,128). Basedow (1907:2) locates the 'Wogait' to the west of the 'Larrekiya', from the Finniss River to Cape Ford. Stanner (1933:387) refers to them as 'a tribe which once lived in the Anson Bay district'. Tindale (1974:238) fixes the co-ordinates of 'Wogait' land as 130° 15'E x 13°10'S.

Intermarriage with neighbouring tribes, the Emmiyaŋal to the south, Kiyuk to the west, Warray inland to the east (Dahl 1927:129) and Larakiya to the north (Basedow 1907:4) brought the Wajiginy intimate knowledge of territory beyond their own. Basedow (1907:3) records them as speaking 'Larrekiya' and 'Berringin'. That 'Berringin' here refers to Emmi is clear from the accompanying 'Berringin' word-list, in which 23 out of 26 items are Emmi forms (Basedow 1907:60). In 1906, when Government Resident Herbert toured the coast between the Daly Smelter and Cape Ford to find a landing-site with fresh water, he took as guides 'Charlie and Cocky, two Wargite blacks from east of the Daly, who said they knew a marked tree of Mr Dashwood's near a well in the Amie (Emmi) country' (Herbert 1907:10).

To the west, the Wajiginy inherited custodianship of the Peron Islands, [bajalarr] and [børakpɛnɛ], from the last of the Kiyuk (Ivory and Tapsell 1978:9; Kitty Moffat

and Margaret Rivers pers. com. 1989). From the Larakiya, whose country stretched from Darwin south to [cirrβør], the mouth of the Finniss, the Wajiginy gained the right to hunt on Quail, Grose and Pelican Islands (Beckett 1916:6; Margaret Rivers in NLC 1979:197).

Larakiya land is the subject of a long-running land claim under the Land Rights Act. In the case, which is currently before the courts, Wajiginy elders are expert witnesses for Larakiya country because they have inherited custodianship of Larakiya sacred sites on the Cox Peninsula (Johnny Biyanamu pers. com. 1989).

1.3 The Wajiginy and Darwin. In 1893, twenty-four years after the founding of Darwin, a lighthouse was built at Point Charles, thirty kilometres from Darwin by sea, on the western tip of Darwin Harbour. The Wajiginy are linked with Point Charles by Basedow (1907:53) and Spencer (1913:45). Wajiginy men were employed to fetch firewood and carry mail for the lighthouse (Australia 1912 in NLC 1979:90). They grew crops on the land next to the lighthouse for the first lighthouse-keeper H.W.Christie, who wrote in a southern newspaper that he had been 'formally adopted a member of the Wogite tribe' (Christie 1906, quoted in NLC 1979:116). In the 1930's, Wajiginy were employed on

Mitchelmore's peanut farm near Point Charles (Johnny Biyanamu, Maggie Timber pers. com. 1989).

From 1911, the Wajiginy are recorded as labourers and domestic servants in Darwin (Kelly and Beckett 1911, in NLC 1979:90). They lived at Kahlin Compound on Cullen Beach until 1938, when the compound was demolished and its inmates moved a few kilometres to Bagot Compound. Early in World War II, Bagot was commandeered by the Australian Army and the Wajiginy were moved again, to Delissaville on the Cox Peninsula.

In 1936, A.P.Elkin had proposed a reserve for them 'on the Peninsula opposite Fanny Bay...where there is plenty of Cypress Pine, native food on land and sea...and buffalo' (quoted in NLC 1979:121). Elkin's proposal was rejected in the following terms:

> with regard to the proposed site on the Peninsula opposite Fanny Bay (presumably either Talc Head or West Point)...both these points are of strategic importance...the proximity of an Aboriginal settlement might prove distasteful. (Cook 1937, quoted in NLC 1979:121).

Instead, Delissaville, twenty kilometres inland, was chosen, because it was 'reasonably close to Darwin but also...reasonably difficult of access to Darwin'

(Welfare Division, NT Administration 1972, quoted in NLC 1979:123).

In 1942, the Japanese bombed Darwin and the Australian Army occupied Cox Peninsula. Most Wajiginy were trucked 125 kilometres south to an army camp at Adelaide River. Wajiginy men and all 'full-blood' women and children were then sent 200 kilometres further south to a 'control camp' at Katherine, where they spent the rest of the war. 'Half-caste' Wajiginy were sent to Adelaide (NLC 1979: 101-102).

In 1946, the Wajiginy returned to Delissaville, but were denied access to hunting-grounds on Quail Island, which the RAAF used as a bombing-site from 1957 until 1979 (advice from RAAF, 17/6/90). In 1971, Radio Australia took over Point Charles and restricted access to the adjoining coast (NLC 1979:146-147). In 1977, Delissaville was gazetted a reserve and renamed Belyuen. Since then, the Wajiginy have enjoyed security of tenure at Belyuen, but are still denied access to traditional hunting-grounds.

1.4 Speakers. The number of Wajiginy fluent in Bachamal is small. I have located thirteen speakers aged from 48-82. Most speakers live at Belyuen, but spend time in Darwin, at Bagot or One Mile Dam; one speaker spends the

wet season in Darwin and the dry at Balgal. The immediate family of each fluent speaker includes relatives aged 47 or younger with passive competence in Bachamal, but no children learn Bachamal as their mother-tongue.

Speakers say this has been so since their wartime years in the 'control camp' where they were a minority among speakers of mutually-unintelligible Australian languages. Camp inmates used Aboriginal English (a non-standard variety of English with Aboriginal language influences) as a lingua franca and Wajiginy children born in the camp learnt Aboriginal English as their mother-tongue. When the Wajiginy returned to Delissaville in 1946, adults and children communicated through Aboriginal English. As a result, all speakers of Bachamal are bilingual in Bachamal and Aboriginal English and all Wajiginy born since 1942 speak Aboriginal English as their mother-tongue.

At Belyuen, fluent speakers of Bachamal are outnumbered by speakers of Emmi and Manda, classified by Tryon (1974:174) as closely-related dialects of Marranuŋgu. Speakers of all three say that Emmi and Manda are mutually unintelligible with Bachamal. Emmi and Manda speakers are bilingual in their mother-tongue and Aboriginal English. Five older speakers of both Emmi and Manda are also fluent in Bachamal. All fluent Bachamal speakers are fluent in Emmi. When addressed in Emmi, they respond in the same code, but may

then switch to Bachamal or to Aboriginal English. When at home, they speak Bachamal or Aboriginal English to immediate family.

Two fluent Bachamal speakers speak some Larakiya; the only surviving mother-tongue Larakiya speaker understands Bachamal but cannot speak it. Bachamal speakers regard Larakiya and Bachamal as mutually unintelligible.

Agnes Lippo's step-father, Daly Young, was one of the last speakers of Kiyuk. Agnes remembers Kiyuk as mutually unintelligible with Bachamal. There is no-one left with even passive competence in Kiyuk.

1.5 Previous work on the language. Very little has been published on Bachamal (Wogait). Relevant sources are summarised and discussed as follows:
(i) Basedow (1907:1-62) gives a 'Wogait' word list, (60); all 27 items are Bachamal words. Basedow cites a total of 40 'Wogait' words, 39 of which are Bachamal lexical items.

(ii) Spencer (1912:12-53) lists 'Worgait' kinship terms. All except one (Larakiya) item are still used by Bachamal speakers.

(iii) Spencer (1913:45) notes that 'Worgait' and 'Larakia'

are mutually unintelligible, commenting:

> So far as the words are concerned, there is just as much difference between those in the language of two tribes such as the Larakia at Darwin and the Worgait at Point Charles, only a few miles away across the harbour, as there is between the French and German languages.

Spencer cites no data in support of this claim, but a comparison of Capell's Larakiya data (Capell 1968:55-106) with my Bachamal data revealed minimal lexical correspondences between the two languages. Larakiya and Bachamal share 1% cognates in R.M.W. Dixon's unpublished 91 item comparative word-list and 1.5% cognates in the same author's unpublished 400 item comparative word-list. The cognate items comprised the following six monosyllabic verb stems:

Larakiya		Bachamal	
*na	'see'		
*ci	'eat'		
*pø	'hit'		
mi	'sit'		
*lø	'cry'	*rø	'cry'
*mal	'make'	wa	'make'

Starred items are cognate with Dixon's putative Proto-Australian verb roots (Dixon 1980:402-407).

(iv) Spencer (1914:157-162; 482; 496) cites terms used in 'Worgait' initiation ceremonies, lists 'Worgait' numerals and marks word-accent. Bachamal speakers confirm the accuracy of his data.

(v) Capell (1940) notes the voiced bilabial fricative and mid-front rounded vowel in 'Worgait'(249); exemplifies masculine/feminine word classes and a possessive suffix in 'Wogadj' (407-8); cites verb forms marked for tense and cross-referenced for subject and object by pronominal prefixes (409) and provides a 19 item word-list (411).

(vi) Capell (1956:43) lists 'Wogadj' noun-class prefixes and discusses plural concord-marking on verbs.

(vii) Capell (1963) terms 'Wogadj' 'almost extinct'.

(viii) Capell (1979:247) claims that 'Wadjiginj' verb morphology has no parallel in other Daly River languages, but close parallels in Northern Kimberley and east Arnhem-land languages.

(ix) Tryon (1968:21-46) lists 200 'Wadyiginy' lexical items in a comparative word-list of Daly family languages. These items are all Bachamal words.

(x) Tryon (1970:218-222) sketches noun-classes and concord

in 'Wadyiginy' and other Daly languages.

(xi) Tryon (1974:187-228) proposes 'Brinken-Wogaity' as one of the three 'groups' of the Daly language family. His 'Wogaity''sub-group' of 'Brinken-Wogaity' consists of a single 'language', 'Pungupungu' which he claims has three dialects; 'Pungupungu', 'Wadyiginy' and 'Batyamal'. Tryon assigns identical phonemes to 'Pungupungu' and 'Wadyiginy' (188; 207), but does not specify 'Batyamal' phonemes. He claims:

(a) 'Batyamal shares 90% cognates with Wadyiginy and has an almost identical grammatical structure' (207). 'Wadyiginy and Batyamal may be taken as synonymous terms' (228).

(b) 'Pungupungu' shares 79% cognates with 'Wadyiginy' but 'Wadyiginy' 'shows morphological innovations that would certainly impede communication between Pungupungu and Wadyiginy speakers' (207).

Fluent Bachamal speakers refer to Puŋupuŋu as <u>kanjerra mal</u>, 'bush-talk', and regard it as a different but related language. This view is confirmed by a comparison of Tryon's Puŋupuŋu data with my Bachamal data, which yielded the following results:

(a) <u>lexical evidence</u>. Puŋupuŋu and Bachamal share 60% cognates on R.M.W Dixon's unpublished 91 item word-list, and 45% cognates, including 20% verb cognates, on his

400 item word-list.

(b) morphological evidence. Puŋupuŋu and Bachamal share a common core of inflectional and derivational affixes, but Puŋupuŋu has less nominal and verbal affixes. Puŋupuŋu lacks the portmanteau pronominal prefixes which are obligatory on Bachamal transitive verbs.

(xii) Tryon (1976:673-691), surveying auxiliary verbs in Daly Family languages, claims:

(a) intransitive verbs in 'Wadyiginy' and 'Pungupungu' form identical verb classes (683),

(b) 'Each verb stem is obligatorily accompanied by an auxiliary unit appropriate to the particular verb class' indicating 'actor, tense and general action type' (683-4),

(c) 'Wadyiginy' transitive verbs lack auxiliary units (685) and are structured as follows:
'VPhr(Trans): +Subject/Object+Pred.(VS+tense)' (685),

(d) 'the pronoun subject and object are fused into a... portmanteau morpheme, a feature not found elsewhere within the Daly Family' (685).

Comparison of Tryon's Puŋupuŋu data with the Bachamal data presented in 3.4 of this thesis shows that

(a) 70% of Puŋupuŋu intransitive verbs consist of a 'free form verb stem' (Tryon:1974:193) compounded with an inflected intransitive auxiliary verb. In Bachamal,

compound verbs form a minority of intransitive verbs.
(b) Any Bachamal verb may be followed by an inflected intransitive auxiliary verb specifying the bodily orientation of the co-referential subject.
(c) 50% of Bachamal transitive verbs are compound verbs, formed from a type B verb (Tryon's 'free form verb-stem') + an inflected transitive auxiliary verb.

(xiii) Tryon (n.d.) is a 115 page draft grammar of 'Pungupungu' written in a tagmemic framework. Appended are a 555 item word-list and five texts with English translations.

(xiv) Tryon (1980:277-87) compares 'Wadyiginy' and 'Pungupungu' morphology and concludes that 'the dramatically different manner in which pronominal objects are marked with transitive verbs' militates against classifying them as dialects of the same language (285). He offers the following explanation, while admitting that the dearth of Punupunu speakers renders it untestable:

> Tradition has it that Pungupungu...was once used as a lingua franca within the Daly area. Possibly it too once had the same transitive/intransitive distinction described for Wadyiginy, the distinction being eroded by the exigencies of being a lingua franca in an area in which no other language

> ...belonging to the Daly Family observes the same type of distinction (285-6).

It appears from the Bachamal data now available that Puŋupuŋu and Bachamal are related but morphologically divergent languages.

(xv) Lippo (1987) is a Bachamal text, transcribed by Evans.

(xvi) Evans (1987a) is a draft phonemic analysis of 'Emi' and 'Watyiginy/Batjamal'.

(xvii) Evans (1987b) is an unpublished paper comparing the morphology of 'Wadjiginy' with 'Pungu-pungu' and 'Kungarrakany'. Evans concludes that 'Wadjiginy' and 'Kungarrakany' are 'Gunwinnguan', retaining archaic forms lost in many 'Gunwinnguan' languages, but that 'Pungu-pungu' has undergone extreme 'Dalyisation'.

(xviii) Evans (1989) is a revised draft of Evans (1987b).

The data supporting Evans' claims for 'Watjikiny/Batjamal' are superseded by that provided in my thesis, which takes into account all previous work on Bachamal. There is no evidence to suggest that Bachamal and Wajiginy are separate dialects. Comparative research outside the scope of my

study is needed to establish accurate sub-grouping for Puŋupuŋu and Bachamal. Only then will we be able to test Evans' claim that Bachamal is Gunwiŋguan but Puŋupuŋu 'Dalyised'.

2 BACHAMAL PHONOLOGY

2.1 Introduction. My analysis represents the speech of two women recommended by other Wajiginy as the most knowledgeable speakers of Bachamal. They are:
(i) Agnes Lippo, aged 60. Her father was Emmiyaŋal, her mother Wajiginy. Most of her life has been spent at Belyuen, married to a Wajiginy man, now deceased. Agnes is trilingual in Bachamal, Emmi and Aboriginal English, but regards Bachamal as her mother-tongue. She has passive competence in Larakiya.

(ii) Josephine Rankin, who died in December 1989, aged 66. Her Larakiya mother, Yiccin, died when she was a small baby and Lew Fatt, her Chinese-MalakMalak father abandoned her; she was brought up by Akuk, the last Wajiginy [dawarraβørak] 'clever-man', who was husband to her mother's mother, Kiril, and uncle to Agnes Lippo. Josephine neither spoke nor understood Larakiya. She was trilingual in Bachamal, Emmi and Aboriginal English, but regarded Bachamal as her mother-tongue. She grew up on the Cox Peninsula coast, but spent her adult life at Bagot Reserve, married to Nipper Rankin, a Kiyuk man, now deceased. Neither Josephine nor her husband could speak or understand Kiyuk; they communicated in Bachamal, Emmi or Aboriginal English.

The pace of the speech analysed is approximately that of normal Bachamal conversation. This is considerably faster than the speed at which citation forms were uttered for the benefit of the learner.

2.2 **Summary of analysis**. Bachamal has 22 phonemes: five vowel phonemes and seventeen consonant phonemes. Vowel-length is not phonemic. Stops and nasals correspond to five places of articulation. There are two apical and one laminal series of stops, nasals and laterals, plus two peripheral series of stops and nasals. The laminal lateral approximant is interdental. There are four central approximants: apico-alveolar trill; apico-post-alveolar (retroflex) approximant; lamino-palatal approximant and labial-velar approximant.

Bachamal stops are underlyingly voiceless. All stops are voiced after nasals. Apical and labial stops are voiced word-initially, laminal and velar stops are not. Inter-vocalically, apical and laminal stops are voiced; peripheral stops become voiced fricatives. After liquids, laminal stops are voiced; after a non-nasal sonorant, a peripheral stop lenites to a voiced fricative, unless it is followed by another stop, when voicing and lenition are blocked. All stop-clusters are voiceless.

Bachamal syllable-structure is such that sequences of identical stops, nasals and laterals may occur across syllable-boundaries. The canonical syllable-structure is: $(C<_1(C)>_1)\ V\ (<_2(C)>_2C)$, where $<_1\ >_1$ precludes $<_2\ >_2$ and vice versa. Syllable types are listed in 2.7. The most frequent syllable types are C_1V and C_1VC_2. C_1 of C_1V may be any consonant except a retroflex lateral. C_1 of C_1VC_2 may be any consonant except a retroflex nasal. C_2 of C_1VC_2 may be any consonant except a labial-velar approximant. If a consonant-final syllable precedes a consonant-initial syllable, a homorganic or heterorganic consonant cluster results across a syllable-boundary. The corpus of 1061 words contains 920 polysyllabic words, 72 geminate stops, 11 geminate nasals and 7 geminate laterals.

2.3 Consonant phonemes specified.

	APICAL		LAMINAL		PERIPHERAL	
	Alveolar	Retro-flex	Inter-dental	Palatal	Velar	Bilabial
stop	t	ṭ		c	k	p
nasal	n	ṇ		ɲ	ŋ	m
liquid:						
lateral	l	ḷ	l̪			
rhotic	rr	r				
semi-vowel				y		w

2.3.1 Articulatory description of consonant phonemes.

(a) stops

(1) /t/ voiceless apico-alveolar

(2) /ṭ/ voiceless apico-postalveolar (retroflex)

(3) /c/ voiceless lamino-palatal

(4) /k/ voiceless dorso-velar

(5) /p/ voiceless bilabial

All stops contrast initially and medially:

{tilk}	[dɪlk]	wet
{ṭuḷk}	[d̤ʉ̈ḷk]	whale; dreaming
{cilk-ŋa-me}	[cilkŋamɛ]	I ache/d
{kuḻḻak}	[kʊḻḻak]	catfish sp.
{pilk-ye-pø}	[bɪlkyɛβø]	Slap him!
{mitaɲ}	[mɪdaɲ]	forehead
{ŋaṭal}	[ŋäd̤al]	tongue
{ŋace}	[ŋajɛ]	1sg free pronoun
{ŋaparrkkalamaɲ}	[ŋaβarrkkalama^{y}ɲ]	old woman

Word-final contrast between apical stops is neutralised:

{tit}	[dɪt]	inedible green ant
{tec}	[dɛc]	nit
{kak-}	[kak-]	leave
{pap}	[bap]	up

2.3.2 Consonant allophony

(1) phoneme /t/

2 allophones: [t] voiceless apico-alveolar stop

[d] voiced apico-alveolar stop

Environments: (* means not occurring)

#_	_#	N_	V_V	rr_	r_	l_	l̤_	l̲_	y_	w_	Stop_	_C
d	*	d	d	*	*	*	*	*	*	*	*	*
*	t	*	*	*	*	*	*	*	*	*	t	t

/t/ ----→ { [d] / { #_____ ; N_____ ; V_____V } ; [t] }

e.g.

{tit}	[dɪt]	inedible green ant
{mitaŋ}	[mɪdaŋ]	forehead
{mattimatti}	[mattɪmatti]	slowly
{wutiwuti}	[wʊdɪwʊdi]	crooked
{wuttut}	[wʊttʊt]	brown frog
{wørrakkata}	[ʊørrakkada]	bush
{parrkkatta+ŋak}	[barrkkattaŋak]	two-edged
{ŋatta}	[ŋatta]	house
{puntirrik}	[bʊndɪrrɪk]	octopus
{yarr-turra}	[yattʊrra}	we, excluding you,
1plexA.3sgmO+cook		cook/ed it (by P 1)

(2) phoneme /ṭ/

2 allophones: [ṭ] voiceless retroflex stop

[ḍ] voiced retroflex stop

Environments:

#_	_#	N_	V_V	rr_	r_	l_	l̤_	l̲_	y_	w_	Stop_	_C
ḍ	*	ḍ	ḍ	*	*	*	*	*	*	*	*	*
*	ṭ	*	*	*	*	*	*	*	*	*	ṭ	ṭ

/ṭ/ ----> { [ḍ] / { #_____ ; N_____ ; V_____V } ; [ṭ] }

e.g.

{ṭulk}	[ḍʊ̈l̤k]	whale; dreaming
{paṭpaṭ}	[bäṭpäṭ]	grasshopper
{ŋaṭal}	[ŋäḍal]	tongue
{paṭak}	[bäḍak]	cheeky
{muṭa}	[mʊ̈ḍa]	night-bird sp.
{pøcemaṭa}	[bʏjɛmäḍa]	rainclouds
{intiṭṭi}	[ɪndïṭṭi]	bitter
{paṇṭala}	[bäṇḍala]	stringybark
{waṇṭac}	[wäṇḍac]	on the coals
{ŋanparr+ṭat+mene}	[ŋanbäṭṭatmɛnɛ]	they bit/e me
3plA.1sgmONF+bite+NF		(by P 1).

Variation between speakers occurs in the lexical item {møṭa} 'star' and its compounds. All but two fluent speakers say [møṣa] 'star', [møṣamɛjɛm] 'egg', [møṣarak] 'sky' with a

retroflex fricative. For them, the retroflex fricative is an allophone of the retroflex stop after /ø/. The two oldest speakers pronounce the same items as [møḍa], [møḍamɛjɛm], [møḍarak], with an intervocalic voiced retroflex stop, as did Akuk on a tape-recording made thirty years ago (AIAS 1959: tape 320/3). Eighty years ago, Basedow transcribed {møṭa} as 'murre' with an intervocalic trill (Basedow 1907:62).

(3) phoneme /c/

2 allophones: [c] voiceless lamino-palatal stop
[j] voiced lamino-palatal stop

Environments:

#_	_#	N_	V_V	rr_	r_	l_	l̥_	l̲_	y_	w_	Stop_	_C
*	*	j	j	j	*	*	*	j	*	*	*	*
c	c	*	*	*	*	*	*	*	*	*	c	c

/c/ ----→ { [j] / { N_____ ; V_____V ; liquid _____ ; [c] }

e.g.

{cettak}	[cɛttak]	rock cod
{nic}	[nic]	name
{mecak}	[mɛjak]	neck
{ŋaraca}	[ŋaraja]	female ego's daughter
{pwuccaka}	[bwʊccaɣa]	strange
{paccakapa}	[baccaɣaβa]	spear

{cica}	[cija]	3sgm deictic
{ciɲca}	[ci^{y}ɲja]	3sgf deictic
{mamcal}	[mamjal]	flower
{merrcel}	[mɛrrjɛl]	great egret
{wil̲ccirri}	[ʊil̲ccirri]	blue-spotted stingray
{wulcca}	[wʊlcca]	white plum
{nickurrum}	[nickʊrrʊm]	initiated girl
{pickal̲ampa}	[bickal̲amba]	bush carrot sp.
{kacpak}	[kacpak]	scorpion
{wiɲ+cene}	[ʊi^{y}ɲjɛnɛ]	using a stick
{pik+cene}	[bɪkcɛnɛ]	using a rope
{ɲørrec+cene}	[ɲʏrrɛccɛnɛ]	using pandanus
{wara+cene}	[warajɛnɛ]	using paperbark

Nominals are marked instrumental with the suffix {-cene}. After a nasal or liquid and between vowels, the suffix-initial laminal stop is voiced; elsewhere, it is voiceless.

(4) phoneme /k/

3 allophones: [k] voiceless velar stop

[g] voiced velar stop

[ɣ] voiced velar fricative

Environments:

#_	_#	N_	V_V	rr_	r_	l_	l̥_	l̲_	y_	w_	Stop_	_C
*	*	g	*	*	*	*	*	*	*	*	*	*
*	*	*	ɣ	ɣ	ɣ	ɣ	*	ɣ	ɣ	*	*	*
k	k	*	*	*	*	*	*	*	*	*	k	k

/k/ ----> { [g] / N_____
[ɣ] / { V_____V
liquid_____
[k]

e.g.

{kuk}	[kʊk]	excrement; cloud
{yiɲmek}	[yi^{y}ɲmɛk]	tomorrow
{kuka}	[kʊɣa]	father's father; totem
{kakka}	[kakka]	mother's brother
{mørrakara}	[mørraɣara]	yesterday
{kamaŋka}	[kamaŋga]	nothing
{mal+kamaŋka}	[malɣamaŋga]	mute
{wunka}	[wʊnga]	water-snake
{perrkata}	[bɛrrɣada]	raw
{parrkka}	[barrkka]	sharp
{walkan]	[walɣan]	hairy chiton; spear
{walkkan]	[walkkan]	wild blackfella
{mecakkarr}	[mɛjakkarr]	songman
{kayik+karraŋ}	[kayɪkkarraŋ]	sun + ergative
{ŋace+karraŋ}	[ŋajɛɣarraŋ]	1sg pronoun + ergative
{ŋanaŋ+karraŋ}	[ŋanaŋgarraŋ]	man + ergative.

Nominals are marked ergative with the case-suffix {-karraŋ}. After nasals the suffix-initial velar stop is voiced; intervocalically and after a liquid, it becomes a voiced fricative; elsewhere it is voiceless.

(5) phoneme /p/

3 allophones: [p] voiceless bilabial stop
[b] voiced bilabial stop
[β] voiced bilabial fricative

Environments:

#_	_#	N_	V_V	rr_	r_	l_	l̥_	l̪_	y_	w_	Stop_	_C
b	*	b	*	*	*	*	*	*	*	*	*	*
*	*	*	β	β	β	β	*	β	*	*	*	*
*	p	*	*	*	*	*	*	*	*	*	p	p

/p/ ----→ { [b] / { #_____ ; N_____ } ; [β] / { V_____V ; liquid_____ } ; [p] }

e.g.

{pøt̪up}	[bø̈d̪ʊp]	cigarette
{picpic}	[bicpic]	bird sp.
{pølpøl}	[bølβøl]	coucal (bird sp.)
{pulppul}	[bʊlppʊl]	wild passion-fruit
{mipec}	[mᴵβɛc]	louse
{mepperre}	[mɛppɛrrɛ]	liver
{merreppen}	[mɛrrɛppɛn]	cabbage-palm
{panpapanpa}	[banbaβanba]	flat
{pappa}	[bappa]	father
{pampac}	[bambac]	baby
{muɲpem}	[mʊʸɲbɛm]	basket
{karrpek}	[karrβɛk]	prickly gum tree
{malpak}	[malβak]	praying-mantis
{kalppa}	[kal̪ppa}	tail
{camatpa}	[camatpa]	ashes for chewing
{kutpøpørør}	[kʊtpøβørør]	worried

{parrwi̲likpa}	[barrʊi̲likpa]	ugly
{pa̲lkpa̲lkpi}	[ba̲lkpa̲lkpi]	convolvulus
{ŋanaŋ+pøttuŋ}	[ŋanaŋbøttʊŋ]	belonging to the man
{ŋace+pøttuŋ}	[ŋajɛβøttʊŋ]	belonging to me
{pappa+̲lak+pøttuŋ}	[bappa̲lakpøttʊŋ]	my father's.

Nominals are marked for alienable possession with the Genitive allomorph /-pøttuŋ/. Ego's close non-affinal kin are marked as inalienable with the Genitive allomorph /-pa̲lak/. A kin-term eligible for marking with /-pa̲lak/ may be additionally marked with /-pøttuŋ/ to show alienable possesssion, e.g. the last item in this list. The suffix-initial syllable of /-pa̲lak/ is elided with the identical stem-final syllable of {pappa} by haplology. Both Genitive allomorphs show the following allophony across morpheme-boundaries:
After a nasal, the suffix-initial bilabial stop is voiced. Intervocalically and after a liquid, it becomes a voiced fricative; elsewhere, it is voiceless.

(b) nasals

(1) /n/ apico-alveolar nasal

(2) /ṇ/ apico-postalveolar (retroflex) nasal

(3) /ɲ/ lamino-palatal nasal

(4) /ŋ/ dorso-velar nasal

(5) /m/ bilabial nasal

Nasals contrast medially and finally:

{penterr}	[bɛndɛrr]	sweet
{paṇṭala}	[bändala]	stringybark

{maɲcewa̱lac}	[maʸɲjɛwa̱lac]	catfish sp.
{pøŋkanak}	[bøŋganak]	sugar-cane
{pømpaccak}	[bømbaccak]	white apple
{kaṭaman}	[kädaman]	rotten
{kunkun}	[kʊngʊn]	curlew
{kankan}	[käŋgäṇ]	eagle sp.
{ŋaparrkkalamaɲ}	[ŋaβarrkkalamaʸɲ]	old woman
{maŋ}	[maŋ]	rock; money
{nem}	[nɛm]	beeswax.

Initial contrast between apical nasals is neutralised:

{nic}	[nic]	name
{ɲik}	[ɲik]	night-time
{ŋuk}	[ŋʊk]	pandanus nut
{mik}	[mɪk]	sore.

Apico-alveolar and dorso-velar nasals contrast medially in the following minimal pair:

{mankarra}	[mangarra]	wattle sp.
{maŋkarra}	[maŋgarra]	phlegm.

(c) liquids

(1) /rr/ apico-alveolar trill

(2) /r/ apico-postalveolar (retroflex) approximant

Variation between speakers occurs in one lexical item. Older speakers pronounce the item {maranmaran} 'waterweed' with an intervocalic voiceless retroflex approximant. For them, but not for speakers under 50, there is a sub-minimal contrast between the following items:

{para}	[bära]	arm, creek
{maranmaran}	[mä˕anmä˕an]	waterweed.

The rhotics are in partial complementary distribution. Word-initially, only the retroflex continuant occurs; in medial clusters, only the trill occurs. Both rhotics contrast intervocalically, finally and as the first member of a final consonant cluster:

{murrunmurrun}	[mʊrrʊnmʊrrʊn]	kidney
{maranmaran}	[märanmäran]	waterweed
{wørrak}	[ʊørrak]	grass
{wurak}	[wʊ̈rak]	near
{wirk-ka-me}	[wɪ̈rkkamɛ]	he shrieks/shrieked
{wirrkwirrk}	[wɪrrkwɪrrk]	shark sp.
{piccirr}	[biccirr]	mudskipper (fish sp.)
{cirrir}	[cirrɪ̈r]	bird sp.

Intervocalic contrast occurs between apico-alveolar stop and retroflex approximant, e.g.

{wutiwuti}	[wʊdɪwʊdi]	crooked
{wuriwuri}	[wʊ̈rɪwʊ̈ri]	red ochre,

between retroflex stop and continuant, e.g.

{wuṭak}	[wʊ̈ḍak]	saliva
{wurak}	[wʊ̈rak]	near
{paṭak}	[bäḍak]	cheeky
{para}	[bära]	arm, creek
{kaḻjeṭec}	[kaḻjɛ̈ḍɛc]	Milky Way
{karrcera}	[karrjɛ̈ra]	water-lily,

and between retroflex stop and apico-alveolar trill, e.g.

{maṭawuk}	[mäḍawʊk]	crab sp.
{marrawuk}	[marrawʊk]	cool wind.

(3) /l/ apico-alveolar lateral approximant

(4) /ḻ/ apico-postalveolar (retroflex) lateral approximant

(5) /l̪/ lamino-interdental lateral approximant

e.g.

{l̲ewirr}	[l̲ɛʊɪrr]	crab sp.
{møl̲}	[møl̲]	rice, maggot
{cal̲kma}	[cal̲kma]	bad
{kal̲al̲k}	[kal̲al̲k]	black
{kal̲jetec}	[kal̲jɛdɛc]	Milky Way

Laterals contrast medially, finally and as the first member of a final consonant cluster:

{millik}	[mɪllɪk]	place name
{kulløk}	[kʉ̈l̤løk]	short
{kul̲luk}	[kʊl̲l̲ʊk]	blind
{tilk}	[dɪlk]	wet
{t̤ul̤k}	[d̤ʉ̈l̤k]	whale; dreaming
{mul̲k}	[mʊl̲k]	house-fly
{kalkalk}	[kalkalk]	cliff
{yiŋkul̤k+ka+yi+ŋa}	[yiŋgʉ̈l̤kkayiŋa]	it tastes/tasted sweet
{kal̲al̲k}	[kal̲al̲k]	black
{kel̲}	[kɛl̲]	path
{tul̤}	[dʉ̈l̤]	angry, upset
{cal̲}	[cal̲̃]	dew.

Apico-alveolar and laminal laterals contrast initially, medially, intervocalically and finally, e.g.

{licpurrk}	[licpʊrrk]	axe
{l̲ewirr}	[l̲ɛʊɪrr]	crab sp.
{pamalaŋ}	[bamalaŋ]	big
{pemel̲ak}	[bɛmɛl̲ak]	stone knife
{celwe}	[cɛlʊɛ]	death adder
{kal̲wak}	[kal̲wɑk]	antbed
{kel̲}	[kɛl̲]	path
{kal̲kal̲}	[kal̲kal̲]	lungs, leaf, tea.

Apico-alveolar liquids contrast intervocalically, medially, finally, and as the first member of a final consonant cluster, e.g.

{walarra}	[walarra]	hermit crab sp.
{walala}	[walala]	fish-wire tree
{ŋurrkkul}	[ŋʊrrkkʊl]	stick insect
{palkal}	[balɣal]	place name
{ŋaḻimpurrk}	[ŋaḻimpʊrrk]	magpie goose
{matpulk}	[matpʊlk]	woman's name
{mamurrŋ}	[mamʊrrŋ]	invitation to ceremony
{melŋmelŋ}	[mɛlŋmɛlŋ]	cheeky yam
{cimmerr}	[cimmɛrr]	longbum (shell sp.)
{cemmel}	[cɛmmɛl]	Carpentaria acuminata
{mecakkarr}	[mɛjakkarr]	songman
{ŋurakal}	[ŋʊraɣal]	young man.

Apical and laminal liquids contrast intervocalically:

{-karraŋ}	[-kaṛraŋ]	ergative suffix
{kaḻaŋ}	[kaḻaŋ]	mother
{pipere}	[bɪβɛ̈rɛ]	ear
{pøpeḻe}	[bøβɛḻɛ]	semen.

(d) semi-vowels

(1) /y/ lamino-palatal approximant

Palatal stop and approximant contrast initially, finally and intervocalically:

{ceɲcak}	[cɛʸɲjak]	milkwood tree
{yeɲcarrwa}	[yɛʸɲjarrwa]	on one side
{carrkkupa}	[carrkkʊβa]	place name
{yerrk-ye-pø}	[yɛrrkyɛβø]	Scrape it!
{mecak}	[mɛjak]	neck
{meyak}	[mɛyak]	Grewia retussifolia
{marruc}	[marrʊc]	mud-crab

{maruy}	[märʊy]	shadow, conception-dreaming.

The palatal approximant occurs word-finally only in this and the following items:

{walakaykay}	[walaɣayɣay]	white shark
{pay}	[bay]	ant sp.
{paypay}	[baybay]	white.

The last item in this list is an exception to the rule by which peripheral stops fricativise intervocalically or after an approximant.

Only fluent speakers maintain an initial palatal approximant in the following items:

{yine-me}	[yinɛ-mɛ]	do what?
{yiɲmek}	[yiʸɲmɛk]	tomorrow
{yilec}	[yil̲ɛc]	flame
{yila}	[yila]	heron
{yiɲarreɲ}	[yiʸɲarrɛʸɲ]	ringworm
{yiŋkarreɲ}	[yiŋgarrɛʸɲ]	turtle sp.
{yikac}	[yiɣac]	stingray sp.
{yikwar}	[yikwär]	cockle.

(2) phoneme /w/

2 allophones: [ʊ] voiced bilabial approximant

[w] voiced labial-velar approximant

/w/ ----→ { [ʊ] / _____ i, e, ø

[w] / _____ u, a

e.g.

{willerr}	[ʊɪllɛrr]	crocodile
{wøtawel}	[ʊødaʊɛl]	fat (noun)

{welerre}	[ʊɛlɛrrɛ]	spear, parcel
{watarraɲ}	[wadarra^{y}ɲ]	witchetty grub
{wutak}	[wüd̤ak]	saliva.

{w} occurs word-finally only in the conjunction {aw} 'or', which is borrowed from English.

The labial stop and labial approximant contrast word-initially and intervocalically:

{pik}	[bɪk]	rope
{wik}	[ʊɪk]	water
{pørak}	[bø̈rak]	small
{wurak}	[würak]	near
{para}	[bära]	arm, creek
{wara}	[wära]	paperbark
{pipere}	[bɪβɛ̈rɛ]	ear
{wiwere]	[ʊɪʊɛ̈rɛ]	termite.

In reduplicated forms, the velar stop and labial-velar approximant alternate, e.g.

{tirra+wucukkucuk}	[tɪrrawʊjʊkkʊjʊk]	(natica vitellus
{tirra+kucukkucuk}	[tɪrrawʊjʊkkʊjʊk]	shell sp.)
{wukkuk}	[wʊkkʊk]	owl.

Reduplication is discussed in 3.3.4.

The labial-velar approximant is never elided word-initially before a high back rounded vowel, e.g.

{wurak}	[würak]	near
{wulurruk}	[wʊlʊrrʊk]	sweat.

The labial approximant is obligatory in the rare syllable-types C_1C_2V and $C_1C_2VC_3$. In type C_1C_2V, C_1 must be a

bilabial nasal, C_2 the labial approximant, V a high vowel. In type $C_1C_2VC_3$, C_1 must be the bilabial stop, C_2 the labial approximant, C_3 a laminal or velar stop. V must be a high vowel. The sequences /pw/ and /mw/ contrast with /p/ and /m/ in the following minimal and sub-minimal pairs:

{pik}	[bɪk]	rope
{wik}	[ʊɪk]	water
{pwik}	[bʊɪk]	bone
{puc}	[bʊc]	smell (noun)
{pwuccaka}	[bwʊccaɣa]	strange
{miɲaŋ}	[mi^{y}ɲaŋ]	lover, dove
{mwiŋak}	[mʊɪŋak]	scrub-turkey.

It could therefore be suggested that /pw/ and /mw/ are distinct phonemes, but they occur only in these lexical items and their compounds, and other hypotheses must be considered:

(i) /pw/ and /mw/ derive from /puw/ and /muw/.

This must be rejected on two grounds:

(a) the corpus contains no instances of /puw/and only one instance of /muw/: {muwiniŋka} [mʊʊɪnɪŋga] 'rock python'.

(b) for a word-initial syllable which is also stem-initial to be elided is unlikely because this syllable carries word-accent. A phonological word is defined as one whose stem-initial syllable is accented, i.e. raised in pitch.

(ii) These lexical items are loanwords from Puŋupuŋu.

This argument rests on scanty and inconclusive evidence:

(a) {pwik}, {pik} and {wik} occur in Puŋupuŋu (Tryon n.d.: 117, 129, 135), but Puŋupuŋu {mulŋak} (Tryon n.d.:124) is

not cognate with Bachamal {mwiŋak}; no other relevant cognates are attested.

(b) if these items are loanwords, they may have been borrowed into Puŋupuŋu from Bachamal, or into both languages from another source. No cognates are attested in Larakiya or Emmi and until more data are available the question remains unresolved.

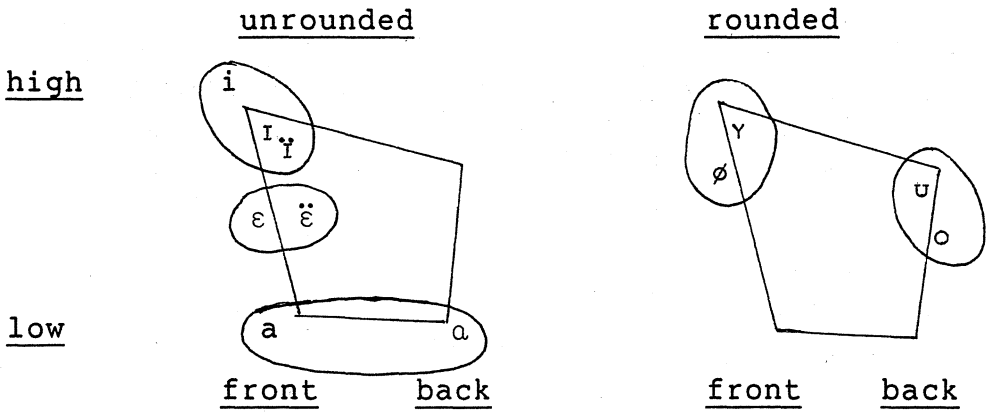
2.4 Vowel phonemes specified.

/i/ high front unrounded
/u/ high back rounded
/e/ mid front unrounded
/ø/ front rounded
/a/ low front unrounded

Vowels contrast medially and finally:

{mirraŋuk}	knee
{murruppul+maŋ}	white stone (quartz)
{merriki}	bush carrot sp.
{mørrakara}	yesterday
{marrapat}	beard
{ka+mi}	he sits/sat
{camu}	longtom (fish sp.)
{currk-ka-me}	it is/was charred
{cerrmø)	catfish sp.
{ŋammama}	deaf.

2.4.1 Articulatory description of vowel phonemes



2.4.2 Vowel allophony

(1) phoneme /i/

3 allophones: [i] high front unrounded vowel

[ɪ] slightly lowered and slightly centralised high front unrounded vowel

[ɨ] slightly lowered and centralised high front unrounded vowel

/i/ → [i] / { [laminal cons] _____ ; _____ [laminal cons] ; _____ # }

[ɨ] / _____ [retroflex cons]

[ɪ]

e.g.

{yik}	[yik]	fat, old
{tilk}	[dɪlk]	wet
{pancik}	[banjik]	reef

{ŋancic}	[ŋancic]	one
{yirril}	[yirrɪl]	shell
{wiṇṭir}	[wïṇḍïr]	large oyster
{ɲinic}	[ɲinic]	what?
{mitaŋ}	[mɪdaŋ]	forehead
{kittilkittil}	[kɪttɪlɣɪttɪl]	white frog
{intiṭṭi}	[ɪndɪṭṭi]	bitter
{karr+mi+m+kaɲi}	[karrmɪŋgaᵛɲi]	they are both sitting

3duSNF-sit-PRES.

The present aspectual morpheme {-m-} assimilates to the same point of articulation as a following stop. See 3.4.3.3.(i). /i/ occurs word-initially only in the form cited above for speakers aged 58 or over. For younger speakers, initial /i/ also occurs on lexical items listed in 2.3.2 (d)(1).

(2) phoneme /u/

2 allophones: [ʊ] slightly lowered and centralised high back rounded vowel

[o] mid back rounded vowel

/u/ ⟶ { [o] / _____ # ; [ʊ] }

e.g.

{pu}	[bo]	medicinal grass
{wupupu}	[wʊβʊβo]	cyclone
{parr+p+mu}	[parrpmo]	they will sit
{muc}	[mʊc]	wallaby
{yura}	[yüra]	hole
{wuyuŋ}	[wʊyʊŋ]	fish eagle
{muntak}	[mʊndak]	old
{munnuk}	[mʊnnʊk]	toadfish
{kuḷḷøk}	[kʊḷḷøk]	short

{kulluk}	[kʊlluk]	blind
{curr+ɲe+yika}	[cʊrrɲɛyiɣa]	Get down!

(3) phoneme /e/

2 allophones: [ɛ] mid front unrounded vowel

[ɛ̈] centralised mid front unrounded vowel

/e/ ⟶ { [ɛ̈] / _____ [retroflex cons] ; [ɛ] }

e.g.

{e}	[ɛ]	eh?
{eniŋ}	[ɛnɪŋ]	isn't it?
{eperre}	[ɛβɛrrɛ]	migrant
{wettet/werret}	[wɛttɛt]/[wɛrrɛt]	quickly
{ŋa+ye+pe}	[ŋayɛβɛ]	I lie/lay
1sgS-lie-NF		
{ŋawarrawete}	[ŋawarraʊɛdɛ]	sibling
{yereɲ}	[yɛ̈rɛʸɲ]	skin, clothes
{werŋaŋ}	[wɛ̈rŋaŋ]	gaping hole
{karrcera}	[karrjɛ̈ra]	water-lily.

/e/ occurs word-initially only in the instances cited above, but is common word-finally.

(4) phoneme /ø/

2 allophones: [ø] mid front rounded vowel

[ʏ] high front rounded vowel

/ø/ ⟶ { [ʏ] / { _____ [laminal cons] ; [laminal cons] _____ } ; [ø] }

e.g.

{cøt}	[cʏt]	foot
{cøwekpa}	[cʏwɛkpa]	milky plum
{pøce}	[bʏjɛ]	head
{merrepøce}	[mɛrrɛβʏjɛ]	hair
{cøŋka}	[cʏŋga]	base
{wørraɲ]	[ʊørraɲ]	mosquito
{ŋøl̲}	[ŋøl̲]	milky mangrove
{yaŋ-pø-pø}	[yaŋbøβø]	I will hit him/it
{wøŋ}	[ʊøŋ]	rain
{møŋ}	[møŋ]	buttocks
{møna}	[møna]	husband
{tørr}	[dørr]	tamarind tree
{-pørraɲ}	[-børraɲ]	3plD pronominal enclitic
{pørak}	[bӧrak]	small
{ŋakul̲ø}	[ŋaʏʊl̲ø]	not
{kunøpiyørrk}	[kʊnøβiyørrk]	storm wind from sea.

/ø/ occurs word-finally, but not word-initially.

(5) phoneme /a/

3 allophones: [a] low front vowel

[ä] slightly centralised low front vowel

[ɑ] low back vowel

/a/ ⟶ { [ä] / _____ [retroflex cons]
{ [ɑ] / w _____ [velar cons]
{ [a]

e.g.

{apepa}	[aβɛβa]	deaf-mute
{walapic}	[walaβic]	flying-fox
{warapel}	[wäraβɛl]	kangaroo sp.
{watarraɲ}	[wadarra^{ʏ}ɲ]	witchetty grub

{kaɲ+ṭat+mene}	[kändatmɛnɛ]	s/he bit/es her
3sgA.3sgfO+bite+NF		(by P 5).
{kaɲpVrr+ṭat+mene}	[kaʸɲbätṭatmɛnɛ]	they bit/e her
3plA.3sgfONF-bite-NF		(by P 1).
{waṇṭac}	[wändac]	on the coals
{wan}	[wan]	harpoon-shaft
{wakac}	[wɑɣac]	beach
{wanka}	[wanga]	shark sp.
{waŋka}	[wɑŋga]	corroboree
{wacikiɲ}	[wajiɣiʸɲ]	Wajiginy

/a/ occurs word-initially and finally.

2.5 Word-accent and sentence intonation.

(i) Word-accent. Word-accent is predictable, the distinction being between accented and unaccented syllables. Accented syllables bear high pitch, unaccented syllables, low pitch. A phonological word is defined as one whose stem-initial syllable is prominent. Prominence is marked by raising the pitch level of the stem-initial syllable of a word, e.g.

{tec}	['dɛc]	nit
{wara}	['wä$ra]	paperbark
{munnuk}	['mʊn$nʊk]	toadfish.
{warapel}	['wäraβɛl]	kangaroo sp.
{panpapanpa}	['banbaβan$ba]	flat
{kunøpiyørrk}	['kʊ$nø$βi$yørrk]	storm wind from sea
{ŋaparrkkalamaɲ}	['ŋa$βarrk$kalamaʸɲ]	old woman
{parrkkatta+malaŋ}	['barrkkattamalaŋ]	two
{kaweɲ+tawarra}	['ka$ʊɛʸɲ$dawarra]	furious.

Where the stem-initial syllable is not word-initial, as on verbs, pitch-raising spreads leftwards from the initial syllable of the stem, e.g.

{yaŋ+pø+mene} ['yaŋ'$bø$mɛ$nɛ]
1sgA.3sgmO-hit-NF I hit him/it

{pilk+yaŋ+pø+mene} ['bɪlk$'yaŋ$'bø$mɛ$nɛ]
slap-1sgA.3sgmO-hit-NF I slap/ped him/it

Inflectional and derivational suffixes are unaccented, e.g.

{yaŋaɲ+pø-mene-makka} ['ya$'ŋaʸɲ$'bø$mɛ$nɛmakka]
1sgA.3sgfO-hit-NF-PERF I hit her

{ɲenpVrr+ṭut+mene+m+kuḷø} ['ɲɛn$'büṭ$'ṭʊt$mɛ$nɛŋ$gʊ$ḷø]
2plA.1sgO-leave-NF-PRES-Neg Don't leave me behind!
IMP

{ŋaŋka+pøm+pi+cica+rraŋ} ['ŋaŋ$'ka$'βømbijijarraŋ]
1duincS-hug-RECI-HAB we used to hug each other

Clitic and host word form a single phonological unit, e.g.

{ŋace+rraŋkarra} ['ŋa$jɛ$rraŋgarra]
1sgP-another me too

{mørrakara+mini} ['mørraɣaramɪ$ni]
yesterday-then yesterday, at that time

{kaɲ+mi+m+parrk} ['kaʸɲ$'mɪ$m$barrk]
3sgfSNF-sit-PRES-still she's still alive

{karr+pette+mente} ['karr$'βɛt$'tɛ$mɛn$dɛ]
3plSNF-die-already they're already dead

{kaɲ+wukpica+pørraŋkaɲi} ['kaʸ$'ɲʊk$'pi$'ja$βø$rraŋ$gaʸ$ɲi]
3sgfSNF-call out-3duD she called out to them both.

{yenpVrr+pV+ṭal+pa+nuŋ+pakka}
3plA/3sgfOFUT-FUT-bite-FUTCM-PUR-re
['yɛʸn$'barr$'βä$'ḍal$βa$nʊŋ$bak$ka]
they really will bite her.

The initial CV of the clitic particles {-pente} 'now', {-pakka} 'same/really', and {-pakkacca} 'obligated' elide after a host-final vowel, e.g.

{maŋ+pente} ['ma$ŋɛn$dɛ] ostracised
rock-now

{ɲørrec+pene+pente} ['ɲʏ$rrɛc$pɛ$nɛn$dɛ]
pandanus-LOC-now on the pandanus now

{karr+pe+m+cø+makka+pakka} ['karr$'βɛʸɲ$jʏmakkak$ka]
3plSNF-go-PRES-CONT-PERF-re They've really been going

The initial syllable of the clitic particle {-t/rraŋkarra} 'another/again' elides after a host-final nasal, e.g.

{ŋace+karraŋ+karra} ['ŋa$jɛ$ɣa$rraŋ$ga$rra]
1sgP-ERG-another I too (did/do X)

{ŋace+kuttuŋ+karra} ['ŋa$jɛ$ɣʊt$tʊŋ$ga$rra]
1sgP-SEMB-another same with me

Compounds are treated as a single phonological unit, e.g.

{kawɐɲ+tawarra} ['ka$ʊɛʸɲ$dawarra] furious

{yik+kurrma} ['yik$kʊrr$ma] old man

{ɲanaperrac+ɲen+i+ŋa} ['ɲa$'na$βɛ$'rrac$'ɲɛ$'ni$ŋa]
block+2sgA.1sgO+make+NF You block/ed my view.

Word-accent helps to distinguish a compound nominal from two nominals juxtaposed in possessive relation, e.g.

{pampac+kalaŋ} ['bambacka$laŋ] woman with baby
{pilawuk pampac} ['bɪlawʊk#'pam$bac] Bilawuk's baby.

(ii) Sentence intonation. Sentence intonation falls outside the scope of this thesis, but preliminary investigation revealed the following:

(a) Non-questions normally end on a low pitch, e.g.

{kamaŋka} ['ka$maŋ$ga] nothing
{yakarra} ['ya$ɣa$rra] Oh, no!

{ɲanaŋ+karraŋ kaɲ+pø+mene+makka}
man-ERG 3sgA/3sgfONF-hit-NF-PERF
['ɲa$naŋ$ga$rraŋ#'gaʸɲ$'bø$mɛ$nɛmakka] the man hit her.

(b) Questions end on a high pitch, e.g.

{kamaŋka} ['ka$maŋ$'ga] nothing?
{pine} ['bɪ$'nɛ] where are they?

2.6 Alternative analyses compared. The analysis of Bachamal stop consonants presented above must be argued for, because alternative analyses are possible. Three analyses have been proposed: the first, presented in this thesis; the second, suggested by Neil Chadwick (pers. com. 1989), the third, proposed by Evans (1987a). Only the

first analysis is the product of extended work on the language. The three analyses, presented in the above order, are compared as follows:

(i) Bachamal has a single series of stop consonants. This series is underlyingly voiceless. Voicing occurs regularly only after nasals and between voiced segments. Bachamal syllable structure allows for consonant-clusters at syllable-boundaries. Homorganic consonant-clusters include sequences of identical stops, nasals and laterals. The advantages of this analysis are:

(a) simplicity: it means fewer phonemes than any competing analysis, and no extra complication in phonotactics;

(b) comprehensiveness: the rules proposed account adequately for all data up to word-level, including reduplications and polymorphemic compounds;

(c) a powerful syllable structure: all morpheme and word boundaries coincide with syllable boundaries. C_1 of C_1V may be any consonant except a retroflex lateral, C_1 of C_1VC_2 may be any consonant except a retroflex nasal. C_2 of C_1VC_2 may be any consonant except a labial-velar approximant. Restrictions on C_1C_2V, $C_1C_2VC_3$ and $C_1VC_2C_3$ are described in 2.7. The fact that many syllables may begin or end with a stop gives rise to stop-clusters, some of them geminate, across syllable-boundaries. All stop-clusters are voiceless and all occur across syllable boundaries.

(ii) Bachamal has two series of stops: voiced and voiceless.

The implications of this analysis are:

(a) lack of economy: ten stop-phonemes instead of five;

(b) uneven distribution of voiced and voiceless stops: voiced stops regularly occur only after nasals, voiceless stops only word-finally. There is no motivation for the word-initial voicing of apical and bilabial stops, while laminal and velar stops are voiceless, or for the voicing intervocalically of apical and laminal stops, but the voicing and fricativisation of peripheral stops;

(c) no simplification in syllable-structure;

(d) unmotivated devoicing rule required to account for the fact that, in reduplicated forms, an initial voiced stop is regularly repeated as voiceless, e.g.

{pucpuc}	[bʊcpʊc]	bald
{pirricpirric}	[bɪrricpɪrric]	trevally.

(e) inability to account for stop-allophony across syllable- or morpheme-boundaries, e.g.

{pøce}	[bʏ$jɛ]	head
{merre+pøce}	[mɛ$rrɛ$βʏ$jɛ]	hair
{ŋace+pøttuŋ}	[ŋa$jɛ$βøt$tʊŋ]	belonging to me
{pappa+l̲ak+pøttuŋ}	[bappal̲ak$pøt$tʊŋ]	my father's
{kappuk+ŋa+puka}	[kap$pʊk$ŋa$βʊ$ɣa]	I bathe/d
{kappuk+ŋa+p+puka}	[kap$pʊk$ŋap$pʊ$ɣa]	I will bathe
{ŋatpV+ṭat+mene}	[ŋat$pä$rat$mɛ$nɛ]	s/he/they bit/e/s us, excluding you
{ŋarranpV+ṭat+mene}	[ŋa$rran$bäratmɛ$nɛ]	s/he/they bit/e/s us, including you.

By M 1, a retroflex stop lenites to a continuant after a prefix-final vowel (see 2.12).

(iii) Bachamal has two series of stops: short voiced and long voiceless.

The disadvantages of this analysis are:

(a) lack of economy: ten stop-phonemes instead of five;

(b) uneven patterning: according to this analysis, voiceless stops are the only long consonants in Bachamal. My study has shown that apical and bilabial nasals and all three laterals are open to analysis as long consonants. No reason is provided for the uneven patterning of the 'long' stops;

(c) uneven distribution: 'long' and 'short' stops contrast intervocalically and after liquids. My study has shown that 'long' and 'short' nasals and laterals contrast only between vowels. It is suspicious that long consonants do not occur word-finally. No motivation is offered for this limited distribution for the stop series;

(d) unmotivated restrictions on syllable-structure: 'long' stops are restricted to word-medial, syllable-initial position;

(e) inability to account for reduplicated forms;

(f) unmotivated rules to make 'long' stops into 'short' voiceless stops initially, finally and in heterorganic stop-clusters;

(g) inability to explain the manufacture of 'long' voiceless stops from 'short' voiced stops in poly-morphemic compounds, e.g.

{yarr+turra} > [yatturra] we, excluding you, cook/ed it

By P 1, a trill hardens to a stop before an apico-alveolar stop (see 2.11).

{ŋa+par-a} > [ŋa$βa$ra] I walk/ed
{ŋa+p+pur-iŋ} > [ŋap$pʊ$rɪŋ] I will walk

By M 2, the future tense allomorph /-p-/ and the initial consonant of the future verb stem /pur/ form a 'long' stop.

2.7 Phonotactics. Bachamal has the following canonical syllable-structure: $(C<_1(C)>_1)$ V $(<_2(C)>_2C)$ where $<_1$ $>_1$ precludes $<_2$ $>_2$ and vice versa. This structure is realised in the following syllable-types:

V	CV	CCV	CVCC
VC	CVC	CCVC	

Syllable-type V is restricted to unrounded vowels. It is attested only in the following items:

{e} eh? (English loanword)
{eniŋ} isn't it?
{eperre} migrant
{akuk} man's name
{anikine} when?
{alana} woman's name.

Syllable-type VC is rare. In the corpus, it is restricted to /i/ and /a/ followed by a non-retroflex stop or nasal, or, in one loanword, by a labial-velar approximant, e.g.

{intiṭṭi} bitter
{attu} cross-cousin
{antanan} man's name
{acca} female ego's sibling or father's father's father
{accecca} ostentatious

TABLE 1 CVC realisations

	ʈ	ʈ̣	c	k	p	n	ɳ	ɲ	ŋ	m	w	j	l	l̥	l̠	rr	r
ʈi	+	+							+				+			+	+
ʈu	+								+				+			+	
ʈe	+		+			+		+								+	
ʈø																+	
ʈa			+	+	+				+				+				
ʈi													+				
ʈu				+	+								+				
ʈe																	
ʈø																	
ʈa	+			+									+				
ci	+		+	+		+		+	+	+			+			+	
cu				+		+			+	+			+			+	
ce	+				+	+		+		+			+			+	
cø	+								+								
ca	+			+		+		+	+	+			+		+	+	
ki	+		+			+		+								+	
ku	+			+		+		+	+			+	+	+	+	+	
ke													+			+	
kø																	
ka	+		+	+	+	+	+	+	+	+		+	+		+	+	
pi	+		+	+		+		+					+			+	
pu	+		+	+		+		+				+	+		+	+	
pe	+		+	+		+		+					+			+	+
pø	+		+						+	+		+	+				
pa	+	+	+	+	+	+	+	+	+	+		+			+	+	
ni			+			+		+	+				+				
nu			+	+		+			+								
ne	+		+			+		+	+	+							
nø																	
na			+	+		+			+	+						+	
ɳi																	
ɳu																	
ɳe																	
ɳø																	
ɳa																	
ɲi				+		+			+								
ɲu									+								
ɲe						+										+	
ɲø									+								
ɲa					+				+	+						+	
ŋi						+										+	
ŋu			+	+		+		+					+				
ŋe	+		+					+									
ŋø															+		
ŋa	+		+	+	+	+		+	+	+			+		+	+	

	ʈ	ʈ̣	c	k	p	n	ɳ	ɲ	ŋ	m	w	j	l	l̤	l̪	rr	r
mi			+	+		+		+	+	+			+				
mu	+		+	+		+		+	+	+			+	ǂ		+	
me			+	+	+			+		+			+			+	
mø								+	+						+		
ma	+		+	+	+	+		+	+	+			+			+	
ji			+	+				+					+			+	
ju				+					+								
je			+			+		+	+							+	
jø																	
ja	+		+	+	+	+		+	+							+	
wi				+		+		+	+				+			+	
wu	+		+	+		+		+	+							+	
we	+			+		+							+			+	
wø																	
wa	+			+		+		+	+				+			+	+
li			+	+	+	+		+	+								
lu				+													
le			+			+		+		+						+	
lø																	
la				+	+	+		+	+	+			+			+	
l̤i																	
l̤u				+													
l̤e																	
l̤ø				+													
l̤a																	
l̪i				+						+							
l̪u				+													
l̪e										+							
l̪ø																	
l̪a			+	+	+			+	+						+		
rri			+	+				+					+				+
rru	+		+	+	+	+			+	+							
rre			+		+			+									
rrø						+											
rra			+	+	+	+		+	+				+		+		
ri			+	+	+	+		+	+							+	
ru				+								+					
re			+					+									
rø																	
ra	+			+		+		+	+	+		+					

Table 2: Phonemic realisations of $C_1VC_2C_3$

kaɻc	ʈilk	ʈuɻk	ʈirrk	perk	niłŋ	kaɻp	ʈerrp
puɻc	cilk	kuɻk	ʈurrk	wirk	ciłŋ	pulp	karrp
waɻc	celk		currk	wark	pułŋ	walp	parrp
wuɻc	calk		carrk		melŋ		
	caɻk		ɻirrk				
			karrk				
	kalk		perrk				
	pilk		purrk				
	pulk		parrk				
	palk		ŋurrk				
	paɻk		ŋarrk				
	nulk		yerrk				
	mulk		yørrk				
	malk		wirrk				
	muɻk		warrk				
	ɻaɻk						
	waɻk						

{apepa} deaf-mute
{appaŋ} man's name
{aw} or (English loanword).

The most frequently occurring syllable-types are C_1V and C_1VC_2. C_1 of C_1V may be any consonant except a retroflex lateral. V may be any vowel. C_1 of C_1VC_2 may be any consonant except a retroflex nasal. The absence of a retroflex nasal in this environment is likely to be an accidental gap. C_2 may be any consonant except the labial-velar approximant. Table 1 lists phonemic realisations of C_1VC_2.

Syllable-type $C_1VC_2C_3$ occurs less often than types C_1V or C_1VC_2, but is relatively common. C_1 of $C_1VC_2C_3$ may be any stop, semi-vowel, or non-retroflex nasal or lateral. V may be any vowel. C_2 may be any liquid or a laminal approximant. C_3 may be any non-apical stop or a velar nasal. Table 2 lists phonemic realisations of $C_1VC_2C_3$.

Syllable-types C_1C_2V and $C_1C_2VC_3$ are extremely rare. C_1 of C_1C_2V must be a bilabial nasal, C_2 the labial-velar approximant, V the high front vowel. This syllable-type is attested only in the token {mwiŋak} 'scrub-turkey'.

Syllable-type $C_1C_2VC_3$ is almost as rare. C_1 of $C_1C_2VC_3$ must be a bilabial stop or nasal, C_2 the homorganic approximant,

Table 3: Fully-specified distinctive feature matrix of systematic phonemes

	t̪	n	l	rr	ṭ	ṇ	ḷ	r	c	ɲ	ɳ	y	k	ŋ	w	p	m	ɨ	u	e	ø	a
syllabic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+
consonantal	+	+	+	+	+	+	+	-	+	+	+	-	+	+	-	+	+	(-	-	-	-	-)
continuant	-	+	+	+	-	+	+	+	-	+	+	+	-	+	+	-	+	(+	+	+	+	+)
nasal	(-)	+	(-)	-	(-)	+	(-)	-	(-)	+	(-)	-	(-)	+	-	(-)	+	(-	-	-	-	-)
laminal	-	-	-	-	(-	-	-	-)	+	+	+	+	(-	-	-	-	-	-	-	-	-	-)
retroflex	-	-	-	-	+	+	+	+	(-	-	-	-	-	-	-	-	-	-	-	-	-	-)
lateral	-	-	+	-	-	-	+	-	-	-	+	-	(-	-	-	-	-	-	-	-	-	-)
peripheral	-	-	-	-	-	-	-	-	(-	-	-	-)	+	+	+	+	+	(-	+	-	-	-)
back	(-	-	-	-	-	-	-	-	-	-	-	-)	+	+	-	-	-	-	+	(-)	-	-
high	(-	-	-	-	-	-	-	-	+	+	+	+	-	-	-	-	-)	+	+	-	-	(-)
low	(-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-)	-	-	+
round	(-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+)	-	+	(-)
voiced	(-	+	+	+	-	+	+	+	-	+	+	+	-	+	+	-	+	+	+	+	+	+)
wide	(-	-	-	-	-	-	-	-	+	+	+	+	-	-	-	-	-	-	-	-	-	-)

Redundant values are enclosed in parentheses.

V must be /i/ or /u/, C_3 a laminal or velar stop, e.g.

{pwuccaka}	stranger
{pwik}	bone
{pwik+karral}	shin-bone
{pwik+mitaŋ}	blue-tongue lizard.

2.8 **Feature specification**. The features required to specify the systematic phonemes of Bachamal and their allophones are adapted from Ladefoged (1982:256-7), listed in Table 3 and defined as follows:

(i) [+/- syllabic]

Any sound marked [+syll] functions as the peak of the syllable. Syllabic segments are restricted to vowels.

(ii) [+/-consonantal]

Consonantal sounds are made when there is an obstruction in the vocal tract, amounting to a complete closure. This feature separates the open approximants from other phonemes.

(iii) [+/-continuant]

A sound is marked [+cont] when the airstream in the vocal tract is not completely blocked. Stops are marked [-cont] and thereby distinguished from all other phonemes.

(iv) [+/-nasal]

A sound is marked [+nas] when there is complete closure of the oral cavity, so that air can only escape through the

nose. This feature distinguishes nasals from all other phonemes marked [+cont].

(v) [+/-laminal]

A sound marked [+lam] is made with the tongue-blade articulating against the palato-alveolar region. In lamino-dental sounds, the tongue-tip protrudes between the upper and lower teeth. This feature distinguishes the laminal series from all other phonemes.

(vi) [+/-retroflex]

A sound marked [+retr] is made with the tongue-tip curled back, forming a stricture with the palate. This feature distinguishes the retroflex series from other phonemes.

(vii) [+/-lateral]

A sound marked [+lat] is an approximant. It is made when one side of the tongue makes contact with the roof of the mouth, allowing air to escape down the other side. This distinguishes laterals from other approximants.

(viii) [+/-peripheral]

A sound marked [+peri] is made in the labial or velar regions of the mouth.

(ix) [+/-back]

A sound is marked [+back] when the highest part of the

tongue-body is in the back of the mouth. This feature distinguishes velar from bilabial consonants, and back vowels from all other vowels.

(x) [+/-high]
A sound is marked [+hi] when the tongue is at or near the roof of the mouth. This feature distinguishes palatal consonants and high vowels from other phonemes.

(xi) [+/-low]
A sound is marked [+lo] when the body of the tongue is low in the mouth. This feature differentiates low vowels from all other phonemes.

(xii) [+/-round]
A sound marked [+ro] is made with lip-rounding. This feature distinguishes the labial approximant and rounded vowels from all other phonemes.

(xiii) [+/-voiced]
A sound is voiced when the vocal cords are vibrating. Only stops may be marked [-voic].

(xiv) [+/-wide]
A sound marked [+wide] has a widened pharyngeal cavity, correlating with a relatively higher tongue position in the mouth.

2.09 Redundancy rules

(1) IF [-cont] ⇓ THEN [-lat, -nas]

(2) IF [+cons] ⇓ THEN [-low, -ro]

(3) IF [+syll] ⇓ THEN [-cons, +cont, -lat, -nas, -lam]

(4) IF [+hi] ⇓ THEN [-low]

(5) IF [+low] ⇓ THEN [-hi]

(6) IF [+hi, αback] ⇓ THEN [αro]

(7) IF [+lam] ⇓ THEN [-retr]

(8) IF [+peri] ⇓ THEN [-retr, -lam, -lat, -low]

(9) IF [+lat] ⇓ THEN [-nas]

(10) IF [-peri] ⇓ THEN [-back]

(11) IF $\begin{bmatrix}\alpha peri\\ -cons\\ -syll\end{bmatrix}$ ⇓ THEN [αro]

(12) IF [αcont] ⇓ THEN [αvoice]

(13) IF [αlam] ⇓ THEN [αwide]

2.10 Allophonic specification rules

(1a) /t/ ----→ { [d] / { # _____ ; N _____ ; V _____ V ; [t] }

(1b) /ṭ/ ----→ { [ḍ] / { # _____ ; N _____ ; V _____ V ; [ṭ] }

$\begin{bmatrix}-cont\\ -peri\\ -lam\end{bmatrix}$ ----→ [+voice] / { # _____ ; [+nas] _____ ; [+syll] _____ [+syll] }

(2) /c/ ----→ { [j] / { N _____ ; V _____ V ; [+trill] _____ ; [c] }

$\begin{bmatrix}-cont\\ +lam\end{bmatrix}$ ----→ [+voice] / { [+nas] _____ ; [+syll] _____ [+syll] ; $\begin{bmatrix}+cons\\ +cont\\ -nas\\ -lat\end{bmatrix}$ }

(3a) /k/ ----→ { [g] / N _____
[ɣ] / { V _____ V
{ [liquid] _____
[k]

(3b) /p/ ----→ { [b] / { # _____
{ N _____
[β] / { V _____ V
{ [liquid] _____
[p]

$$\begin{bmatrix} -\text{cont} \\ +\text{peri} \\ {}_1\langle -\text{back}\rangle_1 \end{bmatrix} \longrightarrow \begin{cases} [+\text{voice}] \;/\; \begin{cases} {}_1\langle \#\ \_\_\_\_\_\ \rangle_1 \\ [+\text{nasal}]\ \_\_\_\_\_ \end{cases} \\ [+\text{cont}] \;/\; \begin{cases} [+\text{syll}]\ \_\_\_\_\_\ [+\text{syll}] \\ \begin{bmatrix} +\text{cons} \\ +\text{cont} \\ -\text{nas} \end{bmatrix}\ \_\_\_\_\_ \end{cases} \end{cases}$$

(4) /w/ ----→ { [ʊ] / _____ i, e, ø
[w] / _____ u, a

$$\begin{bmatrix} -\text{syll} \\ -\text{cons} \\ +\text{back} \end{bmatrix} \longrightarrow [-\text{back}] \;/\; \_\_\_\_\_ \begin{bmatrix} +\text{syll} \\ -\text{back} \\ -\text{low} \end{bmatrix}$$

(5) V ----→ V^{γ} / _____ [ɲ]

$$\emptyset \longrightarrow \begin{bmatrix} -\text{cons} \\ +\text{cont} \\ +\text{high} \end{bmatrix} \;/\; [+\text{syll}]\ \_\_\_\_\_ \begin{bmatrix} +\text{nas} \\ +\text{lam} \end{bmatrix}$$

(6) ɪ ----→ ɪ̈
ʊ ----→ ʊ̈
e ----→ ë / _____ t̪, n̪, l̪
ø ----→ ø̈
a ----→ ä

[+syll] ----→ [+retr] / _____ [+retr]

(7) ɪ ----→ i
ø ----→ y
/ { [laminal] _____ ; _____ [laminal] }

[+syll, +hi, -back] ----→ [+wide] / { _____ [+lam] ; [+lam] _____ }

(8) ʊ ----→ o / C _____ #

[+syll, +back] ----→ [-hi] / [-syll] _____ #

(9) a ----→ ɑ / w _____ k, ŋ

[+low] ----→ [+back] / [-syll, -cons, +back] _____ [+cons, +back]

2.11 Phonological rules

(P 1) rr ----→ { t / ṭ } / _____ { t / ṭ }

$$\begin{bmatrix}+\text{cons}\\+\text{cont}\\-\text{nas}\\-\text{lat}\end{bmatrix} \longrightarrow \begin{bmatrix}-\text{cont}\\-\text{voic}\end{bmatrix} \;/\; \underline{\quad\quad} \begin{bmatrix}-\text{cont}\\-\text{peri}\\-\text{lam}\end{bmatrix}$$

e.g. karr-turra > katturra
3plA.3sgmONF-cook they cook/ed

kaɲpVrr-ṭut-mene > kaɲpuṭṭutmene
3plA.3sgfONF-leave-NF they leave/left her.

(P 2) ɲ ----→ ø / _____ n

$$\begin{bmatrix}+\text{nas}\\+\text{lam}\end{bmatrix} \longrightarrow \emptyset \;/\; \underline{\quad\quad} \begin{bmatrix}+\text{nas}\\-\text{lam}\\-\text{retr}\\-\text{peri}\end{bmatrix}$$

e.g. yaŋaɲ-n-ene > yaŋanene
1sgA.3sgfO-see-NF I see/saw her

kaɲ-nipe > kanipe
3sgA.3sgfONF-touch-NF s/he touches/touched her.

(P 3) ɲ ----→ n / _____ r

$$\begin{bmatrix}+\text{nas}\\+\text{lam}\end{bmatrix} \longrightarrow [-\text{lam}] \;/\; \underline{\quad\quad} \begin{bmatrix}-\text{syll}\\-\text{cons}\\+\text{retr}\end{bmatrix}$$

e.g. kaɲ-rø-na > kanrøna
3sgfSNF-cry-NF she cries/cried.

(P 4) $\left\{\begin{matrix} w \\ r \end{matrix}\right\}$ ----→ ø / n _____

$$\begin{bmatrix} -syll \\ -cons \\ -lam \end{bmatrix} \text{----→} \emptyset \; / \begin{bmatrix} +nas \\ -peri \\ -lam \\ -retr \end{bmatrix} \_\_\_\_\_$$

ŋan-wac-ana > ŋanacana
1sgA.3plO-immerse-NF I immerse/d them

P 3 and P 4 are ordered, e.g.
kan-rø-na > kanøna

(P 5) ɲ ----→ ṇ / _____ ṭ

$$\begin{bmatrix} +nas \\ +lam \end{bmatrix} \text{----→} \begin{bmatrix} +retr \\ -lam \end{bmatrix} / \_\_\_\_\_ \begin{bmatrix} -cont \\ +retr \end{bmatrix}$$

e.g. kaɲ-ṭat-mene > kaṇṭatmene
3sgA.3sgfONF-bite-NF s/he bites/bit her.

(P 6)

$\left\{\begin{matrix} y \\ w \end{matrix}\right\}$ ----→ ø / ɲ _____

$$\begin{bmatrix} -syll \\ -cons \\ -retr \end{bmatrix} \text{----→} \emptyset \; / \begin{bmatrix} +nas \\ +lam \end{bmatrix} \_\_\_\_\_$$

e.g. kaɲ-yepe > kaɲepe
3sgfSNF-lie she lies/lay

kaɲ-wukpica > kaɲukpica
3sgfSNF-call out she calls/called out.

(P 7)

$$ŋ \longrightarrow \emptyset \;/\; \_\_\_\_\_\; p \begin{Bmatrix} p \\ m \end{Bmatrix}$$

$$\begin{bmatrix} +nas \\ +back \end{bmatrix} \longrightarrow \emptyset \;/\; \_\_\_\_\_\; \begin{bmatrix} -cont \\ +peri \\ -back \end{bmatrix} \begin{bmatrix} +cons \\ +peri \\ -back \end{bmatrix}$$

e.g. yaŋ-p-palama > yappalama
1sgA.3sgmO-FUT-cut I will cut him/it

yaŋ-p-mara > yapmara
1sgA.3sgmO-FUT-kick I will kick him/it.

(P 8)

$$ɲ \longrightarrow c \;/\; \_\_\_\_\_\; p \begin{Bmatrix} p \\ m \end{Bmatrix}$$

$$\begin{bmatrix} +nas \\ +lam \end{bmatrix} \longrightarrow \begin{bmatrix} -cont \\ -nas \\ -voic \end{bmatrix} \;/\; \_\_\_\_\_\; \begin{bmatrix} -cont \\ +peri \\ -back \end{bmatrix} \begin{bmatrix} +cons \\ +peri \\ -back \end{bmatrix}$$

e.g. ŋaɲ-p-parrakka > ŋacpparrakka
1sgA.2sgO-FUT-pull I will pull you

yVrrVɲ-p-mara > yarracpmara
1plincA.3sgfO-FUT-kick we, including you, will kick her.

(P 9) $p \longrightarrow \emptyset \;/\; \left\{\begin{matrix} n \\ c \end{matrix}\right\} \_\_\_\_ \left\{\begin{matrix} p \\ m \end{matrix}\right\}$

$$\begin{bmatrix} -cont \\ +peri \\ -back \end{bmatrix} \longrightarrow \emptyset \;/\; \begin{bmatrix} +cons \\ -peri \\ -retr \end{bmatrix} \_\_\_\_ \begin{bmatrix} +cons \\ +peri \\ -back \end{bmatrix}$$

e.g.

yVrrVn-p-mara >	yarranmara
1plincA.3plO-FUT-kick	we, including you will kick them

(P 8) and (P 9) are ordered,

yarrac-p-mara >	yarracmara
ŋac-p-parrakka >	ŋacparrakka.

2.12 Morphophonemic rules

(M 1) $\underset{\cdot}{t} \longrightarrow r \;/\; V]_{px} \_\_\_\_$

$$\begin{bmatrix} -cont \\ +retr \end{bmatrix} \longrightarrow \begin{bmatrix} +cont \\ -cons \end{bmatrix} \;/\; [+syll]_{px} \_\_\_\_$$

e.g.

ka-ṭat-mene >	karatmene
3sgA.3sgmONF-bite-NF	s/he bit/es him.

(M 2) $w \longrightarrow \emptyset \;/\; p]_{px} \_\_\_\_ V$

$$\begin{bmatrix} -syll \\ -cons \\ +peri \end{bmatrix} \longrightarrow \emptyset \;/\; \begin{bmatrix} -cont \\ +peri \\ +back \end{bmatrix}_{FUT} \_\_\_\_ [+syll]$$

e.g. ŋa-p-waɲa > ŋapaɲa
1sgS-FUT-dive I will dive

(M 3a) Vowel-insertion, monosyllables

$$\emptyset \longrightarrow V_1 \;/\; p]_{FUT} \_\_\_\_\_ [_{stem}\ C\ V_1\ \#$$

e.g. yaŋ-p-pø > yaŋpøpø
1sgA.3sgmO-FUT-hit I will hit him

(M 3b) Vowel-insertion, polysyllables

$$\emptyset \longrightarrow V_1 \;/\; p]_{FUT} \_\_\_\_\_ [\text{non-labial C}]_{stem}\ V_1$$

e.g. yaŋ-p-kirrwa > yaŋpikirrwa
1sgA-3sgmO-dig I will dig it

(M 4)
$$-pa_{FUTCM} \longrightarrow \begin{cases} \emptyset \;/\; CV]_{FUT} + [CV]_{stem} + \_\_\_\_ \\ pe \;/\; \begin{Bmatrix} ɲ \\ c \end{Bmatrix}]_{stem} \\ pa \end{cases}$$

(M 5)
$$t \longrightarrow l \;/\; \_\_\_\_\_]_{stem}\ [_{FUT}\ pa$$

(M 6)
$$\emptyset \longrightarrow e \;/\; \begin{Bmatrix} c \\ rr \end{Bmatrix}]_{FUTstem} \_\_\_\_\_ \#$$

(M 7) $\text{mene}]_{\text{NFCM}} \longrightarrow \begin{cases} \text{ɲene} \;/\; \text{ci} \_\_\_\_ \\ \text{wene} \;/\; \text{ye} \_\_\_\_ \\ \text{ene} \;/\; \left\{\begin{matrix}\text{c}\\\text{n}\\\text{rr}\end{matrix}\right\} \_\_\_\_ \\ \text{mene} \end{cases}$

(M 8) $\emptyset \longrightarrow \text{a} \;/\; \text{C}]_{\text{FUTstemconj2}} \_\_\_\_ \#$

(M 9) $\text{ŋana}]_{\text{NFCM}} \longrightarrow \begin{cases} \text{ŋa} \;/\; \left\{\begin{matrix}\text{i}\\\text{a}\end{matrix}\right\}]_{\text{stem}} \_\_\_\_ \\ \text{na} \;/\; \emptyset]_{\text{stem}} \_\_\_\_ \\ \text{ana} \;/\; \left\{\begin{matrix}\text{c}\\\text{rr}\end{matrix}\right\}]_{\text{stem}} \_\_\_\_ \\ \text{ŋana} \end{cases}$

(M 10) $\left\{\begin{matrix}\text{y}\\\text{w}\\\text{r}\end{matrix}\right\} \longrightarrow \emptyset \;/\; \left\{\begin{matrix}\text{ŋ}\\\text{rr}\end{matrix}\right\}]_{\text{px}} \_\_\_\_$

$$\begin{bmatrix}-\text{syll}\\-\text{cons}\end{bmatrix} \longrightarrow \emptyset \;/\; \begin{cases} \begin{bmatrix}+\text{nas}\\+\text{back}\end{bmatrix} \\ \begin{bmatrix}+\text{cont}\\-\text{nas}\\-\text{peri}\\-\text{lam}\\-\text{retr}\end{bmatrix} \end{cases}$$

e.g. yaŋ-yi-ŋa > yaŋiŋa
1sgA.3sgmO-put down I put it down

yaŋ-rikka > yaŋikka
1sgA.3sgmO-sort I sort/ed it

karr-wuc-mene > karrucmene
3plA.3sgmO-scold-NF they scold/ed him.

(M 11a) $\{-np-\}_{prnpx}$ ----→ t / _____ $[_{vbstem}$ p, m

e.g. kanp-marr-ana > katmarrana
3A.3plONF-paint-NF s/he/they paint/ed them

(M 11b) Ø ----→ V_1 / np _____ $[_{vbstem}$ C V_1

kanp-turra > kanputurra
3A.3plONF-cook s/he/they cook/ed them

(M 12a) $\{-tp-\}_{prnpx}$ ----→ t / _____ $[_{vbstem}$ p, m

e.g. ŋatp-palama > ŋatpalama
3A.1plexONF-cut s/he/they cut us

(M 12b) Ø ----→ V_1 / _____ $[_{vbstem}$ C V_1

e.g. ŋatp-ṭut-mene > ŋatpurutmene
3A.1plexONF-leave-NF s/he/they leave/left us

(M 13a) $$[_{ADMsx}\ n \dashrightarrow \left\{ \begin{array}{l} \text{ŋ} \ / \ \left. \begin{array}{l} u \\ a \end{array} \right\}]_{vb} \ \underline{\quad\quad} \\ \\ \text{ɲ} \ / \ i]_{vb} \ \underline{\quad\quad} \\ \\ \emptyset \ / \ n]_{vb} \ \underline{\quad\quad} \end{array} \right.$$

(M 13b) $$V_1 \dashrightarrow \left\{ \begin{array}{l} e \ / \ \left. \begin{array}{l} i \\ \emptyset \end{array} \right\}]_{vbstem} \ [_{ADMsx} \ \underline{\quad\quad} \\ \\ a \end{array} \right.$$

(M 13c) $$[_{ADMsx}\ n\ V_1 \dashrightarrow \emptyset \ / \ \left. \begin{array}{l} p \\ k \end{array} \right\} V_1]_{vbstem} \ \underline{\quad\quad}$$

3 BACHAMAL MORPHOLOGY

3.1 Introduction. Bachamal is an agglutinating language. Nominal suffixes mark syntactic and local case-relations, derive further nominal stems and make modifier phrases from complex NPs. Nominal prefixes on some kin-terms mark gender.

All core arguments are encoded on type A verbs; S/A and O by obligatory pronominal prefixes, D by pronominal enclitics.

Type A verb affixes mark mood, tense, aspect and polarity; reflexivity/reciprocality is marked by a derivational suffix.

Compounding of nominal and verbal stems occurs; verbs employ noun-incorporation. Compound verbs consist of an inflected verb stem (verb stem type A) acting as auxiliary verb to a verb stem unmarked for tense, bearing no pronominal prefix, or inflectional or derivational affixes (verb stem type B).

An inflected verb may be followed by one of six intransitive type A verbs acting as its auxiliary, specifying the bodily orientation of the co-referential subject and bearing in

addition to its own inflectional affixes, aspectual markers and pronominal enclitics governed by the main verb.

3.2 **Word classes**. Four word classes can be distinguished:
nominal: noun, adjective, free pronoun, deictic,
verbal : verb,
adverb : adverb,
particle: free particles (including interjections), clitic particles.

Each word class can be justified on semantic, syntactic and morphological grounds.

Semantically, lexical items in the nominal class denote entities or attributes; items in the verbal class denote actions or states. Adverbs specify the time, place or manner of the action/state expressed by the verb. Particles may add illocutionary force or specify the focus or polarity, obligatory nature, immediacy, similarity or complementarity of a word, phrase or sentence.

Turning to grammatical relations, nominals make up a noun phrase. Nominals in S/A or O function agree in person, number and gender with the pronominal prefix inflection encoded on their verb. Nominals or NPs inflect to show syntactic and local case-relations. Derivational suffixes

derive further nominal stems; derivational case-suffixes (Andrews 1985:92;96) make modifier phrases from complex NPs. Verbal inflections mark mood, tense, aspect and polarity. Nominal inflections are distinct from verbal inflections. Nominal and verbal stems take different derivational suffixes. Co-occurring aspectual suffixes are ordered; completive or purposive markers may be displaced from their regular post-verb stem position to cliticise sentence-initial or final nominals, uninflected verb stems or adverbs.

The interrogative adverbs {ɲinic} 'what?', {kine} 'where?' inflect to show causal, purposive and local case relations; other adverbs are invariable. All adverbs are restricted to sentence-initial or final position.

Free particles, including interjections but excluding negative particles, are invariable. All variable words may be modified by compatible clitics. Co-occuring clitics are ordered.

Within each major word class, sub-classes are semantically and morphologically motivated. Interrogatives are treated as nominal, verbal or adverbal, according to their morphology. The following sections define and illustrate each word class and their component sub-classes.

3.3 **Nominal morphology**. The major word class nominal contains the following sub-classes: noun, adjective, pronoun, deictic. Nouns and adjectives are open sub-classes with many members. Pronouns form a small closed system of free forms, pronominal enclitics, and interrogatives. Deictics are a small closed class of third person forms.

Although any nominal may function as the head of a noun phrase, nouns do so most commonly. Any nominal may function attributively, but adjectives and deictics regularly do so.

All pronouns are marked for person and number. One adjective is marked for number. Some nouns, one adjective and all third person singular pronouns are marked for gender.

All nominal stems inflect to show case relations. Derivational suffixes precede inflectional suffixes which precede clitics. Nouns and pronouns take identical derivational case-suffixes; adjectives combine with inchoative or causative verb stems to derive verb stems. Body part nouns are incorporated into verb stems to derive further verb stems.

Compounding of nominal stems is productive, e.g. the neologisms incorporating English loan lexemes in (103),

(107)-(108). Reduplication of nominals is productive, e.g. (115).

3.3.1 Noun morphology.

(i) Gender. The masculine or feminine gender of humans and higher animals is marked on a dependent verb in the third person singular. Additional marking occurs on nouns denoting close kin. Nouns denoting close male kin are marked by an initial alveolar nasal; nouns denoting close female kin are marked by an initial velar nasal. Gender-marking is fused into these items; segmentation into separate morphemes is not possible. Other idiosyncratic differences were noted in the following exhaustive list of gender-marked kin-terms:

(1) ɲaraca female ego's daughter
(2) neca female ego's son, sister's son or husband's brother's son
(3) ɲawak female ego's daughter's daughter, male ego's daughter's daughter's daughter
(4) niwak female ego's daughter's son
(5) ɲacim female ego's son's daughter
(6) niɣem female ego's son's son
(7) ɲaŋamaŋ female ego's son's daughter's daughter
(8) naŋamaŋ female ego's son's daughter's son
(9) ɲayi male ego's daughter, either ego's brother's daughter
(10) niya male ego's son, female ego's elder brother's son or husband's sister's son
(11) ɲaciŋka male ego's sister's daughter
(12) niŋka male ego's sister's son

(13) ŋaɲareɲ wife, female ego's father's sister's daughter
(14) naɲareɲ husband, husband's brother, husband's father's brother's son.

(ii) Noun classes. Non-human nouns which are resources in the natural world belong to one of three noun classes and commonly occur with the appropriate generic noun class marker. The noun classes and their markers (ncm) are:

(a) meat: ncm {mecem} meat
(b) edible vegetable: ncm {meneɲ} edible vegetable (edveg)
(c) tree: ncm {wiɲ} tree

Nominals denoting members of noun classes (a) and (b) follow their class markers, as in (15) and (16); nominals denoting members of noun class (c) precede theirs, as in (17).

(15) mecem marruc mud crab
(16) meneɲ wuŋmarrac melŋmelŋ long yam, cheeky yam
(17) ŋarrik wiɲ medicinal tree sp.

(iii) Inflectional suffixes. Nouns inflect with any one of the following syntactic or local case-suffixes:

Absolutive	{-Ø}
Ergative/Locative	{-karraŋ}
Dative	{-nuŋ}
Instrumental/Allative	{-cene}
Causal/Ablative	{-makka}
Locative	{-pene}

Inflectional suffixes follow derivational suffixes, e.g. (30), (37), (42) and (62).

Absolutive {-Ø}. A nominal in S or O function (Dixon, 1979:60) takes the zero-suffix {-Ø}, e.g., e.g. (18)-(19), for nominals in S role, and (20), (23)-(25) for nominals in O role.

(18) wik-Ø cirrcirr-wa-paŋka-Ø
water-ABS boil-3sgS-stabAUX-NF
The water boils/boiled (T4:32).

The irregular verb {cirrcirr-paŋka} is discussed in Appendix 2.

(19) muc-Ø-pente-kak kaŋ-par-a-m
wallaby-ABS-now-Foc 3sgfSNF-walk-NF-PRES
Wallaby is going now (T2:11).

Ergative/Locative {-karraŋ}. This morpheme is subject to allophonic variation according to the rules specified in 2.10.3a and exemplified in 2.3.2.(4).

(i) Ergative. {-karraŋ} regularly marks as ergative the human agent of a transitive verb, unless the sentence is counterfactual, as in (27).

(20) para-Ø ŋuk-kaŋ-i-ŋa
arm-ABS break-3sgA.3sgf0NF-put downAUX-NF

muc-Ø-ḳak memempena-karraŋ
wallaby-ABS-Foc porpoise-ERG

Porpoise breaks/broke wallaby's arms (T2:43).

(21) cica-karraŋ ŋanaŋ ye-p-pøŋme-ŋarrkka
3sgmDevis-ERG man 3sgA.3sgmOFUT-FUT-extinguish-1sgD

wiɲ-Ø
fire-ABS

That man you can see will extinguish the fire for me (AL:12).

The sun, female in Bachamal mythology, is marked ergative when she is the agent of a transitive verb, e.g.

(22) pattura-kanpi-yi-ɲa kayik-karraŋ
dry-3A.3plONF-makeCAUS-NF sun-ERG
The sun dries/dried them (T5:45).

The inanimate agent of a transitive verb is marked ergative in non-future sentences only, e.g.

(23) wiɲ-karraŋ ŋan-paŋka-Ø ŋala-Ø
wood-ERG 3sgA.1sgO-stab-NF hand-ABS
A splinter pierces/pierced my hand (AL:23).

An inanimate agent may not be marked ergative if its verb is marked for future tense; sentence (24) is ungrammatical for this reason.

(24) *wiɲ-karraŋ ŋala-Ø ɲa-p-paka pal̪
fire-ERG hand-ABS 3sgA.2sgOFUT-FUT-stabFUT Get up!
Get up, the fire will burn you! (AL:72).

The agent of the functionally ditransitive verbs {me}, 'tell', {wukpica} 'call out to' and {wuɲmice} 'tell lie to' is regularly marked ergative, although the pronominal prefix to each verb marks it as intransitive, signalling S function only, e.g. (25). Transitivity is discussed in 3.4.1.

(25) perrekut-karraŋ ka-me-Ø-ŋarraŋ ɲerr-pe
whitefella-ERG 3sgmSNF-tell-NF-1plexD 2plSFUT-go
IMP

wuccuc-ɲerren-yu ɲerr-pe
pick-2plA.3plO-put downFUTAUX 2plSFUT-goAUX
IMP IMP
ɲørrec-Ø
pandanus-ABS
The whitefella told us: 'Go and pick pandanus!' (T5:1).

(26) naka-nuŋ yec-p-pe naŋana
Who-PUR 3sgfSFUT-FUT-go first

ŋace kaŋ-me-ŋacaŋ muc-karraŋ-kak
1sgP 3sgfSNF-tell-3sgfD wallaby-ERG-Foc

'Who's to go first?' 'Me!', wallaby told her (T2:9).

In counterfactual sentences, e.g. (27), an agent nominal is not marked ergative, although the pronominal verbal prefix cross-references A and O roles.

(27) ŋakuḷ-Ø-nte rak-Ø ka-n-ene-m
Neg-now country-ABS 3sgA.3sgONF-see-NF-PRES

memereɲcarrmuḷ-Ø
dugong-ABS

Dugong can't see country now (T3:47).

(ii) Locative. In its locative sense, {-karraŋ} means 'inside', occuring only in apposition to an NP suffixed by the commonly occurring Locative case-suffix {-pene}, e.g. (28)-(29).

(28) ŋatta-pene kaɲi-mi-Ø-rraŋ ŋanamulmul-karraŋ
house-LOC 2sgSNF-sit-NF-HAB cave-LOC
You always sit around the house, in a corner (AL:80).

(29) cica menɛɲ-kak ka-cinpice-Ø-pente-paŋa
3sgmDevis edveg-Foc 3sgmSNF-go in-NF-now-3sgfIMPL

yereɲmeca-Ø mipe-pene ci-karraŋ
skin-ABS eye-LOC 3sgmDetang-LOC

At once, that edible vegetable skin went into her eye, inside here (T3:48).

Dative/Allative {-nuŋ} ----→ { /C_1 uŋ/ / C_1 + _____ ; /nuŋ/ }

The dative case suffix is homophonous with the verbal purposive suffix and both may co-occur, e.g. (32). Both suffixes mark the 'indirect object' or goal of an action, but the nominal suffix marks a 'passive' goal (cf. Dixon 1980:298), e.g. (30)-(31), (33), while the verbal suffix marks action intended to attain the goal, e.g. (32), (34).

(30) kutpøpørør-ŋa-mi-Ø acca-palak-kuŋ
anxious-1sgS-sit-NF sibling-GEN-DAT
I worry/worried for my sister (AL:40).

(31) ɲen-ce-parra werret kaɲ-me-ŋacaŋ
2sgA.1sgO-giveFUT-RET quick 3sgfSNF-tell-3sgfD
IMP

wiŋ-ŋuŋ ŋak-yaŋaŋ-paka
milk-DAT mouth-1sgA.3sgfO-stabFUT

'You give me (her) back quick so I can breast-feed her!' she told her (T2:31).

(32) meneŋ-ɲuŋ ŋaŋka-pe yaŋken-kirrwa-nuŋ
edveg-DAT 1duincS-go IMP 1duincA.3plO-dig-PUR IMP
ŋaŋka-pe kaŋ-me-ŋacaŋ memempena-karraŋ
1duincS-goAUX 3sgfS-tell-3sgfD porpoise-ERG
IMP

'Let's both go for edible vegetables, let's both go to dig for them!' porpoise told her (T2:6)

(33) wik-kuŋ ŋa-pette-Ø-m
water-DAT 1sgS-die-NF-PRES
I'm dying for some water (JR:2).

(34) mecem-muŋ ka-pø-mene-ŋarrkka
meat-DAT 3sgA-3sgONF-kill-NF-1sgD

ye-ci-nuŋ ka-me-Ø-makka
2sgA.3sgOFUT-eatFUT-PUR 3sgmSNF-say-NF-PERF
IMP
He killed it for meat for me and said 'Eat it!'

The Dative affix is used in an allative sense in the following customary greeting:

(35) Q: kine-nuŋ ɲa-p-pur-iŋ
Where-DAT 2sgSFUT-FUT-walkFUT-FUTCM
Where are you heading? (JR:1).

Causal/Ablative {-makka}. In its ablative sense, the nominal suffix {-makka} marks direction away from a place, e.g. (36), or person, e.g. (37). In its causal sense, {-makka} marks the reason why something exists or occurs, e.g. (37)-(42). The nominal suffix {-makka} is homophonous with the perfective aspectual marker, which may cliticise a sentence-initial nominal, uninflected verb-root or adverb. In (37), commonsense tells us that the first instance of {-makka} is aspectual; the second {-makka} is truly ambiguous.

(36) kine-makka kaɲe-pe-Ø putan-makka ŋa-pe-Ø
Where-ABL 2sgSNF-go-NF town-ABL 1sgS-go-NF
Q: Where've you come from? A: I come from town (JR:6).

(37) warrkati-makka yaŋ-kunme-Ø kalaŋ-paḻak-makka
dillybag-PERF 1sgA.3sgmO-bring-NF mother-GEN-ABL/CAU
I brought the dillybag from/in memory of my mother.

(38) nentu-makka kel-Ø
horse-CAU path-ABS
A track made by horses (AL:3).

(39) calkma-nte ɲaccur-makka
bad-now salty-CAU
He's sick now from grog (AL:4).

(40) ɲamaḻik cica cøt-Ø wulli-makka
covered 3sgmDevis foot-ABS mud-CAU
That man's foot is covered with mud (AL:199).

(41) ɲinic-makka kaŋ-pette-Ø maŋkarra-makka
What-CAU 3sgfSNF-die-NF phlegm-CAU
Q: What did she die of? A: Of bronchitis (JR:30).

(42) ŋace ŋa-palam-ica-makka milmak-Ø acca-palak-makka
1sgP 1sgS-cut-REFL-PERF sorrycut-ABS sibling-GEN-CAU
I gave myself a sorry cut in memory of my brother.

Instrumental/Allative {-cene}. This morpheme is subject to allophonic variation according to the rules specified in 2.10.3 and exemplified in 2.3.2. In its instrumental sense, {-cene} marks the weapon used to hit a target, e.g. (43), the tool used to perform an action, e.g. (44), the material out of which something is made, e.g. (45)-(46), the language used to convey a message, e.g. (47) or, metaphorically, the organ with which one feels emotion, e.g. (48).

(43) ceɲmiyic-kak wereŋaŋ pøce-Ø laŋkurr-cene
3sgfP-Foc gaping head-ABS club-INS

kaɲ-pø-mene-makka
3sgA.3sgfONF-hit-NF-PERF

She hit her on the head with a club and made a gaping hole (T3:50).

(44) mipeŋala-cene ŋananana-ka-cetpe-Ø
fingernail-INS split-3sgA.3sgONF-take outAUX-NF

kaɲ-mi-ɲ-cø
3sgfSNF-sitAUX-PRES-CONT

She's sitting, continually splitting it with her fingernail (T4:21).

(45) wekpec-Ø ɲørrec-cene møŋ-yeŋka-nønme
basket-ABS pandanus-INS base-2plA.3sgmOFUT-start

ɲerr-mu
2plSFUT-sitAUXFUT
IMP
Sit down and start making a basket out of pandanus!

(46) ŋanparr-marr-ana mulurrum-cene
3plA.1sgO-rub-NF white clay-INS
They paint/ed me with white clay (AL:200).

(47) mal-cene ɲerr-me-parra-kaɲi
language-INS 2duSFUT-say-RET
IMP
Answer in language, both of you! (T3:14).

(48) kaweɲ-yaŋ-e-wene cica ŋanaŋ-Ø
blood-1sgA.3sgmO-give-NF 3sgmDevis man-ABS

manac-ŋace-pøttuŋ-cene
heart-1sgS-GEN-INS

I hate that man with all my heart (AL:62).

In its allative sense, {-cene} always attaches to nominals denoting a location, e.g.

(49) caparrawut-cene parrana-kak karr-par-a
other side-ALL 3plDeaud-Foc 3plSNF-walk-NF
That mob walked along to the other side.

Locative {-pene}. This morpheme is subject to allophonic variation according to the rules expressed in 2.10.5. {-pene} marks location at, in, or on a place, e.g. (50)-(53). Locative {-karraŋ} further specifies the location as inside a place. {-karraŋ} only occurs in apposition to an

NP marked Locative by the suffix {-pene}, e.g. (28)-(29). There is no such restriction on the occurrence of {-pene}, e.g. (50)-(51).

(50) ceɲmiyic-pente puc kaɲ-par-a-cena
1sgfP-now straight 3sgfSNF-walkAUX-NF-run

ŋalkin-pene
sea-LOC

As for her now, she ran straight into the sea (T2:58).

(51) wiɲ-Ø wunŋarr-kak mit-ka-wakaca-Ø
tree ncm yellow-Foc pretty-3sgSNF-come out-NF

ɲørrec-pene-nte
pandanus-LOC-now

The yellow (dye) comes/came out pretty on the pandanus (T4:33).

Body part nominals + {-pene} form locative adverbials, e.g. (52)-(53).

(52) pepera-pene
back-LOC
Behind my back.

(53) manac-pene
chest-LOC
In front of me.

(iv) Derivational suffixes. These are of two types: type I, which derive a further nominal stem, and type II, properly termed derivational case-suffixes (Andrews 1985:92; 96),

because, suffixed to complex NPs, they make modifier phrases. Derivational suffixes precede core syntactic or local case-suffixes, e.g. (30), (37), (42), (66).

Type I

(a) {-maɲka} 'empty'. Suffixed to a noun stem, {-maɲka} derives a further noun stem, e.g. (54)-55) or adjectival stem, e.g. (56). {-maɲka} is cognate with the negative particle {kamaɲka} 'nothing', which is discussed in 3.6.1.

(54) pepera-maɲka
back-EMP
Widower.

(55) pellem-maɲka
thigh-EMP
Man whose children are dead.

(56) peyik/ŋala-maɲka
bag/hand-EMP
Empty-handed.

b) {-malaŋ} 'full of'. Suffixed to a noun stem, {-malaŋ} derives a further noun stem, as in (57), or an adjectival stem, e.g. (58)-(59).

(57) ŋukac-malaŋ
feather-FUL
Bird (generic).

(58) parrkkatta-malaŋ
two-FUL
Two.

(59) kucuk-malaŋ
vagina-FUL
Sexy.

Type II

(a) One of a group	{-kaɲi}
(b) Comitative	{-maliŋmica}
(c) Place	{-ɲini}
(d) Semblative	{-kuttuŋ}
(e) Genitive	{-pøttuŋ}

(a) One of a group {-kaɲi}. The derivational case-suffix {-kaɲi} is homophonous with the pronominal enclitic {-kaɲi} which specifies a dual S/A or O. Derivational {-kaɲi} marks coordination within an NP, e.g. (60)-(61). There is no restriction on the number of coordinate nominals which may be marked with this suffix, e.g. (61). When a single nominal in S/A role is marked thus, its verb is cross-referenced for a dual subject with the pronominal enclitic {-kaɲi}.

(60) ŋarrawe te-kaɲi ŋarra-par-a-kaɲi
brother-one of gp 1duS-walk-NF
My brother and I went.

(61) nakki-kaɲi waṭawu-kaɲi kuḷḷak-kaɲi
Nukkey-one of grp Wardawu-one of gp Catfish-one of gp

pilawuk-kaɲi kaŋka-pe pukpica
Bilawuk-one of gp 2plSNF-go together

You went together with Nukki, Wardawu, Catfish and Bilawuk.

(b) Comitative {-maliŋmica}. This suffix means 'with, as accessory', e.g. (62)-(64).

(62) mørrakara-makka nulkŋawak-maliŋmica ŋa-pe-Ø
yesterday-PERF children-COM 1sgS-go-NF
Yesterday I went, taking the children with me.

(63) maṭamalaŋ turrkat-maliŋmica ya-kunme-ŋarrkka
fish potato-COM 2sgA.3sgOFUT-bring-1sgD IMP
Bring me fish with chips! (AL:69)

(64) wiɲ parrkkattamalaŋ-maliŋmica ŋa-pe-Ø
stick two-COM 1sgS-go-NF
I walk with the aid of two sticks.

Place {-ɲini}. {-ɲini} means 'place associated with' and attaches to NPs denoting humans or entities deemed human in Bachamal mythology, e.g. (65)-(67). It precedes a locative case-suffix, e.g. (66).

(65) yelaweɲ-ɲini
wild onion-PLAC
Wild onion dreaming site (AL:17).

(66) ŋarr-ŋaca-m-parra-kaɲi ŋaḷ para
1duS-come-PRES-RET cheek creek

ŋarrmaŋ-ɲini-pene ṭuḷk
bailershell-PLAC-LOC dreaming

We're both coming back along the banks of the creek to the place of the bailer-shell dreaming (T5:9).

(67) pwuccaka ŋanaŋ karr-pette-Ø-makka
strange man 3plSNF-die-NF-PERF

kane wewiɲ-ɲini rak
2sgP spiralshell-PLAC country

The strangers died in the country where you and Spiral-shell, (Agnes), have your dreaming (AL:33).

Semblative /-kuttuŋ/ ~ /terric---kuttuŋ/ 'like'. An NP is suffixed by /-kuttuŋ/ and optionally prefixed with /terric-/ to make an adjectival phrase, e.g.

(68) terric-ɲatta parrkkattamalaŋ-kuttuŋ pamalaŋ ṭuḷk
SEMB-house two-SEMB big whale
A whale as big as two houses (AL:19).

(69) ɲawen-paḻak-kuttuŋ yaŋaŋ-ukka
auntie-GEN-SEMB 1sgA.3sgfO-copy
I look like my auntie (father's sister) (AL:342).

Genitive /-pøttuŋ/ ~ /-paḻak/. Both allomorphs are subject to allophonic variation according to the rules expressed in 2.10.3b and exemplified in 2.3.2.(5). /-paḻak/ marks nominals denoting close kin as inalienably possessed, e.g. (30), (37), (42), (77). Kin-terms cited in (1)-(14) are eligible to be marked with /-paḻak/. /-pøttuŋ/ marks alienably possessed entities, e.g. (70), (77). When ownership is emphasised, kin ineligible for marking with /-paḻak/ may be marked with /-pøttuŋ/, e.g. (71)-(73). The body parts of humans and higher animals are inalienably possessed. This is expressed by the juxtaposition of possessor and possessed nominals, e.g. (74)-(75), except in emphatic sentences, where the body parts of ego or another

may be marked alienable, e.g. (48), (76).

(70) murraŋ camuyic-pøttuŋ
digging stick 3sgmP-GEN
It's his digging stick (AL:40).

(71) møna ceɲmiyic-pøttuŋ
husband 3sgfP-GEN
That's her husband (KM:3).

(72) yeɲere-kaŋ-kunme kaŋ-par-a
steal-3sgA.3sgfONF-takeAUX 3sgfSNF-walkAUX-NF

memempena-pøttuŋ pampac
porpoise-GEN baby

She went and stole porpoise's baby (T2:58).

(73) ŋakuḷø-pe ŋaŋ-pe-ce ciŋ pampac
not-ever 1sgA.2sgO-FUT-give 3sgfDetang baby

ŋace-pøttuŋ-pe
1sgP-GEN-ever

I'll never give you this baby. It's mine for ever! (T2:29).

(74) kaḷppa muyiŋ
tail dog
The dog's tail.

(75) ŋace ca-kak ŋala
1sgP 3sgmDevis-Foc finger
That there is my finger (T4:31).

(76) nakki-pøttuɲ ŋala ci-kak
Nukkey-GEN finger 3sgmDetang-Foc
This here is Nukkey's finger (T4:16).

When both allomorphs of the genitive suffix occur on the same item, /-paḻak/ precedes /-pøttuɲ/, e.g. (77).

(77) muyiɲ pappa-ḻak-pøttuɲ
dog father-GEN-GEN
My father's dog/s.

By haplology, the initial syllable of /-paḻak/ is elided after the identical stem-final syllable of {pappa}.

{-pøttun} overlaps with Dative when it marks an intended attribute, e.g. (78)-(79) and (87).

(78) ŋan-uka-m-pente pattura-pøttuɲ
1sgA.3plO-tie up-PRES-now dry-GEN
I'm tying up the ones intended to be dry (T4:33).

(79) mipemeneɲ perr carakku-pøttuɲ-kak
seed 3plDetang good sgm-GEN-Foc
These are the seeds for a good (dye) (T4:50).

3.3.2 Adjective morphology. Adjectives specify the age, size, quantity, colour, smell, taste, feel, and appearance of concrete entities, and the physical, emotional and mental attributes of humans and higher animals.

(i) Word order. Adjectives precede or follow the noun they modify. A sequence of two adjectives is common, e.g. (80), but sequences of three are attested, e.g. (81).

(80) kucukkucuk pøccaḷak karruŋmalaŋananŋ
little girl small beautiful
She's a beautiful little girl (JR:2).

(81) ŋuna ka-wakaca carakku-nte wuriwuri
then 3sgmSNF-come out good-now red

wunŋarrwunŋarr kalla
yellow colour

Then a good red, a good yellow colour comes out (T4:52).

(ii) Number and gender marking. The adjective {carakku} 'good', is marked for number, and singular gender, e.g. (82)-(83). Forms are listed in Table 4. Number and 3sg gender are marked on deictics and the interrogative adverb allomorphs /cine/ ~ /ciɲina/ ~ /pine/ 'where is he?/ she?/ where are they?'. Identical marking occurs on the cognate Puŋupuŋu adjective, interrogative and deictics (Tryon n.d.: 104). Number- and gender-marking may have been borrowed into Bachamal from Puŋupuŋu, or may represent the start of a Bachamal system that failed to be productive.

Table 4: Adjective inflections

	Singular	Plural
Masculine	carakku	parakku
Feminine	canakku	

(82) perr wiɲ-pakka kulkamit-tuŋ parakku-kak
3plDetang tree-same pretty colours-DAT good pl-Foc
These same trees are good (sources) for pretty dyes (T5:49).

(83) canakku kaɲi-mi ŋaraca
good sgf 2sgSNF-sit daughter
Are you OK, daughter?

(iii) Case inflections. If an adjective is the final or only nominal in an NP, it inflects for case, e.g.

Absolutive.

(39) calkma-nte ŋaccur-makka
bad-now salty-CAU
He's sick from the grog (AL:4).

(84) møŋkantalapine-Ø riɲ-kaɲpaṭ-ṭut-mene-makka
trailing-ABS · pass by-3plA.3sgfONF-leaveAUX-NF-PERF
They passed her by and left her trailing behind.

Ergative

(85) kaɲ-ukpica-Ø kaɲ-mi-m-pørraŋ-kaɲi yik-karraŋ
3sgfSNF-call out-NF 3sgfSNF-sitAUX-PRES-3duD old-ERG
The old woman is sitting, calling out to those two (T6:40).

Causal See (39)

Locative

(86) pamalaŋ-pene ŋarra-mi
big-LOC 1plincS-sit
We all sat in a big mob (JR:12).

(iv) Nominal derivational suffixes

Genitive

(87) wac paypay-pøttuŋ pap pattura-ŋarrin-yi-ŋa-ɲ-cø
some white-GEN up dry-1exA.3plO-make-NF-PRES-CONT
Some (pandanus fronds), intended to be white, we're drying on top (ofbushes) (T4:46).

(v) Verbalising derivational affixes

(a) Inchoative. An adjective may be incorporated into the inchoative verb {me} 'become' to derive an intransitive verb, e.g. (88).

(88) yik-kaɲe-me ŋananŋmeca menen parrma
fat-2sgSNF-becomeINCH body edveg many

ɲen-ci-ɲene
2sgA.3plO-eat-NF

You got fat from eating too many vegetables (AL:213).

(b) Causative. An adjective may be incorporated into the causative verb {yi} 'make' to derive a transitive verb, e.g.

(89) carakku-ɲen-i-ŋa-m
good-2sgA.1sgO-makeCAUS-NF-PRES
You're cheering me up (JR:30).

3.3.2.1 Numerals

(90) ŋancic one
(91) parrkkatta-malaŋ two
(92) parrkkatta-ŋancic three
(93) parra-ŋancic five

Reduplicating a numeral doubles its value, e.g.

(94) parrkkatta-malaŋ+parrkkatta-malaŋ 'four'
(95) parra-ŋancic+parra-ŋancic 'ten'

(i) Case-inflections. If a numeral is the final or only nominal in an NP, it inflects for case, e.g.

Ergative

(96) ka-wukpica-Ø ka-caŋa-Ø-m-parra-nøŋ
3sgmSNF-call out-NF 3sgmSNF-standAUX-NF-PRES-RET-3sgmD

ŋancic-karraŋ
one-ERG

Another stands and calls out to him in reply (T6:11).

Locative

(97) wiŋ wunŋarr-pøttuŋ ci pilikan ŋancic-pene
wood-yellow-GEN 3sgmDetang billycan one-LOC
Those with yellow dye are in this other billy-can (T5:49).

3.3.3 Compound nominals. Compound nominals behave as a single phonological unit; prominence is marked by raising the pitch of the initial syllable of the first stem in the compound. Compound nominals are productive, viz. the neologisms incorporating English loan lexemes cited in (103), (107)-(108).

All compound nominals attested incorporate nominals denoting body parts or bodily functions. Body parts may be used literally, e.g. (107)-(108), metaphorically, in part-whole compounds describing anatomical details, e.g. (98), details of flora, e.g. (99)-(100), or features of the landscape, e.g. (101)-(103), to describe a kin relation, e.g. (104), or an emotional state, e.g. (105).

Compound nominals are of two types:

(i) noun + noun

(98) mipe+cøt 'toenail' = mipe 'eye' + cøt 'foot'.

(99) mipe+menɲ 'seed' = mipe 'eye' + menɲ 'edible vegetable'.

(100) cøt+wiɲ 'root' = cøt + wiɲ 'tree' + cøt 'foot'.

(101) ŋaḷ+para 'creek bank' = ŋaḷ 'cheek' + para 'creek'.

(102) tirra+kalkalk 'edge of cliff' = tirra 'tooth' + kalkalk 'cliff'.

(103) tirra+cimiɲ 'edge of pavement' = tirra 'tooth' + cimiɲ 'cement'.

(104) pwik+tawarra 'mother's brother's son or daughter' = pwik 'bone' + tawarra 'belly'.

(105) kawɛɲ+tawarra 'furious' = kawɛɲ 'blood' + tawarra 'belly'.

(106) paɲpurrk+cøt 'shoe' = paɲpurrk 'cover' + cøt 'foot'.

(107) pøce+ŋat 'hat' = pøce 'head' + ŋat 'hat'.

(108) put+cøt 'shoe' = put 'boot' + cøt 'foot'.

(ii) noun + adjective

(109) ŋak+panpapanpa 'spoonbill (bird sp.)' = ŋak 'mouth' + panpapanpa 'flat'.

(110) yik+ŋala 'thumb' = yik 'fat' + ŋala 'finger'

(111) yik+kurrma 'old man' = yik 'old + kurrma 'snore'.

3.3.4 Reduplicated forms. Reduplicated forms are treated as a single phonological unit. They are productive, e.g. the neologism cited in (115). True reduplications are of two types:

(i) noun + noun. These include the nonce forms (112)-(114):

(112) ŋura+ŋura 'small boy', from ŋura 'penis'.
(113) kucuk+kucuk 'small girl', from kucuk 'vagina'.
(114) maŋ+maŋ 'base of rock', from maŋ 'rock'.
(115) para+para 'shirt', from para 'arm'.

(ii) adjective + adjective. The reduplicated form intensifies the original, e.g.

(116) pamalaŋ+pamalaŋ 'huge', from pamalaŋ 'big'.
(117) pøccaḷak+pøccaḷak 'tiny' from pøccaḷak 'small'.
(118) nulk+nulk 'bit by bit', from nulk- 'small'.

Onomatopoeic compounds are not true reduplications, because the unreduplicated form does not exist. They are nonce forms, imitating by repetition sounds that evoke the entities they denote, e.g.

(119) picpic 'bird which sings at dawn in the mangroves'.
(120) warkwark 'green tree-frog'.
(121) miciɲmiciɲ 'sandpaper tree'. Its abrasive leaves are used to scrape off the scabs of ringworm sores.

3.3.5 Pronoun morphology. The core syntactic functions of this language are A, S, O, and D (dative). All core arguments are encoded on the verb: A/S and O by pronominal prefixes, D by pronominal enclitics. D enclitics mark oblique objects. Peripheral arguments are marked on the verb by third person IMPL (implicated) pronominal enclitics. Pronominal prefix forms are listed in Tables 10-12 and analysed in 3.4.3.1-3.

Pronominal verbal prefixes can be supplemented by free pronouns in A/S and O function. Free pronouns inflect for person and number and mark gender in 3sg and in each dual and trial category. Free pronoun forms are listed in Table 5 and analysed in 3.3.5.1. Free pronouns may act as the head of an NP, take nominal case-suffixes and combine with the nominal {nala} 'hand' to form reflexive pronouns; examples are provided.

Pronominal enclitics are discussed in 3.3.5.2.1-3. They frequently occur cliticised to a verb, but may cliticise an NP, e.g. (133)-(134). Pronominal enclitic forms are derivable from free pronoun forms. D pronominal enclitics inflect for person and number and mark gender in 3sg and in each dual and trial category. D forms are listed in Table 6 and discussed in 3.3.5.2.1. IMPL pronominal enclitics inflect for number and mark gender in 3sg. IMPL forms are listed in Table 7 and discussed in 3.3.5.2.2.

Deictics, restricted to third person forms, inflect for

Table 6: Free pronoun inflections

		singular	dual	trial	plural
1 inc	f		ŋaŋka	ŋarra-paŋa-kaŋi	ŋarrara
	m			ŋarra-pena-kaŋi	
1 ex	f	ŋace	ŋarra-kaŋi	ŋarra-paŋa-kaŋi	ŋarra
	m			ŋarra-pena-kaŋi	
2	f	kane	nawarra-kaŋi	nawarra-paŋa-kaŋi	nawarra
	m			nawarra-pena-kaŋi	
3	f	ceɲmiyic	pørra-kaŋi	pørra-paŋa-kaŋi	parrmuyic
	m	camuyic		pørra-pena-kaŋi	

Table 7: D pronominal enclitic inflections

		singular	dual	trial	plural
1 inc	f		-ŋaŋkuŋ	-ŋarraŋ-paŋa-kaŋi	-ŋarraraŋ
	m			-ŋarraŋ-pena-kaŋi	
1 ex	f	-ŋarrkka	-ŋarraŋ-kaŋi	-ŋarraŋ-paŋa-kaŋi	-ŋarraŋ
	m			-ŋarraŋ-pena-kaŋi	
2	f	-wiŋ	-nawarraŋ-kaŋi	-nawarraŋ-paŋa-kaŋi	-nawarraŋ
	m			-nawarraŋ-pena-kaŋi	
3	f	-ŋacaŋ	-pørraŋ-kaŋi	-pørraŋ-paŋa-kaŋi	-pørraŋ
	m	-nøŋ		-pørraŋ-pena-kaŋi	

number, gender and case. They commonly occur in attributive function, but may act as the head of an NP. Deictic forms are listed in Table 8 and discussed in 3.3.5.3.

Interrogative pronouns inflect for causal and purposive cases. Interrogative pronouns are described in 3.3.5.4; the indefinite pronoun in 3.3.5.5.

3.3.5.1 Free pronoun forms analysed.

(a) First person is marked on all forms by {ŋa-}.

(b) All second person non-singular forms are marked by {n-}.

(c) All singular forms are suppletive.

(d) 3sg and plural forms are compounds of the morpheme {-mVyic} prefixed by /ceɲ-/ for 3sg feminine, by /ca-/ for 3sg masculine, and by /parr-/ for 3pl, e.g. (70), (71), (122). V of {-mVyic} is predictable: after /i/, /e/ or /ø/, the suffix-initial vowel is /i/. Elsewhere, it is /u/, e.g.

(70) murraŋ camuyic-pøttuŋ
digging stick 3sgmP-GEN
It's his digging stick (AL:40).

(71) møna ceɲmiyic-pøttuŋ
husband 3sgfP-GEN
He's her husband (KM:3).

(122) parrmuyic-taŋkarra mirak-parr-p-muyaŋ
3plS-another dance-3plSFUT-FUT-danceFUTAUX
These other women, they'll dance.

(e) Dual forms combine a plural form with the enclitic dual

morpheme {-kaɲi}, e.g. (123). Enclitic {-kaɲi} may co-occur with the homophonous nominal derivational case-suffix {-kaɲi} 'one of a group', e.g. (60), but the structural possibilities of each differ and ambiguity does not occur.

(f) Trial forms combine a plural form with an enclitic trial marker, e.g. (123). The trial marker is a calque of the 3sg IMPL pronominal enclitic + the dual morpheme {-kaɲi}. Trial allomorphs are gender-marked: /-penakaɲi/ is marked masculine by {-n-}; /-paŋakaɲi/ is marked feminine by {-ŋ-}.

(123) ŋarr-pe-ŋ-kaɲi ŋarrakaɲi pinpin
1duexS-go-PRES 1duP Binbin

wanpirri ŋarrapaŋakaɲi
Wanbirri 1trfP

I'm going with Binbin; we're both (going) with Wanbirri (T4:15).

The following are examples of free pronoun usage:

(i) Case-inflections: Free pronouns inflect for case, e.g. Absolutive. A free pronoun marked absolutive may function as the head of an NP in a locative question, e.g. (124), govern the person and number of a transitive verb, e.g. (126), or be the object of a transitive verb, e.g. (125).

(124) ŋanaŋ-Ø kaḻaḻk-Ø ŋace-Ø
person-ABS black-ABS 1sgP-ABS
I'm a blackfella (AL:31).

(125) naka ka-pø-mene ŋace-Ø
Who 3sgA.3sgmONF-hit-NF 1sgP-ABS
Q: Who did he hit? A: Me.

Ergative. Ergative-marking is not obligatory on free pronoun agents of transitive verbs, e.g.

(126) kamaŋka, ŋace(-karraŋ)-makka yaŋ-pø-mene
nothing 1sgP-ERG-PERF 1sgA.3sgmO-hit-NF
No, it was me that hit him (JM:9).

(ii) Derivational suffixes. Free pronouns take derivational suffixes, e.g.

Place

(127) kane-ɲini-pente rak wa-nic-ene-nøŋ
2sgP-PLAC-now country 3A.3O-wait for-NF-3sgmD

ŋawen-palak-karraŋ
auntie-GEN-ERG

My auntie (father's sister) waited for him at your place (JR:26).

Semblative

(128) ŋace-kuttuŋ-karra
1sgP-SEMB-another
Same with me (T3:2).

Genitive. Free pronouns occur most commonly in genitive constructions, eg. (70)-(71), (73).

(iii) Function in discourse. The use of a free third person pronoun to mark a new referent in narrative is obligatory, e.g.

(129) ceɲmiyic kuca ceɲmiyic kacu
3sgfP that way 3sgfP this way

ceɲmiyic kacucu kaŋ-par-a
3sgfP out of sight 3sgfSNF-walk-NF

X walked that way, Y walked this way, Z walked out of sight (T4:14).

(iv) Reflexive pronouns. A free pronoun co-referential with the subject of its verb combines with the noun {ŋala} 'hand' to form a reflexive pronoun, e.g.

(130) kappuk-ŋa-puka ŋace-ŋala
wash-1sgS-batheAUX 1sgP-hand
REFL

I had a shower (JR:31).

(131) muttukka ka-yika-ŋ ka-par-a
car 3sgmSNF-go down-PRES 3sgmSNF-walkAUX-NF

camuyic-ŋala
3sgmP-hand
REFL

The car is travelling of its own accord (JR:33).

Reflexive pronouns reinforce a verb marked with the derivational reflexive suffix, e.g.

(132) kaɲ-marr-ica ceɲmiyic-ŋala
3sgfSNF-rub-REF 3sgfP-hand
REFL

She painted herself (BL:2).

3.3.5.2 Pronominal enclitics. In the corpus, pronominal enclitics occur most often as the final element of a verb, but may attach to a nominal, e.g. (190), or NP, e.g. (133)-(134), (143).

(133) ŋa-par-a-merre narra kamaŋka rak-maŋka-ŋacaŋ
1sgS-walk-NF-again but nothing place-EMP-3sgfD
I went again, but in vain. She wasn't there (AL:333).

(134) wik ka-wakaca-Ø pøce-pene-paŋa
water 3sgSNF-come out-NF head-LOC-3sgfIMPL
Water came out of her head (T2:50).

3.3.5.2.1 D pronominal enclitics.

(i) Comparison of Tables 5 and 6 reveals the following similarities in the underlying stems of free pronouns and D pronominal enclitics:

(a) First person forms share {ŋa-}.

(b) All singular forms are suppletive.

(c) Masculine gender is marked on 3sgm {nøŋ} by {n-}, e.g. (127), (135). Feminine gender is marked on 3sgf {ŋacaŋ} by {ŋ-}, e.g. (133), (136). The same gender-marking occurs on the nominals denoting kin-terms cited in (1)-(14).

(135) yiɲmek-pente ŋal-yerren-paka
tomorrow-now sew-1plincA.3plO-stabFUTAUX IMP
ŋarra-mu ŋarr-me-nøŋ perrekut
1plincS-sitFUTAUX 1plexS-tell-3sgmD whitefella IMP
cawana-kak
3sgmDeaud-FOC

'Let us sit and sew them first thing tomorrow ' we said to that whitefella (T4:57).

(136) kane-nte ɲe-pe menen kaɲ-me-ŋacaŋ
2sgP-now 2sgSFUT-go IMP edveg 3sgfSNF-tell-3sgfD

'It's your turn to go for edible vegetables!' she told her (T2:16).

(d) Non-singular D underlying stems are derivable from corresponding free forms by the addition of the oblique suffix {-(u)ŋ}. The allomorph /-uŋ/ occurs only in 1duincD. {-ŋaŋk+uŋ}. Elsewhere, the oblique suffix is realised as /-ŋ/. Dual D forms are exemplified in (137), trial in (138), plural in (139).

(137) wula ŋancic-mini ŋa-wakaca-Ø-nawarraŋkaɲi
year one-then 1sgS-arrive-NF-2duD
It was last year, when I came to you both (JM:2).

(138) mecem ka-ye-wene-pørraŋpaŋakaɲi
meat 3sgA.3sgONF-give-NF-3trfD
He gives/gave meat to the three women.

The irregular verb {ce} 'give' is discussed in Appendix 2.

(139) ciɲca ŋawulaŋ-karraŋ penta-pi-kirrwa-ŋarraraŋ
3sgmDevis woman-ERG 3A.3plOFUT-FUT-dig-1plincD
That woman you can see will dig them for us all.

(ii) D pronominal enclitics are used for the Recipient-like argument of ditransitive verbs, e.g. (63), (138), (140) and for oblique objects, e.g. (133), (135), (137), (139), (141).

(140) ɲerren-møɲce-ŋarraŋ
2plA.3plO-send-1plexD
IMP
Send them to us!

(141) mecem ɲen-ye-wene-ŋarrkka
meat 2sgA.3plO-give-NF-1sgD
You gave them meat on behalf of me/ belonging to me (AL:311).

3.3.5.2.2 IMPL pronominal deictics.

Table 7: IMPL pronominal enclitic inflections

	Singular	Plural
3m	-pena	} -pørra
3f	-paɲa	

(i) Dual forms are plural forms + {-kaɲi}

(ii) Trial forms are plural forms + /-penakaɲi/ /paɲakaɲi/.

(iii) Comparison of Tables 5 and 7 reveal the following similarities in the underlying stems of free pronouns and IMPL pronominal enclitics:

(a) The free pronoun trial marker is a calque of a gender-marked allomorph of the 3sg IMPL pronominal enclitic plus the dual morpheme {-kaɲi}.

(b) 3sg free pronoun forms and IMPL pronominal enclitic allomorphs show similar but not identical gender-marking.

(c) 3 trial free pronoun and IMPL pronominal enclitic forms are identical.

(ii) IMPL pronominal enclitics denote peripheral arguments, which are implicated in the action/state expressed by their verb, e.g. (134), (142)-(143), (190).

(142) kak-ŋarr-ika ŋarr-pe-ɲ-cø-pena
go away-1plexS-go down 1plexS-goAUX-PRES-CONT-3sgmIMPL
We keep on going off down with him (T5:3).

(143) kaɲ-ŋuccica muc-karraŋ-paɲa pampac-ø
3sgfS-withhold wallaby-ERG-3sgfIMPL baby-ABS
Wallaby withheld the baby girl (from her) (T2:34).

3.5.5.3 Deictics. Bachamal speakers distinguish three sets of third person deictics, according to their degree of distance from the speaker. Entities within reach are classed as tangible (tang), e.g. (73), those within hearing as audible, (aud), e.g. (299)-(301), those within view as visible, (vis), e.g. (29), (40), (139), (145), (148)-(149).

Deictics inflect for number,and mark gender in 3sg. Forms are listed in Table 8 and illustrated in (144)-(145), (148)-(149).

Deictics occur most often in attributive function, e.g. (21), (29), (48), (73), (75)-(76), (82), (97), (139), (149), but may occur independently of a nominal, in S function, e.g. (40), (49), (144), or in A function, marked ergative, e.g. (145).

Audible deictics most commonly occur cliticised by the focal clitic particle {-kak} to denote a previously mentioned entity, e.g. (49), (135), (144).

Table 8: Deictic inflections

	tangible	audible	visible
3sgm	ci	cawana	cica
3sgf	ciɲ	ceɲena	ciɲca
3pl	perr	parrana	pørra

(144) karruŋmalaɲananɲ pampac ceɲmiyic-pøttuŋ-kak
beautiful baby 3sgfD-GEN-Foc

memempena-pøttun muc-pøttun-kak ceɲuḻukpa
porpoise-GEN wallaby-GEN-FOC no good

ceɲuḻukpa ceɲena-kak
no good 3sgfDeaud-Foc

Porpoise's child was beautiful; wallaby's was no good, that one you've heard about was no good (T2:54).

(145) ciɲca-karraŋ kanpi-kirrwa-rraŋ-ŋarraŋ menɐɲ
3sgfDevis-ERG 3A.3plONF-dig-HAB-1plexD edveg
That woman always digs up edible vegetables for us.

3.3.5.4 Interrogative pronouns. Interrogative pronouns {naka} 'Who?' and {ɲinic} 'What?' always occur utterance initially. Both may take some nominal inflections.

(i) {naka} 'Who?'.

Absolutive

(146) naka-Ø kane
who-ABS 2sgP
Who are you? (JR:2).

Ergative. Ergative-marking is not obligatory on interrogative pronoun agents, e.g.

(147) naka-(karraŋ) warrk-ka-me-Ø ya
who-ERG win-3sgSNF-beINCH I don't know
Q: Who won? A: I don't know.

Genitive

(148) naka-pøttuŋ ci-kak
who-GEN 3sgmDetang-Foc
Who does this belong to? (JR:6).

(ii) {ɲinic} 'What?' Interrogative {ɲinic} inflects to show dative, causal and instrumental case relations, e.g.

Dative

(149) ɲinic-cuŋ-pe ɲen-pø-mene-makka pørra ŋanaŋ
what-DAT-ever 2sgA.3plO-hit-NF-PERF 3plDevis man
Whatever did did you hit those men for? (JR:16).

Causal

(37) ɲinic-makka kan-pette-Ø
what-CAU 3sgfSNF-die-NF
What did she die of? (AL:25).

Instrumental

(150) ɲinic-cene wekpec mørrakmala-ka-wa-Ø
what-INS basket make-2sgA.3sgONF-makeAUX-NF
What are you making/did you make the basket out of?

({wa} 'make' is an irregular verb, discussed in Appendix 2).

3.3.5.5 Indefinite pronoun. In its indefinite sense, {ɲinic} may be attributive or predicative. If it is attributive, it precedes the noun it qualifies. Indefinite {ɲinic} occurs only in absolutive case, and only in lists, e.g. (151)-(152).

(151) meneɲ wuŋmarrac-Ø ɲinic-Ø meneɲ-Ø melŋmelŋ-Ø
edvegncm long yam-ABS IND-ABS edveg-ABS cheeky yam-ABS

kanpi-kirrwa-Ø karr-pe-ŋ-kaɲi
3A.3plONF-dig-NF 3duSNF-goAUX-PRES

They're both going and digging long yams, cheeky yams, any edible vegetable (T3:16).

(152) ŋarran-Ø ka-pø-mene aw cecarec-Ø
goanna-ABS 3sgA.3sgmONF-hit-NF or possum-ABS

ɲinic-Ø mecem-Ø røcaŋ-Ø
IND-ABS meat-ABS bandicoot-ABS

Goanna she kills/killed, or possum, or bandicoot, any meat (T2:19).

3.4 Verb morphology. Bachamal verb stems are of two types. Type A bears tense-marked pronominal prefixes, inflects for tense, mood, aspect and polarity and may carry a reflexive/reciprocal derivational suffix (see 3.4.3.1-5). Type B bears no pronominal prefixes, does not inflect for tense, mood or polarity, and may not carry a derivational suffix. Type B stems may function as a complement to a verb, and bear nominal derivational suffixes (see 3.4.4).

The corpus of 271 verbs contains 134 simple verbs, consisting of Type A verb stems, and 137 compound verbs, in which a type A verb acts as an auxiliary to a type B verb stem. All verbs attested are listed in Appendix 1. Compound verbs are discussed in 3.4.5.

27 type A verb stems and 4 type B verb stems incorporate nominals in O function to form further verb stems, e.g. {pik-nipe} 'gaol', from {pik} 'rope' and type A verb root {nipe} 'hold'. See 3.4.7 for a discussion of incorporated nominals.

In Puŋupuŋu, (Tryon n.d.:35; 1974:193)), all transitive verbs, and most intransitive verbs are compound verbs with the structure:
verb stem + inflected intransitive auxiliary verb.

Puŋupuŋu auxiliary verbs may occur independently as simple intransitive verbs and have the structure:
pronominal prefix + (tense) + stem + aspect.

Bachamal has as many simple as compound intransitive and transitive verbs; it is the converse of Puŋupuŋu in requiring for its compound transitive verbs the structure: type B verb stem + transitive type A verb as auxiliary.

In Bachamal, a simple or compound verb may be followed by one of five intransitive auxiliary verbs in an auxiliary verb complex, where the auxiliary specifies the bodily orientation of the co-referential subject and bears in addition to its own inflectional suffixes, aspectual suffixes and pronominal enclitics governed by the main verb.

Verbs may be classified according to transitivity (3.4.1), or conjugation (3.4.2). 3.4.3 analyses simple (=type A) verb structure; 3.4.4 describes type B verb stems; 3.4.5 describes compound verbs. 3.4.6 discusses auxiliary verb complexes; 3.4.7 deals with incorporated nominals. 3.4.8 describes the interrogative verb.

3.4.1 Transitivity. Transitivity is the notion of 'an A "doing something to" a patient' (Hopper and Thompson 1980:274). The pronominal prefixes to all Bachamal verbs mark participants; for almost all verbs, this equates with transitivity. The corpus contains single argument, two argument and three argument verbs. Verbs admit of three case-frames:

(i) Intransitive: On 40% of verbs in the corpus, the pronominal prefix marks a single participant, the intransitive subject (S). Oblique objects are marked by a D pronominal enclitic, e.g. (137).

(ii) Transitive: On the remaining 60% of verbs in the corpus, the pronominal prefix marks two arguments: transitive subject (A) and transitive object (O). If an agent nominal is overtly expressed, it is marked ergative, unless the sentence is counterfactual, or the agent is inanimate and the verb inflected for future tense.

4% of transitive verbs are ditransitive, e.g. {ce} 'give, {kunme} 'bring', {ka} 'take', {møɲce} 'send'. These verbs may be additionally marked for a third argument with a D pronominal enclitic denoting a human Recipient, e.g. (63), (138), (140), or oblique object, e.g. (139), (141).

(iii) Semitransitive: In 4% of transitive verbs, e.g. {purra} 'look for', {nic} 'wait for', the A has no effect on the patient, which is marked by a D pronominal prefix, although the pronominal prefix to the verb marks A and O,

e.g. (175) and an agent nominal is marked ergative, e.g. (127).

On the two argument verbs, {me} 'tell', {wuŋmice} 'tell lie to', {wukpice} 'call out to', a human third argument is marked by a D pronominal enclitic. On the verb {ŋuccica} 'withhold', an IMPL pronominal enclitic marks the (animate) object withheld. The presence of a pronominal enclitic on these semi-transitive verbs causes ergative case-marking on an agent nominal, but this is not cross-referenced on the pronominal verbal prefix, which marks a single participant only. The reason for this may lie in the low transitivity of the verbs in question; alternatively, these verbs may be in the process of changing their transitivity.

3.4.2 Conjugations. Verbs are marked for future or non-future tense, and, on the basis of these inflections, can be grouped into four conjugations. Conjugations are analysed in Table 9. Tense-inflections pattern as follows:

(a) Future {-p- + stem + -pa} Conjugation 1
{-p- + stem + -aŋ} Conjugation 3
(-p- + stem + -Ø} Conjugations 2,4.

The various realisations of the future tense morphemes are derived by the following ordered morphological rules:

Table 9: Verb conjugations

Conjugation no.	1	2	3	4
Total members:	41	36	46	148
% transitive:	100%	94%	8%	38.5%
monosyllabic members:	*pø 'hit'	*ma 'pick up'	*ka 'fetch'	*caŋ 'stand'
	*n 'see'	*rø 'cry'		*ye 'lie'
	*ci 'eat/drink'			mi 'sit'
	pa 'smash'			
	cə 'give'			
disyllabic members:				*ŋawe 'hear'
				*paŋka 'stab'
				*pøŋme 'smell'

Starred items are cognate with Dixon's putative proto-Australian verb roots (Dixon: 1980, 402-7; unpublished lecture notes, 1988).

By (M 2) w ----→ Ø / p] $_{px}$ _____ V

Vowel-insertion before monosyllabic verb stems

By (M 3a) Ø ----→ V_1 / p] $_{FUT}$ _____ [$_{stem}$ CV_1 #

Vowel-insertion before polysyllabic verb stems

By (M 3b) Ø ----→ V_1 / p] $_{FUT}$ _____ [non-labialC]$_{stem}$ V_1

(b) Non-future stem + {-mene} Conjugation 1
stem + {-ŋana} Conjugation 2
stem + {-e/a} Conjugation 3
stem + {-Ø} Conjugation 4

e.g.

Conjugation 1

yaŋ-ṭut-mene
1sgA.3sgmO-leave-NF
I leave/left him/it.

yaŋ-pu-ṭul-pa
1sgA.3sgmO-FUT-leaveFUT-FUT
I will leave him/it.

Conjugation 2

yan-ma-ŋana
1sgA.3sgmO-pick up-NF
I pick/ed him/it up.

yaŋ-pu-mu
1sgA.3sgmO-FUT-pick upFUT
I will pick him/it up.

Conjugation 3

ŋa-piɲc-e
1sgS-climb up-NF
I climb/ed up.

ŋa-p-piɲc-aŋ
1sgS-FUT-climb up-FUT
I will climb up.

Conjugation 4 yaŋ-kirrwa-Ø
1sgA.3sgmO-dig-NF
I dig/dug it.

yaŋ-pi-kirrwa
1sgA.3sgmO-FUT-dig
I will dig it.

The following processes explain the derivation of the surface forms of the four conjugations:

Conjugation 1 stem + NF = stem + -mene

stem + FUT = -p- + stem + -pa

Morpheme-realisation in future

Ordered M 2, M 3 and M 4 operate:

(M 4) $-pa_{FUTCM} \longrightarrow \begin{cases} Ø \;/\; CV]_{FUT} + [CV]_{stem} + \_\_\_\_\_ \\ pe \;/\; \begin{cases} ŋ \\ c \end{cases}]_{stem} \_\_\_\_\_ \\ pa \end{cases}$

e.g.

pø	-----→	-pø-pø $_{FUT}$	'hit'
ce	-----→	-pe-ce-pe $_{FUT}$	'give'
ceŋ	-----→	-pe-ceŋ-pe $_{FUT}$	'insert'
wuc	-----→	-p-uc-pe $_{FUT}$	'scold'
tørrp	-----→	-pø-tørrp-pa	'roast in sand'.

Exceptions

nic look after; wait for

piηc hang up

pirr chop do not take -pa suffix.

Adjustment

By (M 5) $t \longrightarrow l \;/\; \_\_\_\_\_\;]_{stem}\;[_{FUTCM}\;pa$

Stem-vowel addition

By (M 6) $\emptyset \longrightarrow e \;/\; \left\{\begin{matrix} c \\ rr \end{matrix}\right\}]_{FUTstemconj\ 1}\;\_\_\_\_\_\;\#$

Morpheme-realisation in non-future

By (M 7) $mene_{NFCM} \longrightarrow$

$\left\{\begin{matrix} \eta ene \;/\; ci \;\_\_\_\_\_ \\ wene \;/\; ye \;\_\_\_\_\_ \\ ene \;/\; \left\{\begin{matrix} c \\ n \\ rr \end{matrix}\right\} \;\_\_\_\_\_ \\ mene \end{matrix}\right.$

Exceptional vowel-change in non-future

$-ene]_{NF} \longrightarrow ine \;/\; pirr]_{stem}\;\_\_\_\_\_$

e.g. (Irregular verbs are marked I)

stem + NF	stem + FUT	Gloss	
ci-ηene	-pi-ci	eat	
ci-ηene	-pi-ci	drink	(I)
n-ene	-pe-na	see	
ye-wene	-pe-ce-pe	give	(I)

pirr-ine	-p-pirr-e	chop
nic-ene	-pi-nic-e	look after
nicene	-pi-nice	wait for (I)
piɲc-ene	-p-piɲc-e	hang up
tørrp-mene	-pø-tørrp-pa	roast in sand
ṭat-mene	-pa-ṭal-pa	bite
ṭut-mene	-pu-ṭul-pa	leave
cap-mene	-pa-cap-pa	stretch
ceɲ-mene	-pe-ceɲ-pe	put in
pø-mene	-pø-pø	hit
wara-mene	-pa-ra-pe	join
wu-mene	-pu-pa	spear
wuc-mene	-p-uc-pe	scold
wuɲ-mene	-p-uɲ-pe	throw

41 verbs are attested in Conjugation 1: the 18 simple verbs cited above + 10 further simple verbs formed from a type A verb stem + incorporated nominal; 11 compound verbs + 2 further compound verb formed from a type B verb stem + incorporated nominal. Conjugation 1 is listed in full in Appendix 1.

Conjugation 2 stem + NF = stem + -ŋana

stem + FUT = -p- + stem + -Ø

Morpheme-realisation in future

By (M 3a),

pa -----> pa-pa $_{FUT}$ 'smash'

rø -----> pø-rø $_{FUT}$ 'cry'

Stem-vowel-addition

By (M 8) Ø ----> a/ C]$_{FUT\,stem\ conj\ 2}$ _____ #

e.g. marr -----> p-marr-a $_{FUT}$ 'paint'

Morpheme-realisation in non-future

By (M 9) ηana_{NFCM} ----→

- ηa / { i, a } $]_{stem}$ _____
- na / ø$]_{stem}$ _____
- ana / { c, rr } $]_{stem}$ _____
- ηana

Exceptional vowel-change in non-future

$-ana_{NF}$ ----→ una/ purr$]_{stem}$ _____

e.g.

stem + NF	stem + FUT	Gloss
rø-na	-pø-rø	cry
yi-ŋa	-pu-yu	put down
ma-ŋana	-pu-mu	pick up
pa-ŋa	-pa-pa	smash
purr-una	-p-purr-a	hit with missile
purr-una	-p-purr-a	look for (I)
marr-ana	-p-marr-a	paint
mac-ana	-p-maca	be scared of
wuc-ana	-p-uc-a	carry
wac-ana	-p-ac-a	immerse.

36 verbs are attested for Conjugation 2; the 10 simple verbs cited above + 9 further simple verbs formed from a type A verb stem + incorporated nominal; 17 compound verbs. Conjugation 2 is listed in full in Appendix 1.

Conjugation 3 stem + NF = stem + -e/a

stem + FUT = -p- + stem + -(a)ŋ

Morpheme-realisation in future

M 2 and M 3 operate, e.g.

wuɲc-e $_{NF}$	-----→	-p-uɲc-aŋ $_{FUT}$	defecate
racc-e	-----→	-pa-racc-an $_{FUT}$	go
cinpic-e $_{NF}$	-----→	-pi-cinpic-aŋ $_{FUT}$	go in.

Exceptional vowel-change in future

par-a $_{NF}$	-----→	pur-i $_{FUT}$	walk

Exceptional forms in future

yep-e $_{NF}$	-----→	-pe-y-aŋ $_{FUT}$	lie
ka-ɲca $_{NF}$	-----→	-pa-ka-ŋ $_{FUT}$	take

e.g.

stem + NF	stem + FUT	Gloss
racc-e	-pa-racc-aŋ	go
cinpic-e	-pi-cinpic-aŋ	go in
cappay-a	-pa-cappay-aŋ	stretch
yicc-a	-pi-yicc-aŋ	ask
ye-pe	-pe-y-aŋ	lie
ka-ɲca	-pa-ka-ŋ	take
piɲc-e	-p-piɲc-aŋ	climb up
par-a	-p-pur-iŋ	walk
maɲcin-e	-p-maɲc-aŋ	get up
wecc-a	-p-ecc-aŋ	give birth
wuɲc-e	-p-uɲc-aŋ	defecate.

46 verbs are attested for Conjugation 3: the 11 simple verbs cited above + 4 further simple verbs, formed from a type A verb stem + incorporated nominal; 22 compound verbs + 9 further compound verbs formed from a type B verb stem + incorporated nominal. Conjugation 3 is listed in full in Appendix 1.

Conjugation 4 stem + NF = stem + Ø

stem + FUT = -p- + stem

Morpheme-realisation in future

M 2 and M 3 operate.

Exceptions to M 3.

mi ⟶ -pmu $_{FUT}$

pe ----→ -ppe $_{FUT}$

Exceptional vowel-change in future

mi ----→ mu $_{FUT}$ sit

Exceptional consonant-changes in future

pette ----→ pere FUT die

paŋka ----→ paka $_{FUT}$ pierce

Exceptional form in future

caŋa ----→ caŋ $_{FUT}$ stand

e.g.

stem + NF	stem + FUT	Gloss
turra	-pu-turra	cook
nipe	-pi-ripe	hold (I)
rikka	-pi-rikka	sort
riŋa	-pi-riŋa	fall, be born
cetpe	-pe-cetpe	take out
ŋaca	-pa-ŋaca	return
caŋa	-pa-caŋ	stand
currka	-pu-currka	jump
yika	-pi-yika	come down
kirrwa	-pi-kirrwa	dig
kaca	-pa-kaca	bake
karriŋmice	-pa-karriŋmice	play

kapica	-pa-kapica	discard
kunme	-pu-kunme	bring
ŋawe	-pa-ŋawe	hear
ŋawa	-pa-ŋawa	recognise
ŋuccica	-pu-ŋuccica	withhold
ŋuka	-pu-ŋuka	blow (I)
pe	-p-pe	go
pette	-p-pere	die
pøɲme	-p-pøɲme	smell; extinguish
pørrice	-p-pørrice	scratch
pøme	-p-pøme	hug
panpa	-p-panpa	be ignorant of
panwica	-p-panwica	go to sleep
palama	-p-palama	cut
parrakka	-p-parrakka	pull
paŋka	-p-paka	stab
mi	-p-mu	sit
me	-pe-me	tell, become
møɲce	-p-møɲce	send
møŋpica	-p-møŋpica	swallow
mara	-p-mara	kick
werepice	-p-erepice	speak
waɲa	-p-aɲa	drown
wakaca	-p-akaca	arrive
wu	-------	grab (I)
wuɲme	-p-uɲme	deceive
wuɲmice	-p-uɲmice	tell lie to
wuka	-p-uka	tie up
wukka	-p-ukka	copy
wukpica	-p-ukpica	call out

148 verbs are attested for Conjugation 4: the 42 simple verbs cited above + 30 further verbs formed from a type A verb + incorporated nominal; 62 compound verbs + 14 further compound verbs formed from a type B verb stem + incorporated nominal. Conjugation 4 is listed in full in Appendix 1.

3.4.3 Type A verb structure. A simple Bachamal verb contains the following ordered elements (bracketed elements are optional):

1 + (2) + 3 + (4) + (5) + (6) + (7) + (8) + (9) + (10) + (11) + (12) + (13) + (14) + (15) + (16) + (17).

1 = pronominal prefix
(2) = future tense prefix
3 = verb stem
(4) = future conjugation marker
(5) = non-future tense suffix
(6) = reflexive/reciprocal suffix
(7) = admonitory suffix
(8) = present aspectual suffix
(9) = negative suffix
(10) = return aspectual suffix
(11) = continuous aspectual suffix
(12) = perfective aspectual marker
(13) = habitual aspectual suffix
(14) = purposive aspectual marker
(15) = clitic particle
(16) = clitic particle
(17) = pronominal enclitic

Tense affixes were analysed in 3.4.2. Pronominal prefixes are described in 3.4.3.1. Modal affixes are described in 3.4.3.2, the polarity suffix in 3.4.3.3, aspectual affixes in 3.4.3.4, and the derivational suffix in 3.4.3.5.

3.4.3.1 Pronominal prefixes. Morphological and phonological rules referred to in this section are expressed and exemplified in sections 2:11-2:12.

3.4.3.1.1. Pronominal prefixes to intransitive verbs. Forms are listed in Table 10 and then analysed.

Table 10: Bound pronominal prefixes to intransitive verbs

	Non-future	Future
1sg	ŋa-	
2sg	kaɲV-	ɲV-
3sgm	ka-	yV-
3sgf	kaɲ-	yVɲ-/yVc-
1duinc	ŋaŋka-	
1duex	ŋarra-kaɲi	
1plinc	ŋarra-	
1plex	ŋarr-	
2pl	kaŋka-	ɲerr-
3pl	karr-	parr-

(i) Dual forms, except 1duinc, are marked by the enclitic dual morpheme {-kaɲi}, e.g. (123), (151), (153).

(153) parr-p-pur-iŋ-kaɲi
3duSFUT-FUT-walkFUT-FUTCM
They'll both go (AL:57).

(ii) Trial forms are marked by the trial enclitic {-pVNakaɲi}, e.g. (154).

(154) parr-p-pur-iŋ-penakaɲi
3trmSFUT-FUT-walkFUT-FUTCM
The three men will go.

(iii) Tense-marking is neutralised on first person forms.

(iv) Vowel alternation in 2sgSNF {kaɲV-} is predictable: Prefix-final V copies the vowel in the next syllable, e.g.

kaɲV-mi-Ø	>	kaɲimi
2sgSNF-sit-NF		you sit/sat
kaɲV-me-Ø	>	kaɲeme
2sgSNF-say-NF		you say/said
kaɲV-rø-na	>	kaɲørøna
2sgSNF-cry-NF		you cry/cried
kaɲV-par-a	>	kaɲapara
2sgSNF-walk-NF		you walk/ed
kaɲV-wuɲc-e	>	kaɲuwuɲce
2sgSNF-defecate-NF		you defecate/d.

(v) 2sgFUT {ɲV-}; 3sgmFUT {yV-}; 3sgfFUT /yVɲ-/ ~ /yVc-/. Prefix V is predictable: If the vowel in the next syllable is /i/, /e/ or /ø/, it is /e/; otherwise, it is /a/, e.g.

ɲV-p-yicc-aŋ	>	ɲepiyiccaŋ (by M 3b)
2sgSFUT-FUT-ask-FUTCM		you will ask
yVɲ-p-me	>	yeɲpeme (by M 3a)
3sgfSFUT-FUT-say		she will say
yV-p-rø	>	yepørø (by M 3a)
3sgmSFUT-FUT-cry		he will cry
ɲV-p-racc-aŋ	>	ɲaparaccaŋ (by M 3b)
2sgSFUT-FUT-go-FUTCM		you will go
yVɲ-p-waɲa	>	yaɲpaɲa (by M 2)
3sgfSFUT-FUT-drown		she will drown
yV-p-wuɲc-aŋ	>	yapuɲcaŋ (by M 2)
3sgmSFUT-FUT-defecate-FUTCM		he will defecate
yVɲ-p-maɲc-aŋ	>	yacmaɲcaŋ (by P 8, P 9)
3sgfSFUT-FUT-get up-FUTCM		she will get up
yVɲ-p-pur-iŋ	>	yacpuriŋ (by P 8, P 9)
3sgfSFUT-FUT-walk-FUTCM		she will walk.

Table 11: Bound pronominal prefixes to non-future transitive verbs

	SINGULAR			DUAL			PLURAL		
	1sgA	2sgA	3sgm/fA	1incA	1exA	1incA	1exA	2A	3A
1sg0		ɲen-	ŋan-					ɲenpVrr-	ŋanpVrr-
2sg0	ŋaɲ-		kaɲa-		ɲerr--kaɲi		ɲerr-		ɲerr-
3sgm0	yaŋ-	ka-	ka-	yaŋka-	yVrr--kaɲi	yVrrV-	yVrr-	kaŋka-	karr-
3sgf0	yaŋaɲ-	kaɲca-	kaɲ-	yaŋkaɲ-	ŋarraɲ--kaɲi	yVrrVɲ-	ŋarraɲ-	kaŋkaɲ-	kaɲpVrr-
1duincO			ŋaŋkanpV-/ŋaŋkat-						=3sgA
1duexO		ɲet(pV)--kaɲi	ŋat(pV)--kaɲi					=2sgA	
1plincO			ŋarranpV-/ŋarrat-						=3sgA
1plexO		ɲet(pV)-	ŋat(pV)-					=2sgA	=3sgA
2plO	nVn-		nVnpV-/nVt-		ɲerr--kaɲi		ɲerr-		=3sgA
3plO	ŋan-	ɲen-	kanpV-/kat-	yaŋkVn-	ŋarran--kaɲi	yVrrVn-	ŋarran-	ɲerren-	=3sgA

Table 12: Bound pronominal prefixes to future transitive verbs

	SINGULAR			DUAL			PLURAL		
	1sgA	2sgA	3sgm/fA	1duincA	1duexA	1plincA	1plexA	2plA	3plA
1sg0		ɲen-	ŋan-					ɲenpVrr-	ŋanpVrr-
2sg0	ŋaɲ-		ɲV-		ɲerr--kaɲi		ɲerr-		ɲerr-
3sgm0	yaŋ-	yV-	yV-	yaŋka-	yVrr--kaɲi	yVrrV-	yVrr-	yeŋka-	yerr-
3sgf0	yaŋaɲ-	yeɲce-	yVɲ-/yVc-	yaŋkaɲ-	yerreɲ--kaɲi	yVrrVɲ-	yVrrVɲ-	yeŋkaɲ-	yeɲpVrr-
1duinc0			ŋaŋkanta-						=3sgA
1duex0		ɲetta-kaɲi	ŋatta--kaɲi					=2sgA	=3sgA
1plinc0			ŋarranta-						=3sgA
1plex0		ɲetta-	ŋatta-					=2sgA	=3sgA
2pl0	nVn-		nenta-		ɲerr--kaɲi		ɲerr-		=3sgA
3pl0	ŋan-	ɲen-	penta	yaŋkVn-	ŋarran--kaɲi	yVrrVn-	ŋarran-	ɲerren-	=3sgA

3.4.3.1.2 Bound pronominal prefixes to transitive verbs.

(i) Non-future forms are listed in Table 11, future forms in Table 12. Forms neutralised for tense are enclosed in both tables. For dual forms, except those marking 1duincA, a verb is cliticised by the dual enclitic {-kaɲi}, e.g. (178), (189), (237). For trial forms a verb is cliticised by the trial marker, e.g.

(155) pørra-karraŋ-kaɲi net-pø-mene-m-paŋakaɲi
3duDevis-ERG 3A.2trfONF-hit-NF-PRES
Those two hit you three women (AL:31).

(ii) 1sgA.3sgmOFUT /ya(ŋ)-/

yaɲ-p-wuc-pe	>	yaŋpwucpe > yaŋpucpe (by M 2)
1sgA.3sgmO-FUT-scold-FUTCM		I will scold him.
yaɲ-p-palama	>	yappalama (by P 7)
1sgA.3sgmO-FUT-cut		I will cut him/it
yaɲ-p-mara	>	yapmara (by P 7)
1sgA.3sgmO-FUT-kick		I will kick him/it.

(iii) 1sgA.3sgfOFUT /yaŋaɲ-/ ~ /yaŋac-/

yaŋaɲ-p-pøme	>	yaŋacpøme (by P 8, P 9)
1sgA.3sgfO-FUT-hug		I will hug her
yaŋaɲ-p-marr-a	>	yaŋacmarra (by P 8, P 9)
1sgA.3sgfO-FUT-paint-FUT		I will paint her.

(iv) 1sgA.2plO /nVn-/

Prefix V is predictable: If the vowel of the next syllable is /i/, /e/ or /ø/, it is /e/; otherwise, it is /a/, e.g.

nVn-marr-ana	>	nanmarrana
1sgA.2plO-paint-NF		I paint/ed you mob
nVn-p-pø	>	nenpøpø (by M 3a)
1sgA.2plO-FUT-hit		I'll hit you mob
nVn-p-mu	>	nanpumu (by M 3a)
1sgA-FUT-pick upFUT		I'll pick you mob up.

(v) 2sgA.3sgmOFUT /yV-/

Prefix V is predictable: If the vowel in the next syllable is /i/, /e/, or /ø/, it is /e/, otherwise it is /a/, e.g.

yV-kirrwa	>	yekirrwa
2sgA.3sgmOFUT-hold		Hold him/it!
yV-cetpe	>	yecetpe
2sgA.3sgmOFUT-take out		Take it out!
yV-pø	>	yepø
2sgA.3sgmOFUT-hit		Hit him!
yV-mara	>	yamara
2sgA.3sgmOFUT-kick		Kick him/it!
yV-mu	>	yamu
2sgA.3sgmOFUT-pick upFUT		Pick him/it up

(vi) 3sgA.3sgmONF /ka-/.

ka-ṭut-mene	>	karutmene (by M 1)
3sgA.3sgmONF-leave-NF		s/he leaves/left him/it.

(vii) 3sgA.3sgfOFUT /yVɲ-/ ~ /yVc-/

Prefix V is predictable: If the vowel of the next syllable is /i/, /e/ or /ø/, it is /e/; otherwise it is /a/, e.g.

yVɲ-p-nipe	>	yeɲpiripe (by M 3b)
3sgA.3sgfOFUT-FUT-hold		s/he will hold her
yVɲ-p-cetpe	>	yeɲpecetpe (by M 3b)
3sgA.3sgfOFUT-FUT-take out		s/he will take her out
yVɲ-p-na	>	yeɲpena (by M 3b)
3sgA.3sgfOFUT-FUT-see		s/he will see her
yVɲ-p-ṭal-pa	>	yaɲpaṭalpa (by M 3b)
3sgA.3sgfOFUT-FUT-biteFUT-FUTCM		s/he will bite her
yVɲ-p-kunme	>	yaɲpukunme (by M 3b)
3sgA.3sgfOFUT-FUT-take		s/he will take her
yVɲ-p-pirr-e	>	yecpirre (by P 8, P 9)
3sgA.3sgfOFUT-FUT-chop-FUT		s/he will chop her up
yVɲ-p-pønme	>	yecpønme (by P 8, P 9)
3sgA.3sgfOFUT-FUT-smell		s/he will smell her

yVɲ-p-palama > yacpalama (by P 8, P 9)
3sgA.3sgfOFUT-FUT-cut s/he will cut her
yVɲ-p-mu > yacpumu (by M 3a, P 8, P 9)
3sgA.3sgfOFUT-FUT-pick upFUT s/he will pick her up.

(viii) 1duincA.3plO NF=FUT /yaŋkVn-/

Prefix V is predictable: If the vowel of the next syllable is /i/, /e/, or /ø/, it is /e/; otherwise, it is /a/, e.g.

yaŋkVn-kirrwa-Ø > yaŋkenkirrwa
1duincA.3plO-dig-NF you and I dig/dug them
yaŋkVn-cetpe-Ø yaŋkencetpe
1duincA-3plO-take out-NF you and I take/took them out
yaŋkVn-pø-mene > yaŋkenpømene
1duincA.3plO-hit-NF you and I hit them
yaŋkVn-paɲka-Ø > yaŋkanpaŋka
1duincA.3plO-stab-NF you and I stab/bed them
yaŋkVn-turra-Ø > yaŋkanturra
1duincA.3plO-cook-NF you and I cook/ed them.

(ix) 1plexA.3sgmO NF=FUT /yVrr-/
1plincA.3sgO NF=FUT /yVrrV-/
1plincA.3sgfO NF=FUT /yVrrVɲ-/
1plincA.3plO NF=FUT /yVrrVn-/

Prefix V is predictable: If the vowel in the next syllable is /i/, /e/, or /ø/, it is /e/; otherwise it is /a/, e.g.

yVrr-kirrwa-Ø > yerrkirrwa
1plexA.3sgmO-dig-NF we, excluding you, dig/dug it
yVrr-cetpe-Ø > yerrcetpe
1plexA.3sgmO-take out-NF we, excluding you, take/took it out
yVrr-pø-mene > yerrpømene
1plexA.3sgmO-hit-NF we, excluding you, hit him/it
yVrr-mara-Ø > yarrmara
1plexA.3sgmO-kick-NF we, excluding you, kick/ed him

yVrr-turra-ø > yatturra (by P 1)
1plexA.3sgmO-cook-NF we, excluding you, cook/ed it
yVrrV-rikka-ø > yerrerikka
1plincA.3sgmO-sort-NF we, including you sort/ed it
yVrrV-n-ene > yerrenene
1plincA.3sgmO-see-NF we, including you, see/saw him
yVrrV-pø-mene > yerrepømene
1plincA.3sgmO-hit-NF we, including you, hit him
yVrrV-mara-ø > yarramara
1plincA.3sgmO-kick-NF we, including you, kick/ed him
yVrrV-turra-ø > yarraturra
1plincA.3sgmO-cook-NF we, including you, cook/ed it
yVrrVɲ-p-nipe > yerreɲpiripe (by M 3b)
1plincA.3sgfO-FUT-hold we, including you, will hold her
yVrrVɲ-p-mara > yarracmara (by P 8, P 9)
1plincA.3sgfO-FUT-kick we, including you, will kick her
yVrrVɲ-p-wu-pa > yarraɲpupa (by M 2)
1plincA.3sgfO-FUT-spear-FUTCM we, including you, will spear her
yVrrVn-p-kirrwa > yerrenpikirrwa (by M 3b)
1plincA.3plO-FUT-dig we, including you, will dig them
yVrrVn-p-mara > yarranmara (by P 9)
1plincA.3plO-FUT-kick we, including you, will kick them
yVrrVn-p-turra > yarranputurra (by M 3b)
1plincA.3plO-FUT-cook we, including you, will cook them

(x) 2plA.1sgONF=FUT /ɲenpVrr-/
3plA.1sgONF=FUT /ŋanpVrr-/
3plA.3sgfONF /kaɲpVrr-/
3plA.3sgfOFUT /yeɲpVrr-/

Prefix V copies the vowel in the next syllable, e.g.

møŋ-ɲenpVrr-tørrp-mene > møŋ-ɲenpøttørrpmene (by P 1)
buttocks-2plA.1sgO-roast-NF you push/ed me.

A trill assimilates to a following retroflex stop by P 1; prefix-final V then takes on retroflex colouring before the

retroflex stop, by allophonic specification rule 6, e.g.

ŋanpVrr-ṭat-mene	>	ŋanpaṭṭatmene [ŋanbäṭṭatmɛnɛ]
3plA.1sgO-bite-NF		they bit/e me
kaɲpVrr-ṭut-mene	>	kaɲpuṭṭutmene [kʸänbüṭṭʊtmɛnɛ]
3plA.3sgfONF-leave-NF		they leave/left her.

(xi) 3A.1duincONF /ŋaŋkanpV-/ ∼ /ŋaŋkat-/

3A.1plincONF /ŋarranpV-/ ∼ /ŋarrat-/

3A.3plONF /kanpV-/ ∼ /kat-/

By M 11b, prefix-final V copies the vowel in the next syllable, e.g.

kanpV-yi-ŋa	>	kanpiyiŋa
3A.3plONF-put down-NF		s/he/they put them down
kanpV-ceɲ-mene	>	kanpeceɲmene
3A.3plONF-put inside-NF		s/he/they put them inside
møŋ-ŋaŋkanpV-tørrp-mene	>	møŋ-ŋaŋkanpøtørrpmene
buttocks-3A.1duincONF-roast-NF		s/he/they push/ed you and me
kanpV-kapica-Ø	>	kanpakapica
3A.3plONF-throw away-NF		s/he/they throw/threw them away
kanpV-turra-Ø	>	kanpuṭurra
3A.3plONF-cook-NF		s/he/they cook/ed them
ŋaŋkanpV-wuka-Ø	>	ŋaŋkanpuka (by M 2)
3A.1duincONF-tie-NF		s/he/they tie/d you and me up
ŋaŋkanpV-pø-mene	>	ŋaŋkatpømene (by M 11a)
3A.1duincONF-hit-NF		s/he/they hit you and me
ŋarranpV-palama-Ø	>	ŋarratpalama (by M 11a)
3A.1plincONF-cut-NF		s/he/they cut us, including you
ŋaŋkanpV-marr-ana	>	ŋaŋkatmarrana (by M 11a)
3A.1duincONF-paint-NF		s/he/they paint/ed you and me
ŋarranpV-mara-Ø	>	ŋarratmara (by M 11a)
3A.1plincONF-kick-NF		s/he/they kick/ed us, incl. you
kanpV-pa-ŋa	>	katpaŋa (by M 11a)
3A.3plONF-smash-NF		s/he/they smash/ed them
kanpV-ma-ŋana	>	katmaŋana (by M 11a)
3A.3plONF-pick up-NF		s/he/they pick/ed them up.

(xii) 2A.1plexONF ɲet(pV)- 3A.1plexONF ŋat(pV)-

By M 12b, prefix-final V copies the vowel in the next syllable, e.g.

ŋatpV-nipe-Ø	>	ŋatpiripe
3A.1plexONF-hold-NF		s/he/they hold/held us, not you
ɲetpV-n-ene	>	ɲetpenene
2A.1plexONF-see-NF		you see/saw us
møŋ-ŋatpV-tørrp-mene	>	møŋ-ŋatpøtørrpmene
buttocks-3A.1plexONF-roast-NF		s/he/they push/ed us, not you
ɲetpV-ka-ɲca	>	ɲetpakaɲca
2A.1plexONF-take-NF		you take/took us
ɲetpV-wuɲme-Ø	>	ɲetpuɲme (by M 2)
2A.1plexONF-lie-NF		you lie/d to us
ɲetpV-palama-Ø	>	ɲetpalama (by M 12a)
2A.1plexONF-cut-NF		you cut us
ɲetpV-marr-ana	>	ɲetmarrana (by M 12a)
2A.1plexONF-paint-NF		you paint/ed us.

(xiii) 3A.2plONF /nVnpV-/ ∼ /nVt-/

If the vowel in the next syllable is /i/, /e/, or /ø/, the first V of the prefix is /e/, otherwise it is /a/. By M 12b, prefix-final V copies the vowel in the next syllable, e.g.

nVnpV-nipe-Ø	>	nenpiripe
3A.2plONF-touch-NF		s/he/they touch/ed you mob
nVnpV-n-ene	>	nenpenene
3A.2plONF-see-NF		s/he/they see/saw you mob
møŋ-nVnpV-tørrp-mene	>	møŋ-nenpøtørrpmene
buttocks-3A.2plONF-roast-NF		s/he/they push/ed you mob
nVnpV-ka-ɲca	>	nanpakaɲca
3A.2plONF-take-NF		s/he/they take/took you mob
nVnpV-mara-Ø	>	natmara (by M 12a)
3A.2plONF-kick-NF		s/he/they kicked you mob.
nVnpV-kunme-Ø	>	nanpukunme
3A.2plONF-fetch-NF		s/he/they fetch/ed you mob
nVnpV-wuɲme-Ø	>	natpuɲme (by M 12a)
3A.2plONF-lie-NF		s/he/they lie/d to you mob.

3.4.3.1.3 Relationship between pronominal prefix forms.

(i) Tense is neutralised on prefixes marking 1sg, 1duinc, and 1plinc in A or O function.

(ii) All prefixes marking 3sgfO show a laminal nasal, e.g.

NF=FUT	1sgA.3sgfO	yaɲaɲ-
NF	2sgA.3sgfO	kaɲca-
FUT		yeɲce-
NF	3sgA.3sgfO	kaɲ-
FUT		yVɲ-
NF=FUT	1duincA.3sgfO	yaŋkaɲ-
NF=FUT	1plincA.3sgfO	yVrrVɲ-
NF	1plexA.3sgfO	ŋarraɲ-
FUT		yVrrVɲ-
NF	2plA.3sgfO	kaŋkaɲ-
FUT		yeŋkaɲ-
NF	3plA.3sgfO	kaɲpVrr-
FUT		yeɲpVrr-.

(iii) The following prefixes are related:

(a) 3sgA.2sgONF {kaɲa-} derives from 2sgSNF {kaɲV-};
(b) 3sgA.3sgONF {ka-/kaɲ-} derive from 3sgSNF {ka-/kaɲ-};
(c) 3sgA.2sgOFUT {ɲV-} derives from 2sgSFUT {ɲV-};
(d) 3sgA.3sgOFUT {yV-/yVɲ-} derive from 3sgSFUT {yV-/yVɲ-};
(e) 2A.1plexONF {ɲet(pV)-} derives from 2sgSFUT {ɲV-} + -t(pV)-;
(f) 2A.1plexOFUT {ɲetta-} derives from 2plSFUT {ɲerr-} + -ta- by P 1;
(g) 3A.1duincONF {ŋaŋkanpV-/ŋaŋkat-} derives from 1duincS {ŋaŋka-} + -npV-/-t-;
(i) 3A.1plincONF (ŋarranpV-} derives from 1plincS {ŋarra-} + -npV-;
(j) 3A.3plONF {kanpV-/kat-} derives from 3sgSNF {ka-} + -npV-/-t-;
(k) 3A.1duincOFUT {ŋaŋkanta-} derives from 1duincS {ŋaŋka-} + -nta-;

(l) 3A.1plincOFUT {ŋarranta} derives from 1plincS {ŋarra-} + -nta-;
(m) 3A.1plexOFUT {ŋatta-} derives from 1plexS {ŋarr-} + -ta- by P 1.

3.4.3.2 Mood. Type A verbs distinguish imperative, indicative and admonitory moods. Imperative mood is used to express positive imperatives, indicative mood to express declarative sentences and prohibitions, admonitory mood to express admonitions.

In imperative mood, the verb stem is inflected for future tense. It carries no future prefix and may be followed by a limited range of aspectual markers, and the reflexive/reciprocal suffix (REF/REC).

In indicative mood, the verb is fully inflected for tense, aspect and polarity.

In admonitory mood, the admonitory suffix (ADM) is added to a verb stem inflected for future tense, but bearing a non-future pronominal prefix. This suffix may be preceded by the reflexive/reciprocal suffix and followed by a limited range of aspectual suffixes.

(i) Imperative mood. Positive imperatives have the following structure:
(type B verb stem + prnpx + vbstem + (FUT CM) + (REF/REC) + (ASPECT) + (prnsx)

Pronominal prefix and verb stem are future forms or neutralised for tense, e.g.

ɲV-pe	>	ɲepe
2sgSFUT-go		Go!
ɲerr-pe	>	ɲerrpe
2plSFUT-go		Go, you mob!
ŋaŋka-pe	>	ŋaŋkape
1duincS-go		Let's both go
ŋarra-pe	>	ŋarrape
1plincS-go		Let's all go!
yV-mara	>	yamara
2sgA.3sgmOFUT-kick		Kick him/it!
yeŋka-mara		yeŋkamara
2plA.3sgmOFUT-kick		Kick him/it, you mob!
yeɲce-ṭulpa	>	yeɲceṭulpa
2sgA.3sgfOFUT-leave		Leave her alone!
ɲen-pørrice	>	ɲenpørrice
2sgA.1sgO-scratch		Scratch me!
ɲVn-mu	>	ɲanmu
2sgA.3plO-pick upFUT		Pick them up!
pilk-yeɲce-pø	>	pilk-yeɲcepø
slap-2sgA.3sgfOFUT-hit		Slap her!
yaŋken-kirrwa	>	yaŋkenkirrwa
1duincA.3plO-dig		Let's both dig them!
ɲerren-yu	>	ɲerrenyu
2plA.3plO-put downFUT		Put them down, you mob!

In a continuative imperative, the verb may be preceded or followed by the free particle {pupuy} Go!, e.g.

(156) pupuy ye-kirrwa
Go! 2sgA.3sgmOFUT-dig
IMP
Go on digging! (AL:111).

If the action is to be continued indefinitely, the continuous aspectual suffix {-cø} follows the verb stem, e.g.

(157) (pu)puy ɲerr-pe-cø
Go 2plSFUT-go-CONT
IMP
Keep going (you mob)! (AL:211).

(158) ya-marra-cø pupuy
2sgA.3sgmOFUT-paint-CONT Go!
IMP
Keep painting it! (AL:301).

If the continuative imperative forms part of an auxiliary verb complex, the complex-final auxiliary verb carries the continuous aspectual suffix governed by the main verb, e.g.

(159) ya-marra ɲa-mu-cø pupuy
2sgA.3sgmOFUT-paint 2sgSFUT-sitFUTAUX-CONT Go!
IMP IMP
Sit down and keep painting it (AL:302).

An imperative may be marked with the 'return' suffix {-parra}, e.g. (47).

For a reflexive or reciprocal imperative, the reflexive/reciprocal suffix is added to the verb stem, deriving an intransitive verb. The pronominal prefix marks S function. Reflexive imperatives only are followed by a co-referential reflexive pronoun, e.g.

ɲVrr-pørrice-cica nawarra-ɲala Scratch yourselves!
2plSFUT-scratch-REF 2plP-hand
IMP REFL

(ii) Indicative mood. In indicative mood, a verb is fully inflected for tense, aspect and polarity. It is used to express declarative sentences and prohibitions. This

section describes the morphology of prohibitions.

Prohibitions are of two types. Type 1 is expressed thus: The verb-phrase is prefaced by the free negative particle {ŋakuḻø} 'not'. A pronominal prefix marked future or neutralised for tense precedes a future prefix which precedes a verb stem marked future or neutralised for tense. For a reflexive/reciprocal prohibition, the verb stem is suffixed by the reflexive/ reciprocal suffix {-cica}. In a continuative prohibition, the verb stem is suffixed by the continuous aspectual suffix {-cø}, e.g.

(160) ŋakuḻø ɲerr-p-pe-kaɲi
Neg 2duSFUT-FUT-go
Don't you two go!

(161) ŋakuḻø ya-p-mara
Neg 2sgA.3sgmOFUT-FUT-kick
Don't kick him!

(162) ŋakuḻø yeɲce-pø-pø-cø
Neg 2sgA.3sgfOFUT-FUT-hit-CONT
Don't keep hitting her!

(163) ŋakuḻø ɲerren-pu-yu
Neg 2plA.3plO-FUT-put downFUT
Don't put them down!

(164) ŋakuḻø kutti-ɲerr-p-uc-pe-cica-kaɲi
Neg fight-2duSFUT-FUT-scoldAUX-FUTCM-REC
Don't you two fight each other!

Prohibition type 2 is expressed as follows:
The pronominal prefix to the verb stem is marked for non-future or tense-neutral. It immediately precedes the verb

stem, which is marked for future or tense-neutral and is followed by a non-future tense suffix, present aspectual marker and negative suffix {-kuḻø}, e.g.

(165) kaɲka-pe-ø-ŋ-kuḻø-kaɲi
2duSNF-go-NF-PRES-Neg
Don't both go !

(166) ka-mara-ø-ŋ-kuḻø
2sgA.3sgmONF-kick-NF-PRES-Neg
Don't hit him !

(167) kaɲca-pø-mene-ŋ-kuḻø
2sgA.3sgfONF-hit-NF-PRES-Neg
Don't hit her!

(168) ɲenputʈ-ʈut-mene-ŋ-kuḻø
2plA.1sgO-leave-NF-PRES-Neg
Don't leave me behind! (AL:400)

The negative suffix {-kuḻø} may be attracted from its usual position to encliticise a sentence-initial adverb, e.g.

(169) wurak-kuḻø kaɲa-ŋaca-m-parra
near-Neg 2sgSNF-come-PRES-RET
Don't come back near (me)! (AL:93).

(iii) Admonitory mood. Admonitions have the following structure:

A pronominal prefix marked non-future or tense neutral is followed by the future tense prefix, which is followed by a verb stem marked future or tense-neutral. This is followed by the admonitory suffix {-NV_1 rV_1} and the 'obligated' clitic particle {-pakkacca}. In reflexive/ reciprocal admonitions, the reflexive/ reciprocal suffix comes between verb stem and admonitory suffix, e.g. (176).

In continuative admonitions, the admonitory suffix is followed by the continuous aspectual suffix.

Admonitory suffix: $\{-nV_1\, rV_1\}$

Morpheme-realisation

(M 13a) $[_{ADMsx}\ n \longrightarrow \begin{cases} ŋ \,/\, \begin{matrix} u \\ a \end{matrix} \}]_{vb} \_\_\_\_ \\ ɲ \,/\, i]_{vb} \_\_\_\_ \\ ø \,/\, n]_{vb} \_\_\_\_ \end{cases}$

(M 13b) $V_1 \longrightarrow \begin{cases} e \,/\, \begin{matrix} i \\ ø \end{matrix} \}]_{vbstem}\ [_{ADMsx} \_\_\_\_ \\ a \end{cases}$

(M 13c) $[_{ADMsx}\ nV_1 \longrightarrow ø \,/\, \begin{matrix} p \\ k \end{matrix} \} V_1]_{vbstem} \_\_\_\_$

(170) ŋakulø kane-pø-rø-nere-kkacca
Neg 2sgSNF-FUT-cry-ADM-obl
You shouldn't cry/ have cried (AL:307).

After a host-final vowel, the initial CV of the clitic particle {-pakkacca} elides.

(171) ŋana-yaŋ-pe-cetpe-re-kkacca
split-1sgA.3sgO-FUT-take out-ADM-obl
I should split/have split it (AL:308).

(172) ŋaḻ-ka-p-paka-ra-kkacca
sew-2sgA.3sgONF-FUT-stabFUTAUX-ADM-obl

kaɲa-p-mu-ŋara
2sgSNF-FUT-sitFUTAUX-ADM

You ought to sit and sew it/have sat and sewn it (AL:337).

(173) ka-p-mu-ŋara-kkacca
3sgA.3sgmONF-FUT-pick upFUT-ADM-obl
She should pick/have picked him/it up (AL:309).

(174) ŋa-pe-yaŋ-ara-kkacca narra kamaŋka
1sgS-FUT-lieFUT-ADM-obl but nothing
I should have lain down, but I didn't (AL:441).

A pronominal enclitic is verb-final, e.g.

(175) wa-p-purr-a-ŋara-kkacca-nøŋ
1sgA.3sgmO-FUT-look for-FUT-ADM-obl-3sgmD
I ought to look/have looked for him.

Irregular verb {purra} 'look for' is analysed in Appendix 2.

In a negative admonition, the clitic particle {-pakkacca} may cliticise the sentence-initial free negative particle {ŋakuḻø}, e.g. (176)-(177).

(176) ŋakuḻø-kkacca ŋak-ŋaŋka-p-uc-pica-ɲara
Neg-obl mouth-1duincS-FUT-scold-REC-ADM
We ought not to kiss/have kissed each other.

In continuative admonitions, the admonitory suffix is followed by the continuous aspectual suffix, e.g.

(177) ŋakuḻø-kkacca kaŋkac-p-pø-nere-cø
Neg-obl 2plA.3sgfONF-FUT-hit-ADM-CONT
You mob shouldn't keep hitting/have kept hitting her!

3A.3plO allomorph /kanta-/, 3A.3duO /kanta--kaɲi/ and 3A.3trO /kanta--pVNakaɲi/ occur only in admonitions, e.g.

(178) pellem kanta-p-u-pa-ra-kkacca-kaɲi
thigh 3sgA.3duONF-FUT-spear-FUTCM-ADM-obl
He ought to spear/have speared the two of them in the thigh (AL:311).

3.4.3.3 Polarity. Positive sentences bear no marker; negative sentences are marked with the negative particles {ŋakuḻø}, or {kamaɲka} or the negative suffix {-kuḻø}, which occurs only in type 2 prohibitions, e.g. (165)-(169).

3.4.3.4 Aspect. Bachamal distinguishes six aspectual markers:

{-m-} Present
{-parra} Return
{-cø} Continuous
{-makka} Perfective
{-nuɲ} Purposive
{-rraɲ} Habitual

A verb may carry any one aspectual marker, or none, or a combination of those which co-occur. Present, purposive and habitual markers are mutually exclusive. Purposive, habitual and perfective markers are mutually exclusive. There are at least the following combinations of aspectual markers:
present before any or all of return, continuous, perfective;

continuous after any or all of present, return;
perfective after any or all of present, return, continuous;
return after present, but before other aspectual markers.

(i) Present {-m} ----→ /-ɲ/ / _____ c
/-ŋ/ / _____ k
/-m/

{-m} marks an event or action as happening at the same time as the utterance, except when followed by the perfective suffix, when it marks an action as having been completed, or by the continuous and perfective suffixes, as in (188), when it marks an action as having been in progress.
The present suffix always follows the non-future tense suffix, and co-occurs most often with the clitic particle {-pente} 'now', e.g. (19), (179). {-m} may be followed by the return suffix, e.g. (66), (96), (169), by the perfective and/or continuous suffixes, e.g. (180), (188), by the negative suffix, e.g. (165)-(168), and by a pronominal enclitic, e.g. (180).

(179) pørra kak-pente-karr-pe-m
3plP leave-now-3plSNF-go-PRES
They're going now (AL:410).

(180) ŋa-me-ɲ-cø-wiŋ
1sgS-tell-PRES-CONT-2sgD
I'm telling you (KM:22).

(ii) Return {-parra}. {-parra} marks direction back to the location of the speaker on verbs inflected for future or non-future tense and is attested in declarative sentences, e.g. (66), (96), (181), in prohibitions, e.g. (169), and on

a verb inflected for imperative mood, e.g. (47). {-parra} may be followed by compatible clitic particles, or a pronominal enclitic, e.g. (96). On verbs inflected for non-future tense, {-parra} follows a homorganic allomorph of the present aspectual suffix and may itself be followed by the continuous and/or perfective suffixes. Unless preceded by the present suffix, {-parra} may be followed by the purposive or habitual suffixes.

(96) ka-wukpica-Ø ka-caɲa-Ø-m-parra-nøŋ
3sgmSNF-call out-NF 3sgmSNF-standAUX-NF-PRES-RET-3sgmD
He stood up and called back to him (T6:10).

(181) ŋarr-pente ŋa-pa-ŋaca-parra-nuŋ-pakka
later-now 1sgS-FUT-come-RET-PUR-re
I really will come back later.

(iii) Continuous {-cø}. {-cø} marks action in progress. On verbs inflected for non-future tense, it is always preceded by a homorganic allomorph of the present aspectual suffix {-m}, e.g. (44), (180), (182), (185).

(182) penterr-ka-yi-ŋa-ɲ-cø
sweet-3sgA.3sgmONF-makeCAUS-NF-PRES-CONT
He's in the process of sweetening it (AL:50).

{-cø} may co-occur with the future tense affix in declarative sentences, e.g. (183)-(186), when it implies that the intended action/state will be continuous, or in type 1 prohibitions, e.g. (162). On a verb inflected for imperative mood, it marks a continuative imperative, e.g. (157)-(159). {-cø} may be followed only by the perfective marker, e.g. (188) and by compatible clitics, e.g. (180).

(183) penta-pu-turra-cø kak-parr-p-pe-cø
3A.3plOFUT-FUT-cook-CONT leave-3plSFUT-FUT-go-CONT
They'll be cooking it and going away later (AL:77).

(184) deli yaŋ-pu-turra-nuŋ ŋa-p-mu-cø
Wait! 1sgA.3sgmO-FUT-cook-PUR 1sgS-FUT-sitFUT-CONT
Wait! I'm going to be sitting down to cook it (AL:76).

In the auxiliary complexes (185)-(186), {-cø} is governed by both verbs, but cliticises only the complex-final auxiliary.

(185) karr-pø-mene-ŋ karr-pe-ɲ-cø
3plSNF-hit-NF-PRES 3plSNF-goAUX-PRES-CONT
They keep hitting him as they go (AL:52).

(186) pipere-nuŋ-pente yaŋ-pa-ŋawe
ear-DAT-now 1sgA.3sgmO-FUT-hear

ŋa-p-pe-cø mipe kamaŋka
1sgS-FUT-go eye nothing

I'm going to keep listening with my ears. My eyes are useless (T3:49).

(iv) Perfective {-makka}. This marker signals that the action or state expressed by a verb inflected for non-future tense has been completed, e.g. (37), (42), (187)-(192). It is homophonous with the nominal Ablative/Causal case-suffix (see 3.3.1). Perfective {-makka} regularly follows the non-future tense suffix, e.g. (187), (189) and may follow the present, continuous, and return aspectual suffixes, e.g. (188). Perfective {-makka} may be followed only by compatible clitics, e.g. (187) and (189).

(187) ŋarrat-mac-ene-makka-kka
3A.1plincONF-scare-NF-PERF-re
S/he/they were really scared of us all (AL:53).

(188) karr-pe-ɲ-cø-makka-meneŋ-pøce-pøcce
3plSNF-goAUX-PRES-CONT-PERF-edveg-head-carry
They've been going, carrying the edible vegetables on their heads (T3:23).

(189) ɲerr-pø-mene-makka-kaɲi
1duexA.2O-hit-NF-PERF
The two of us hit you (AL:70).

Perfective {-makka} may be attracted from its usual position to cliticise a sentence- initial nominal, eg. (190), (204), (213).

(190) ciɲca-karraŋ-makka yeŋere-kat-ma-ŋana
3sgfDevis-ERG-PERF steal-3A.3plONF-pick upAUX-NF

manac-pena
chest-3sgmIMPL

That woman stole them in front of him (JR:29).

Perfective {-makka} commonly cliticises a sentence-initial temporal adverb with non-future reference, e.g.

(191) ŋurraca-makka wørraŋ nulkpara ŋanpaṭ-ṭat-mene
night-PERF mosquito small pl 3plA.1sgO-bite-NF
Tiny mosquitoes bit me last night (AL:57).

(192) peḻappuy-makka kat-turra-ø-ŋ
early-PERF 3A.3plONF-cook-NF-PRES

karr-mi-ø-m
1sgSNF-sitAUX-NF-PRES
This morning, they sat and cooked them (AL:56).

(v) Purposive {-nuŋ} ----→ { /-C_1 uŋ/ / C_1 _____ ; /-nuŋ/ }

The aspectual purposive marker is homophonous with the nominal Dative case-suffix (see 3.3.1). Purposive {-nuŋ} marks action intended to secure a goal, e.g (193)-(199) and regularly occurs suffixed to a verb inflected for declarative or imperative mood, when it may be followed only by compatible clitics, e.g. (194)-(196).

(193) tarranmalaŋ-ŋaŋ-pu-yu-nuŋ
cool-1sgA.2sgO-FUT-makeFUTCAUS-PUR
I'll make you cool (KM:32).

(194) ŋa-pe-me-nuŋ-pe ŋa-p-pe
1sgS-FUT-become-PUR-ever 1sgS-FUT-goAUX

ŋace ṃemempena
1sgP porpoise

As for me, I'm going to become porpoise for ever!

(195) ye-p-pere-nuŋ-pakka yakkuy
3sgmSFUT-FUT-dieFUT-PUR-re Probably!
Q: Is he really going to die? A: Probably! (JR:21)

(196) panta-pi-rime-nuŋ-pente-wiŋ wik
3A.3OFUT-FUT-fetch-PUR-now-2sgD water
They'll bring you back water (AL:76).

Purposive {-nuŋ} marks a complement, e.g.

(197) mipe cica yaŋ-cetpe-nuŋ
eye 3sgmDevis 1sgA.3sgmO-take out-PUR

ŋa-me-ŋ-kak
1sgS-try-PRES-Foc
I'm trying to take that thing out of my eye (T3:49).

Purposive {-nuŋ} may cliticise a verb-initial type B verb stem, e.g. (198)-(199).

(198) kappuk-kuŋ-ŋa-p-puka yiɲmek
bathe-PUR-1sgS-FUT-wash tomorrow
I'll bathe tomorrow (JR:14).

(199) kak-kuŋ-pente-ɲe-pe
leave-PUR-now-2sgSFUT-goAUX
IMP
Go away right now! (JR:13)

(vi) Habitual {-rraŋ}. {-rraŋ} marks as habitual the state/action expressed by a verb inflected for future or non-future tense, e.g. (28), (200)-(203). It follows tense inflections, and the return aspectual suffix and may itself be followed only by compatible clitics.

(200) calkma manac ɲe-p-pe-rraŋ
bad heart 2sgSFUT-FUT-go-HAB
You'll always be sorry (AL:81).

(201) ceɲmiyic ŋak-ssh-ka-me-rraŋ
3sgfP mouth-ssh-3sgA.3sgmONF-say-HAB

memerreɲcarrmul-kak
dugong-Foc

Dugong always whispers (T3:62).

(202) wulaputwulaput wøŋ mørrakmala-karr-wa-Ø
long ago rain make-3plA.3sgmONF-makeAUX-NF

karr-mi-Ø-rraŋ
3plSNF-sitAUX-NF-HAB

Long ago, they used to sit and make rain (T1:18).

(203) nulkpara kanpa-kapica-Ø-rraŋ ŋalkin-pene
small pl 3plA.3plONF-discard-NF-HAB sea-LOC
The tiddlers they used to throw away into the sea.

3.4.3.5 Derivational suffix. The reflexive/reciprocal suffix {-cica} derives an intransitive verb from a transitive stem.

{-cica} ----→ { /-ica/ / C _____
/-ca/ / ø _____
/-cica/

{-cica} attaches directly to the verb stem. It may be followed by the admonitory suffix, e.g. (176), aspectual suffixes, e.g. (207)-(209) and compatible clitics, e.g. (208)-(212). Reflexive {-cica} marks self-directed action, e.g. (42), (204)-(207).

(204) ŋace-makka ŋa-pørric-ica
1sgP-PERF 1sgS-scratch-REF
I scratch/ed myself (AL:82).

(205) ɲe-n-ica ɲe-n-ica
2sgSFUT-see-REF 2sgSFUT-see-REF
IMP IMP
Watch yourself! Watch yourself! (JB:1).

(206) yaŋaraŋ-ci ŋa-palam-ica ŋa-mi-m
today-3sgmDetang 1sgS-cut-REF 1sgS-sitAUX-PRES

merrepøce
hair

Right now, I'm sitting, cutting my hair (AL:88).

Suffixed to a verb whose pronominal prefix specifies a singular subject, {-cica} can only be reflexive. To avoid ambiguity in utterances where the pronominal prefix to the verb specifies a non-singular subject, speakers add a reflexive pronoun co-referential with the subject of the verb, e.g. (207).

(207) karr-pø-ca-makka-kaɲi parrmiyic-ŋala
3duSNF-hit-REC-PERF 3plP hand
REFL
They hit themselves (AL:91).

In (208)-(212), {-cica} marks a reciprocal action.

(208) karr-pø-ca-makka-kaɲi
3duSNF-hit-REC-PERF
Those two fought each other (T2:2).

(209) yiɲmek-pente ŋaŋka-palam-ica-nuŋ-pakka
tomorrow-now 1duincS-cut-REC-PUR-re

ŋaŋka-mu
1duincS-sitFUTAUX

Tomorrow let's both sit and cut each other's hair! (AL:89)

(210) mipe-kaŋka-wukk-ica-ŋ-kaɲi
eye-2duSNF-copy-REC-PRES
You look like each other (AL:114).

(211) parr-p-u-pica-nuŋ-pakka-kaɲi
3duSFUT-FUT-spear-REC-PUR-re
They're really going to spear each other (AL:82).

The verb {-pøme} 'hug' takes the exceptional reflexive/reciprocal allomorph /-picica/, e.g.

(212) ŋarra-pøm-picica-kaɲi
1duexS-hug-REC
We hugged each other (AL:150).

3.4.4 Type B verb stems. Compound verbs consist of a type A verb stem acting as auxiliary to a type B verb stem. Most type B verb precede their auxiliary verb, but a minority may precede or follow an intransitive auxiliary, e.g. (213), (188). Compound verbs are listed in 3.4.5.

(213) menen caɲam-makka-kka
edveg ncm kurrajong-PERF-re

pøce-pøcce-karr-pe-n-cø
head-carry-3plSNF-goAUX-PRES-CONT

The kurrajong they've been carrying on their heads (T3:25).

(188) karr-pe-n-cø-makka-menen-pøce-pøcce
3plSNF-goAUX-PRES-CONT-PERF-edveg-head-carry
They've been head-carrying the edible vegetables (T3:29).

On some compound verbs, a second, verb-final, type B verb stem occurs as a complement, e.g.

(214) ŋakuḷø ten-yaŋ-pø-mene-kannak
Neg stop-1sgA.3sgmO-hitAUX-NF-laugh
I couldn't stop laughing (AL:511).

Type B verb stems may incorporate immediately preceding nominal(s) in object function, e.g. (188), (213) and (180) and see 3.4.7.

Type B verb stems may bear nominal derivational suffixes,

e.g. (215)-(217).

(215) munmun-malaŋ
pluck-FUL
Luxuriant.

(216) perr pøtcøt mirak-pøttuŋ
3plDetang shoe dance-GEN
These are shoes for dancing (AL:400).

(217) celme-pøcce-pøttuŋ ŋa-p-pur-iŋ warrkati
shoulder-carry-GEN 1sgS-FUT-walkFUT-FUTCM dillybag
I'll go with this bag for carrying on my shoulder (AL:434).

A minority of verb-initial type B verb stems may be cliticised by the purposive aspectual marker, e.g. (198) -(199).

3.4.5 Compound verbs. In the corpus, 37 type A verb stems (21 transitive, 16 intransitive) act as auxiliaries to 115 type B verb stems to form 136 compound verbs. The following type B verb stems co-occur with more than one auxiliary:

(i) {ŋac} 'hide', co-occurs with the transitive auxiliary {kapica} 'throw away', in the transitive compound verb {ŋac-kapica} 'hide something', and with the intransitive auxiliary {par} 'walk' in the intransitive compound verb {ŋac-par} 'hide oneself'.

(ii) {kak} 'leave' co-occurs with three intransitive auxiliaries: {yika} 'go down', {pe} 'go', {par} 'walk'.

(iii) {kittirak} 'peel', co-occurs with two transitive auxiliaries: {yi} 'put down/make' and {rikka} 'sort'.

(iv) {ŋalapala} 'lose', co-occurs with two transitive auxiliaries: {kunme} 'bring' and {ma} 'pick up'.

(v) {pøcce} 'carry' co-occurs with two intransitive auxiliaries {pe} 'go' and {par} 'walk'. {pøcce} is always immediately preceded by an incorporated body-part nominal.

(vi) {munuŋuk} 'dance' (by men) co-occurs with the transitive auxiliary {mara} 'kick' and the intransitive auxiliaries {pe} 'go' and {par} 'walk'.

(vii) {mirak} 'dance' (by women) co-occurs with the intransitive auxiliaries {muy} 'move', {pe} 'go' and {par} 'walk'.

For many compound verbs, there is semantic motivation for the collocation of auxiliary and type B verb stem. Both denote actions/states. The type B verb stem delimits the type of action/state specified by the auxiliary. The corpus contains the following auxiliary verbs and co-occurring type B verb stems:

Transitive auxiliaries

turra	cook
ṭut	leave
n	see

nipe	touch, hold	
rikka	sort	
ci	eat	
ce	give	
cetpe	take out	
yi	put down	
karraɲme	turn sthg over	
ka	take	
kapica	throw away	
kunme	bring	
pø	hit	
pa	smash	
paŋka	stab	
purr	beat	
ma	pick up	
mara	kick	
wa	make	

(a) turra	cook	
pullup-turra	boil-cook	> cook
wul-turra	smoke-cook	> fumigate house
(b) ṭut	leave	
riŋ-ṭut	pass by-leave	> leave behind
(c) n	see	
kikkilili-n	tickle-see	> tickle
pø-n	blow on-see	> blow on
(d) nipe	hold	
tup-nipe	grip-hold	> hold tight
cirr-nipe	squeeze-hold	> squeeze
recca-nipe	want-hold	> desire
(e) rikka	sort	
kittirak-rikka	peel-sort	> peel and sort
(f) ci	eat	
cam-ci	devour-eat	> eat up
(g) ce	give	
mepec-ce	share-give	> share
(h) cetpe	take out	
luŋ-cetpe	extract-take out	> extract
munmun-cetpe	pluck-take out	> pluck

ŋanaŋana-cetpe split-take out> split
(i) yi put down, functions as a causative in some compounds.
cera-yi burn-put down > burn
cøl-yi lower-put down> put down on ground
yele-yi taste-put down> taste
kittirak-yi peel-put down > peel and put down
kut-yi miss-put down > miss
ŋuk-yi break-make > break
ŋanaperrac-yi block view-make> block view
mipeḻakkuk-yi spoil-make > spoil
marrcela-yi question-make > ask question
wuccuc-yi pick-put down > pick and put down
wupucpupuc-yi gather-put down> gather
(j) karraŋme follow
ŋana-karraŋme split-follow > turn sthg over
(k) ka take
war-ka lift-take > lift
pirippirip-ka turn round-take> turn something round
(l) kapica throw away
yanac-kapica throw on-throw away> throw on
ŋac-kapica hide-throw away > hide something
put-kapica throw in-throw away> throw in
(m) kunme bring
ŋalapala-kunme drop-bring > lose
(n) pø hit
ten-pø stop-hit > stop
piŋin-ḻuk-pø nuisance-act-hit> behave badly
cøreɳcøreɳ-pø rub-hit > rub clean
yerrk-pø scrape-hit > scrape, comb
pilk-pø slap-hit > slap
per-pø make cool-hit > make cool
(o) pa smash
mipene-pa shut-smash > close
(p) paŋka stab
cirrcirr-paŋka boil-stab > boil
ceɲcaŋ-paŋka itch-stab > itch
cak-paŋka burst-stab > erupt
cur-paŋka sting-stab > sting

ŋal̲-paŋka	sew-stab	> sew
(q) purr	hit with missile	
cikmiyic-purr	sneeze-hit with missile	> sneeze
(r) ma	pick up	
yeŋere-ma	steal-pick up	> steal
ŋalawa-ma	help-pick up	> help
ŋalapala-ma	drop-pick up	> lose
wat-ma	trip-pick up	> trip
(s) mara	kick	
mununuk-mara	dance-kick	> dance (men)
(t) wa	make	
mørrakmala-wa	build-make	> build

Intransitive auxiliaries

racc	go
citpice	break
caŋa	stand
yicc	ask
yika	go down
ye	lie
kape	laugh
pe	go
pette	die
pelepa	vomit
par	walk
puka	bathe
mi	sit
me	say, be
mey	work for
maŋc	rise
muy	move

(a) racc	go	
ŋawi-racc	crawl-go	> crawl
picip-racc	travel-go	> go on a journey
(b) citpice	break	
ŋana-citpice	split-split	> split

(c) caŋa stand, functions as a stative verb in its compounds:

ciccinili-caŋa be on feet-stand> stand up all day
cat-caŋa rise-stand > stand
terrk-caŋa be wedged-stand> be wedged
ŋa̲lak-caŋa be bogged-stand> be bogged
pilpima-caŋa be alight-stand> be alight
pu̲lk-caŋa be slack-stand > be slack
(d) yicc ask
picku̲lø-yicc change shape-ask > change into animal
purr-yicc wail-ask > wail
(e) yika go down
riŋ-yika flow-go down > flow down
curr-yika climb down-go down> climb down
kak-yika go away-go down> go off down
warruŋ-yika flow-go down > flow (of tide)
(f) ye lie, functions as a stative auxiliary
in its compounds.
kurrma-ye snore-lie > snore
pønec-ye dream-lie > dream
pørrec-ye sleep-lie > sleep
(g) kape laugh
kannak-kape laugh-laugh > laugh
(h) pe go
ceŋme-pe relieve self-go> go and relieve oneself
niŋcama̲l̲l̲i-me be unlucky-go > be unlucky hunting animals
yanulac-pe go spear-fishing
kak-pe leave-go > leave, go away
kawe̲lec-pe urinate-go > urinate
ŋala/pøce/mecak/celme/pepere/manac/carrwa/̲lenti-pøcce-pe
hand/head/neck/shoulder/back/chest/flank/hip-carry-go > go,
carrying in one's hand/on one's head/neck/back/chest/flank/hip.
parrac-mecak-pøcce-pe astride-neck-carry-go> go, carrying
astride one's neck
mirak-pe dance-go > go dancing (of women)
mørrø-pe be lucky-go > be lucky getting vegetables
munuŋuk-pe dance-go > go dancing
muŋuyil-pe paddle-go > go, paddling
(i) pette die
cerrpine-pette starve-die > be starving
marrcic-pette freeze-die > be cold

(j) pelepa vomit
ŋakaḻi-pelepa ?-vomit > vomit
(k) par walk
cena-par run-walk > run
ceɲme-par relieve self-walk> go and relieve oneself
yanulac-par spear-fishing-walk> travel, spear-fishing
kak-par leave-walk > leave
kaweḻec-par urinate-walk > go and urinate
ŋac-par hide-walk > hide
ŋala/pøce/mecak/celme/pepere/manac/carrwa/ḻenti-pøcce-par hand/head/neck/shoulder/back/chest/flank/hip-carry-walk> walk, carrying in the hand/on the head, neck, shoulder, back, chest, flank, hip
parrac-mecak-pøcce-par astride-neck-carry-walk> walk, carrying astride one's neck
mirak-par dance -walk > go dancing (of women)
murraɲ-par inform on-walk> inform on someone
munuŋuk-par dance-walk > go dancing (of men)
muŋuyil-par paddle-walk > paddle
(l) puka bathe
kappuk-puka wash-bathe > bathe
(m) mi sit
ṭut-mi sit down-sit > sit down
ciɲci-mi squat on heels-sit> squat on heels
camaya-mi chew-sit > chew
cøtpiyic-mi chat-sit > chat
malwarraŋ-mi tell story-sit> tell story
ŋurrkŋurrkwa-mi sniff-sit > sniff
ŋalapiyic-mi clap-sit > clap
ŋala/pøce/manac-pøcce-mi hand/head/neck-carry-sit > sit, carrying in the hand/on the head/chest
(n) me say, be, functions as an inchoative verb in some compounds.
riɲ-kar-me flow-dribble > dribble
cilk-me ache-say > ache
currk-me be charred-be > be charred
yu-me change shape-be> change into animal
kara-me drip-be > drip
ŋalaŋala-me cough-say > cough

ŋulma-me	be very sick-be>	be very sick
pilk-me	dazzle-be >	be dazzling
pipere-ŋun-me	ear-forget-be >	forget
perkperk-me	bark-say >	bark
pø-me	smoke-be >	smoke
parrparr-me	shiver-be >	shiver
palk-me	swell up-be >	swell up
pul-me	be hot-be >	be hot
malk-me	sit on ground-be>	sit on ground
wirk-me	shriek-say >	shriek
war-me	float-be >	float, fly
warrk-me	win-be >	win
warruŋ-me	miss-be >	miss
(o) mey	work	
meyecme-mey	work for-work >	work for
(p) maŋc	rise	
paḻ-maŋc	get up-rise >	get up
(q) muy	move	
mirak-muy	dance-move >	dance (women).

3.4.6 Auxiliary verb complexes. In an auxiliary verb complex, a simple or compound transitive or intransitive verb is regularly followed by one of the following five intransitive auxiliary verbs:

-caŋa	stand
-yepe	lie
-pe	go
-par	walk
-mi	sit.

These auxiliary verbs specify the bodily orientation of the subject of the main verb, e.g.

-caŋa (96), (220);
-ye (219);
-pe (25), (32), (142), (151), 185), (186), (194), (221);

-par (72), (131), (222);
-mi (44)-(45), (85), (159), (172), (192), (202), (206), (209), (218).

Choice of auxiliary is limited by the nature of the action/stat expressed by the main verb; the actions described in (44)-(45) must be performed sitting; that ordered in (25) cannot. When logically possible, a main verb may collocate with any of these five auxiliaries, e.g.

(218) kalaŋ-paḻak kan-ø-na kaɲ-mi-ø
mother-GEN 3sgfSNF-cry-NF 3sgfSNF-sitAUX-NF
My mother sits and cries/sat and cried.

(219) kalaŋ-paḻak kan-ø-na kaɲ-epe-ø
mother-GEN 3sgfSNF-cry-NF 3sgfSNF-lieAUX-NF
My mother lies and cries/lay and cried.

(220) kalaŋ-paḻak kan-ø-na kaɲ-caŋa-ø
mother-GEN 3sgfSNF-cry-NF 3sgfSNF-standAUX-NF
My mother stands and cries/stood and cried.

(221) kalaŋ-paḻak kan-ø-na kaɲ-pe-ø
mother-GEN 3sgfSNF-cry-NF 3sgfSNF-goAUX-NF
My mother cries as she goes/cried as she went.

(222) kalaŋ-paḻak kan-ø-na kaɲ-par-a
mother-GEN 3sgfSNF-cry-NF 3sgfSNF-walkAUX-NF
My mother cries as she walks/cried as she walked.

The pronominal prefix to the auxiliary cross-references as S, the A cross-referenced on the main verb. An auxiliary inflects for tense, mood and aspect to match its main verb, e.g. (172). Aspectual suffixes applicable to the main verb cliticise a complex-final auxiliary, e.g. (44), (96), (185)-(186).

(44) ŋanaŋana-ka-cetpe-Ø kaɲ-mi-ɲ-cø
split-3sgA.3sgONF-take out-NF 3sgfSNf-sitAUX-PRES-CONT
She's sitting, continually splitting it (T4:21).

A complex-final auxiliary bears, in addition to its own inflectional and derivational affixes, enclitic pronominal suffixes governed by the main verb, e.g. (85), (96).

(85) kaɲ-ukpica-Ø kaɲ-mi-Ø-m-pørraŋkaɲi
3sgfSNF-call out-NF 3sgfSNF-sitAUX-NF-PRES-3duD

yik-karraŋ
old-ERG

The old woman is sitting, calling out to those two (T6:34).

3.4.7 Incorporated nominals. 27 type A and 4 type B verb stems incorporate immediately preceding nominals in object function, to form 75 lexical compounds, which cannot be predicted. Some are fossilised idioms incorporating body-part nominals, e.g.

(223) cøt-nønme = foot-start > prevent
(224) kawɛɲ-ce = blood-give > hate
(225) pipere-ŋun-me = ear-forget-do > forget
(226) pepera-purr = back-hit with missile > cover
(227) pøce-pø = head-hit > kindle
(228) mipemipe-me = eyes-say > not know how to
(229) mipemipe-ma = eyes-pick up > be lost
(230) mipe-wica = eye-pull > repeat
(231) møŋ-tørrp = buttocks-roast > push
(232) møŋ-nønme = buttocks-start > start
(233) møŋ-karriɲmice = buttocks-play > wander
(234) wice-n = nose-see > hate
(235) ŋanaŋ-karriɲmice= person-play > change into animal
(236) mal-pøce-pø = talk-head-hit > make noise.

Other lexical compounds are transparent. These are listed at the end of this section.

33 different lexemes are incorporated. Of these, 15 denote body-parts, e.g.

(237) melŋmelŋ wuŋmarrac mipe-kat-pø-mene-kaɲi
cheeky yam long yam eye-3duA.3ONF-hit-NF
They both found cheeky yams, long yams (T3:15).

4 incorporated nominals denote tangible entities, e.g.

(238) pik-karr-ipe-makka ŋawulaŋ-makka
rope-3plA.3sgmONF-hold-PERF woman-CAU

kaɲ-pø-mene
3sgA.3sgfONF-hit-NF

They gaoled him for killing a woman (AL:166).

2 incorporated nominals denote audible, intangible entities: mal 'noise', paŋan 'song'. 12 incorporated nominals denote physical attributes, (239), or value judgements, (240).

(239) mit-yerren-paka ŋarra-mu
pretty-1plincA.3plO-stabFUTAUX 1plincS sitFUTAUX
Let's all sit and dye them pretty! (T5:27)

(240) yarrŋ-kaɲa-me
straight-2sgSNF-say
You said the truth! (AL:13).

When an incorporated nominal is incorporated into an intransitive verb, the resulting lexical compound is thought of as a unitary concept, e.g.

(241) pepera-cilk-ŋa-me
back-ache-1sgS-be
My back is aching (JR:17).
(242) is a syntactic paraphrase of (241).

(242) mempit ŋan-nipe-Ø pepera
cramp 3sgA.1sgO-hold-NF back
I've got cramp in my back (JR:44).

A nominal is incorporated into a transitive verb is always in object function. Incorporation deprives a nominal of syntactic salience and leaves the object slot vacant for another nominal in O function, e.g. (31), (48), (184), (213), (237)-(238), (243).

(48) kaweŋ-yaŋ-e-wene cica ŋanaŋ
blood-1sgA.3sgmO-give-NF 3sgmDevis man

manac-ŋace-pøttuŋ-cene
heart-1sgS-GEN-INS

I hate that man with all my heart (AL:62).

(243) ceŋmiyic kaŋ-mi-Ø møŋ-ka-nønme-Ø
3sgfP 3sgfS-sit-NF buttocks-3sgA.3sgmONF-start

ŋancic
another one

She sits down and starts (weaving) another (band of colour) (T4:91).

In her typology of noun incorporation (NI), Mithun (1984:856, 878) defines four types of NI. In type I, NI derives lexical compounds perceived as unitary concepts, with syntactic paraphrases. In type II, the noun is incorporated in object

function, losing syntactic salience, and leaving the object slot free for another nominal to fill. Type II NI is predicated on the existence of type I. Incorporated nouns in Bachamal fit types I and II of Mithun's classification.

The corpus contains the following lexical compounds whose meaning is transparently derived from an incorporated nominal:

(244) terrpmin-me = narrow-be > shrink
(245) tarranmalaŋ-yi = cool-make > cool
(246) ṭul-me = angry-be > be angry
(247) nitirr-pe = line-go > go fishing
(248) nitirr-par = line-walk > go off fishing
(249) nitirr-mi = line-sit > sit fishing
(250) celme-pøcce-pe = shoulder-carry-go> go, carrying on the shoulder
(251) celme-pøcce-par= shoulder-carry-walk> walk, carrying on the shoulder
(252) carrwa-pøcce-pe= rib-carry-go > go, carrying on the flank
(253) carrwa-pøcce-par = rib-carry-walk> walk, carrying on the flank
(254) carakku-yi = good-make > cheer up
(255) l̲enti-pøcce-pe = hip-carry-go > go, carrying on one's hip
(256) l̲enti-pøcce-par = hip-carry-walk > walk, carrying on one's hip
(257) yirril-pikica = shell-pick at > shed shell
(258) yik-me = old-be > grow up
(259) yik-yi = old-make > rear
(260) yarrŋ-me = straight-say > tell the truth
(261) kel-cetpe = path-take out > take the lead
(262) kel-mønme = path-climb > climb
(263) ŋak-pellerrme = mouth-open > yawn
(264) ŋala-pøcce-pe = hand-carry-go> go, carrying in the hand
(265) ŋala-pøcce-par= hand-carry-walk > walk, carrying in one's hand

(266) ŋala-pøcce-mi = hand-carry-sit > sit, carrying in the hand
(267) naŋka-pø = clapsticks-hit > play clapsticks
(268) ŋak-cetpe = mouth-take out > open
(269) ŋak-paŋka = mouth-stab > hook fish
(270) pik-nipe = rope-hold > gaol
(271) pipere-celkme = ear-think > think about
(272) penterr-yi = sweet-make > sweeten
(273) pepera-pøcce-pe= back-carry-go> go, carrying on back
(274) pepera-pøcce-par= back-carry-walk> walk, carrying on one's back
(275) pøce-pøcce-pe = head-carry-go > go,carrying on head
(276) pøce-pøcce-par = head-carry-walk > walk, carrying on one's head
(277) pattura-yi = dry-make > dry
(278) paŋan-piɲc = song-climb > sing
(279) parrac-mecak-pøcce-pe=astride-neck-carry-go> go, carry astride one's neck
(280) parrac-mecak-pøcce-par > walk, carrying astride one's neck
(281) mit-marr = pretty-paint > paint pretty
(282) mit-wakaca = pretty-come out > turn out pretty
(283) mit-paŋka = pretty-stab > make pretty
(284) mipe-cetpe = eye-take out > open
(285) mipe-pellerrme = eye-open > open eyes
(286) mipe-pø = eye-hit > find
(287) mipe-wakaca = eye-arrive > look on the surface
(288) mipe-wukka = eye-copy > look like
(289) mecak-pøcce-pe = neck-carry-go > go, wearing round one's neck
(290) mecak-pøcce-par= neck-carry-walk > walk, wearing round one's neck
(291) mecak-pøcce-mi = neck-carry-sit > sit, wearing round one's neck
(292) møŋ-mara = buttocks-kick > catch up with
(293) manac-pøcce-pe = chest-carry-go > go, carry on chest
(294) manac-pøcce-par= chest-carry-walk> walk, carrying on one's chest

(295) wice-pikica = nose-pick at > pick one's nose
(296) wirrk-yi = finished-make > finish.

3.4.8 Interrogative verb. The interrogative particle {yine-} 'how?/what?' is incorporated into the verb {-me} 'do' to derive the interrogative verb {yine-me} 'do what?', e.g.

(297) yine-kaṇe-me-makka
what-2sgSNF-do-PERF
What did you do? (AL:172)

When followed by another verb, {yine-me} means 'do how?', e.g.

(298) yine-kaṇe-me-makka mørrakmala-ka-wa
how-2sgSNF-do-PERF build-2sgA.3sgmONF-makeAUX
How did you make it? (AL:171)

3.5 Adverb morphology. Adverbs specify the time, place and manner of the action or state expressed by the verb. Interrogative adverbs always occur sentence-initially. Temporal adverbs and adverbs of manner occur sentence-initially or finally. Locative adverbs occur anywhere in the sentence. Temporal adverbs may be marked with perfective or purposive aspectual suffixes; locative adverbs may be marked with local case-suffixes. Interrogative adverbs may carry dative or ablative, purposive or causal suffixes. Temporal adverbs may bear compatible clitic particles.

3.5.1 Temporal adverbs.

wuḻaput wuḻaput some years ago

wuḻaput	some time ago
wuḻa ŋancic	year-one = last year
mørrakara	yesterday
mørrakara ŋancic	yesterday-one = day before yesterday
ŋurraca	last night
yaŋaraŋ	today
peḻappuy	early
yaŋaraŋ-ci	today-3sgmDetang = right now
palkpalk	already
ŋarr	later
kulkamørra	at dusk
yiɲmek	tomorrow
yiɲmek ŋancic	day after tomorrow
naŋana	first
ŋuna	then
naŋkarra	again

3.5.2 Locative adverbs.

waraŋkal	far
wurak	near
waŋancic	behind
kaṭa	on top
cølup	inside
maŋmac	outside
kayawarra	along
paṇkulka	in the middle
pøŋka	round the corner
pap	up
kacu	towards the speaker
kuca	away from the speaker
kacucu	out of sight of the speaker.

3.5.3 Manner adverbs.

mattimatti	slowly

wettet/werret	quickly
røметmet	heartbrokenly
yeɲcarrwa	on one's side
puc	straight.

3.5.4 Interrogative adverbs.

anikine	when?
pinewica	how many/much?
kine	where?

Sentence-initial interrogative adverbs may be cliticised by purposive or perfective aspectual markers. {kine} 'where?' may bear a Locative case-suffix and inflects for number and 3sg gender. These forms, listed in Table 13, occur only in locative questions, where they agree in gender and number with a following audible deictic, e.g. (299)-(301).

Table 13: Interrogative adverb inflections

	Singular	Plural
3m	cine	pine
3f	ciɲina	

(299) cine cawana ŋanaŋ
Where3sgm 3sgmDeaud man
Where is that man?

(300) ciɲina ceɲena ŋawulaŋ
Where3sgf 3sgfDeaud woman
Where is that woman?

(301) pine parrana
Where3pl 3plDeaud
Where are those people?

3.6 Particle morphology. Bachamal distinguishes free and clitic particles. Free particles occur sentence- or phrase-initially or -finally, and may be modified only by compatible clitic particles. Interjections form an invariable sub-class of free particle; each interjection constitutes a sentence. Clitic particles cannot occur independently, but an otherwise independent word. Clitic particles attach to members of every word class.

Particles add illocutionary force to a word, phrase or sentence. They specify its focus or polarity, whether an entity, or action/state is additional,obligatory, deliberate, whether or not it has already occurred, and when, or if it is still occurring.

3.6.1 Free particles.

3.6.1.1 Interjections.

teli	Wait!
ya	I don't know
yakarra	Oh, no!

yakkuy	probably
kawa	Come!
ŋa	Yes!
ŋutpe	Never mind!
perrmeŋ	Finished!
mepaŋ	OK!

3.6.1.2 Free particle operating at sentence or phrase level.

{kamaŋka} Nothing!

{kamaŋka} may derive historically from the 3sgmSNF form of the verb {maŋka} 'be lacking', which is not attested in the corpus. Cognate with {kamaŋka} is the nominal derivational suffix {-maŋka} 'empty'. {-maŋka} and {kamaŋka} may co-occur, e.g. (133). {kamaŋka} negates nominals, e.g. (186), (302).

(302) kamaŋka maŋ
Nothing money
I've no money (JB:3).

In (302), {kamaŋka} operates at phrase level, but it may by itself replace a verb, e.g. (174), (303).

(303) mipe cica yaŋ-cetpe-nuŋ ŋa-me-ŋ-kak
eye 3sgDevis 1sgA.3sgmO-take out-PUR 1sgS-try-PRES-Foc

kamaŋka-nte-pe
nothing-now-ever

I'm trying to get that thing out of my eye; I'll never do it (T3:49).

{kamaŋka} may be modified only by the clitic particles {-pente}

'now', {-pe} 'ever', e.g. (303), or (-pakka}, e.g. (304), or {-karrac}, e.g. (305).

(304) kamaŋka-kka
Nothing-re
No way! (AL:501)

(305) kamaŋka-karrac
Nothing-at all
Nothing at all (AL:509).

3.6.1.3 Free particles operating at phrase-level.

eniŋ	isn't it?
ŋakuḷø	not
memmeŋ--pupuy	keep doing, without stopping.

(i) Interrogative particle. {eniŋ} 'isn't it?' occurs most often as a sentence-final tag question, e.g.

(306) wøŋ ye-pi-yika-nuŋ eniŋ
rain 3sgSFUT-FUT-come down-PUR isn't it
It's going to rain, isn't it?

(ii) Negative particle. {ŋakuḷø} 'not'.
{ŋakuḷø} occurs sentence-initially and may thus be cliticised by the purposive and perfective aspectual suffixes. It is modified only by clitic particles. {ŋakuḷø} negates positive declarative sentences, e.g.

(307) ŋakuḷø-nte-pe ye-p-pakaca
Neg-now-ever 3sgSFUT-FUT-come out
It will never come out (T3:51).

{ŋakuḷø} negates positive admonitions, e.g. (170), (176)-(177) and introduces type 1 prohibitions, e.g.

(308) ŋakuḻø ye-pe-ceɲ-pe
Neg 2sgA.3sgmOFUT-FUT-put in-FUTCM
Don't put it in! (AL:412)

{ŋakuḻø} does not occur in type 2 prohibitions. These are marked negative by the negative suffix {-kuḻø} which attaches to a verb inflected for non-future tense, prefixed by a non-future prefix, e.g (165-169 and (309).

(309) ka-ceɲ-mene-ŋ-kuḻø
2sgA.3sgmONF-put in-NF-PRES-Neg
Don't put it in! (AL:413)

(iii) Continuative particles. {memmeɲ} - {pupuy} 'keep doing without stopping'. The invariable particles {memmeɲ} - {pupuy} frame the verb they qualify, e.g.

(310) memmeɲ yaŋ-pi-kirrwa ŋa-p-pe-cø pupuy
stop 1sgA.3sgm-FUT-dig 1sgS-FUT-go-CONT go
I won't stop digging (AL:477).

3.6.2 Clitic particles. Bachamal clitic particles encliticise members of any word class. They follow all derivational and inflectional suffixes and may themselves be cliticised by pronominal enclitics. Table 14 shows the order of co-occurring clitics.

Clitics differ from derivational suffixes in that they cannot create words (cf. Klavans 1982:15). Clitic and host word form a single phonological unit. The initial syllable of the clitic particle {-t/rraŋkarra} 'another', and the initial CV of the clitic particles {-pente} 'now', {-pakka} 'same/

really' and {-pakkacca} 'obligated' elide after a host-final vowel. A word may be cliticised by up to two clitic particles, the final one always being the focal clitic {-kak}. The clitic particle {-mepe} 'never' is restricted to a sentence-initial host; other clitic particles attach to sentence or phrase-initial and -final words; the focal clitic {-kak} may encliticise a word in any position in the sentence.

Table 14: Order of co-occurring clitics

(I, II, II = first, second, and third order clitics)

I		II		III
(i)	-pente	(ii)	-kak	
		(iii)	-pe	
(iv)	-mepe			
(v)	-karrac			
(vi)	-pakkacca			
(vii)	-pakka			
(viii)	-t/rrankarra			-prnsx
(ix)	-merre			
(x)	-mini			
(xi)	-mente			
(xii)	-parrk			
(xiii)	-cukkaca			

(i) {-pente} ----→ { /-nte/ / V _____ ; /-pente/ }

{-pente} 'now' frequently cliticises sentence-initial pronouns, e.g. (127), (136), nouns, e.g. (19), (186), (311), adjectives, e.g. (312), verbs, e.g. (29), (199),

adverbs with future reference, e.g. (135), free particles, e.g. (303). {-pente} behaves like Yidiɲ {a/la}, (Dixon 1977:236-9), in that, attached to nominals, it usually implies 'it's my/your/his/her/our/their turn' e.g. (19), (136), (311)-(312), while, attached to verbs or adverbs, it means 'immediately', e.g. (29), (135), (179), (199).

(311) win-nuŋ-pente kaɲ-ukpica-ŋacaŋ
milk-DAT-now 3sgfSNF-call out-3sgfD
She calls out to her for milk (T2:21).

(312) pøkka-nte kaɲ-pe
clean-now 3sgfSNF-go
It's her turn to be clean (AL:387).

(199) kak-kuŋ-pente-ɲerr-pe
go away-PUR-now-2plSFUT-goAUX
IMP
Go away right now! (BL:14)

{-(pe)nte} co-occurs with the focal clitic {-kak}, e.g. (19), or the particle {-pe} 'ever', e.g. (303), (307). It is followed by a pronominal enclitic in (29).

(ii) {-kak} 'focal'. {-kak} topicalises a previously mentioned referent and frequently cliticises a deictic, e.g. (135), (144). The clitic particle {-kak} is homophonous with the type B verb stem {kak-} 'go away}, but they have different occurrence possibilities and ambiguity never arises.

(iii) {-pe} 'ever' cliticises nominals, eg. (73), verbs, e.g. (194), but most often the free negative particles {ŋakuḷø}, e.g. (73), (307), or {kamaŋka}, e.g. (303).

(73) ŋakuḻø-pe ŋaɲ-pe-ce ciɲ pampac
Neg-ever 1sgA.2sgO-FUT-give 3sgfDetang baby

ŋace-pøttuŋ-pe
1sgP-GEN-ever

I'll never give you this baby. It's mine for ever! (T2:29).

(194) ŋa-pe-me-nuŋ-pe ŋa-p-pe ŋace memempena
1sgS FUT-become-PUR-ever 1sgS-FUT-goAUX 1sgP porpoise
As for me, I'm going to become porpoise for ever! (T2:62)

(iv) {-mepe} 'never' only occurs attached to the sentence-initial negative particle {nakuḻø}, in sentences whose verb is inflected for non-future tense, e.g.

(313) ŋakuḻø-mepe pappa ka-me-ŋ ka-pe-rraŋ
Neg-ever father 3sgmSNF-do-PRES 3sgmSNF-goAUX-HAB
Father never used to do that (AL:488).

(v) {-karrac} 'at all. This clitic particle modifies the negative particle {kamaŋka} 'nothing', e.g. (305).

(vi){-pakkacca} 'obligated'. This clitic particle only occurs in admonitions, e.g. (170)-(178).

(vii) pakka ----→ { /-kka/ / V _____ ; /-pakka/ }

Cliticised to nominals, e.g. (314), {-pakka} means 'same'.

(314) peyik-pakka muntak ka-ka-ɲca kaɲ-pe-m
bag-same old 3sgA.3sgONF-take-NF 3sgfS-goAUX-PRES
She's going, taking the same old bag (AL:240).

Cliticised to the present or purposive aspectual suffixes, e.g.

(315), (195), to an adverb, e.g. (316), or to the negative particle {kamaŋka}, e.g. (304), {-pakka} means 'really'.

(315) pul-ka-me-m-pakka rak ci-kak
hot-3sgmSNF-be-PRES-re country 3sgmDetang-Foc
This place is really hot (AL:250).

(316) kuca-makka-kka pickuḻø-ka-yicca
over there-PERF-re change shape-3sgmSNF-askAUX
Over there, he really did change into an animal (T2:1).

(viii) {-t/rraŋkarra} ----→ /-karra/ / ŋ _____
/-taŋkarra// [-cont] _____
/-rraŋkarra/

{-t/rraŋkarra}, 'another' cliticises nouns, pronouns, verbs and some clitic particles, behaving like Dyirbal {-ru}, (Dixon 1972:266). It occurs most frequently after a noun or pronoun, e.g.

(317) cica ŋanaŋ-karraŋ-karra kaɲ-pø-mene
3sgmDevis man-ERG-another 3sgA.3sgfONF-hit-NF
That man was another that hit her (AL:321).

(168) ɲenpuṯ-ṭut-mene-ŋ-kuḻø ŋace-karraŋ-karra
2plA.1sgO-leave-NF-PRES-Neg 1sgP-ERG-another

ŋa-pe-ɲ-cø
1sgS-go-PRES-CONT

Don't leave me behind, I'm coming too! (AL:492)

(318) kane-rraŋkarra ɲerr-pur-iŋ-kaɲi
2sgP-another 2duSFUT-walkFUT-FUTCM
IMP
You go too, the pair of you! (AL513)

(319) ŋace-rraŋkarra ŋarrun-turra ŋarra-mi
1sgP-another 1plincA.3plO-cook 1plincS-sitAUX
We all sat and cooked them, I did too (AL:123).

Cliticised to a verb, {-t/rraŋkarra} means 'another time', e.g.

(320) karr-par-a-rraŋkarra
3plSNF-walk-NF-another
They went one more time (AL:322).

(321) ceɲmiyic-taŋkarra kaɲ-mi-m-taŋkarra
3sgfP-another 3sgfSNF-sit-PRES-another
Another woman is sitting another time (T5:21).

(322) pørra-rraŋkarra kittirak-kanpi-rikka-parra-rraŋkarra
3plP-another peel-3A.3plONF-sortAUX-RET-another
Another mob sorted and peeled them another time.

(ix) {-merre} 'also/again' commonly cliticises verbs, e.g. (133), (323), but may cliticise sentence-initial nominals, e.g. (324).

(323) pørra-rraŋkarra kanpu-turra-merre karr-mi
3plP-another 3A.3plONF-dig-also 3plSNF-sitAUX
Another mob sat and cooked them (AL:124).

(324) ŋace-merre recca-yaŋ-nipe
1sgP-also like-1sgA.3sgmO-hold
I like him too (AL:241).

In (325), {-merre} is attracted from verb-final position to cliticise a sentence-initial adverb.

(325) mørrakara-merre ka-wu-mene-makka
yesterday-also 2sgA.spear-NF-PERF
You were among those who speared it yesterday (AL:280).

(x) {-mini} 'at that time'. {-mini} is a past punctual particle which cliticises sentence-initial adverbs or

complex-initial verbs, e.g. (137), (326)-(327).

(326) mørrakara-mini ka-pa-kaca-ŋara-kkacca
yesterday-then 2sgA.3sgmO-FUT-bake-ADM-obl
You should have baked it yesterday.

(327) kiwiɲ ɲerren-pirr-ine-mini kaŋka-caŋa
coolibah 2plA.3plO-chop-NF-then 2plSNF-standAUX
At that time, you stood and chopped down the coolibah trees (AL:577).

(xi) {-mente} 'already'. {-mente} cliticises sentence- or phrase- initial or final nominals, verbs or adverbs, e.g.

(328) kaɲ-pette-mente kamaŋka-kka
3sgfSNF-die-already Nothing-re
Q: Is she dead already? A: Not yet (AL:112).

(329) ŋace-mente yeŋ-ci-ɲene ŋa-mi-makka
1sgP-already 1sgA.eat-NF 1sgS-sitAUX-PERF
I've already eaten (AL:270).

(xii) {-parrk} 'still'. {-parrk} cliticises a sentence- or phrase- final verb, e.g. (330).

(330) kaɲ-mi-m-parrk teli cepiya
3sgfS-sit-PRES-still Wait! alive
Wait now, she's still alive! (AL:603).

(xiii) {-cukkaca} 'only'. {-cukkaca} attaches to nominals, verbs or adverbs, e.g.

(331) pampac-cukkaca
child only
Only child.

(332) camuyic-cukkaca parrkiɲ ya-p-puriŋ
3sgmP-only by himself 3sgmSFUT-FUT-walk-FUTCM
Only he will go, by himself.

(333) ciccinili-kaɲ-caŋ-a-cukkaca
stand up-3sgfSNF-standAUX-NF-only
She just stood (all day).

Appendix 1: Verbs

Simple verbs

A pronominal prefix immediately precedes a type A verb stem inflected for non-future tense. When a type A verb stem is inflected for future tense, the pronominal prefix precedes the future tense prefix. The pronominal prefix is omitted in the following list of verbs.

Compound verbs

A type B stem typically immediately precedes the pronominal prefix of the type A stem which acts as its auxiliary. Type B stems are cited only in the stem + NF column.

Incorporated nominals

A nominal incorporated by a type A verb immediately precedes the pronominal prefix. A nominal incorporated by a type B verb stem immediately precedes the type B verb stem. Incorporated nominals are underlined and cited only in the stem + NF column.

Irregular verbs

In Appendix 1, irregular verbs, classified by the letter I, are listed by conjugation. In Appendix 2, the irregularities of each verb are specified.

Conjugation 1

	stem + NF	stem + FUT	Gloss
	-ci-ɲene	-pi-ci	eat
I	-ci-ɲene	-pi-ci	drink
	cam-ci-ɲene		eat up
	-n-ene	-pe-na	see
	cewerr-n-ene		be jealous of
	kikkilili-n-ene		tickle
	wice-n-ene		hate
	pø-n-ene		blow on
I	-ye-wene	-pe-ce	give
I	kawen-ye-wene		hate
I	mepec-ye-wene		share
	-pirr-ine	-p-pirr-e	chop
	-nic-ene	-pi-nic-e	look after
I	-nic-ene	-pi-nic-e	wait for
	-piɲc-ene	-p-piɲc-e	hang up
	-tørrp-mene	-pø-tørrp-pa	roast in sand
	møn-tørrp-mene		push
	-ṭat-mene	-pa-ṭal-pa	bite
	-ṭut-mene	-pu-ṭul-pa	leave behind
	riɲ-ṭut-mene		pass by
	-cap-mene	-pa-cap-pa	stretch
	-ceɲ-mene	-pe-ceɲ-pe	put in
	-pø-mene	-pø-pø	hit
	ten-pø-mene		stop (doing X)
	pinin-ḷuk-pø-mene		behave badly
	cøreɲcøreɲ-pø-mene		rub
	yerrk-pø-mene		scrape, comb
	naɲka-pø-mene		play clapsticks
	pilk-pø-mene		slap
	per-pø-mene		make cool
I	pøce-pø-mene		heap up kindling
I	mal-pøce-pø-mene		make noise
	mipe-pø-mene		find
	mipe-karac-pø-mene		look at cross-eyed
	-wara-mene	-p-ara-pe	join
	-wu-mene	-pu-pa	spear
	-wuc-mene	-p-uc-pa	scold

	kutti-wuc-mene		argue
	ŋak-wuc-mene		kiss
	-wuɲ-mene	-p-uɲ-pe	throw

Conjugation 2

	-rø-na	-pø-rø	cry
	-yi-ŋa	-pu-yu	put down
	tarranmalaŋ-yi-ŋa		cool
	cera-yi-ŋa		burn
	cøl-yi-ŋa		put down on ground
	carakku-yi-ŋa		cheer up
	yik-yi-ŋa		rear
	yiŋkuḷk-yi-ŋa		sweeten
	yele-yi-ŋa		taste, test
	kittirak-yi-ŋa		peel and put down
	kut-yi-ŋa		miss
	ŋuk-yi-ŋa		break
	penterr-yi-ŋa		sweeten
	pattura-yi-ŋa		dry
I	para-yi-ŋa	-pu-yu	swim
	ŋanaperrak-yi-ŋa		block (view)
	marrcela-yi-ŋa		ask question
	wirrk-yi-ŋa		finish
	wuccuc-yi-ŋa		pick and put down
	wupucpupuc-yi-ŋa		gather
	-pa-ŋa	-pa-pa	smash
	mipene-pa-ŋa		shut
	-purr-una	-p-purr-a	hit with missile
I	-purr-una	-p-purr-a	look for
	cikmiyic-purr-una		sneeze
	pepera-purr-una		cover
	-ma-ŋana	-pu-mu	pick up
	yeŋere-ma-ŋana		steal
I	ŋalawa-ma-ŋana	-pu-mu	help
I	ŋalapala-ma-ŋana		lose
I	mipemipe-ma-ŋana	-pu-mu	lose one's way
	wat-ma-ŋana		trip
	-marr-ana	-p-marr-a	paint
	mit-marr-ana		paint pretty

-mac-ana	-p-mac-a	be scared of
-wac-ana	-p-ac-a	immerse
-wuc-ana	-p-uc-a	carry

Conjugation 3

-racc-e	-pa-racc-aɲ	go
ŋawi-racc-e		crawl
picip-racc-e		go on a journey
-cinpic-e	-pi-cinpic-aɲ	go in
-cappay-a	-pa-cappay-aɲ	stretch
-yicc-a	-pi-yicc-aɲ	ask
pickulø-yicc-a		change shape
purr-yicc-a		wail
wurakwurak-yicc-a		tug either end
-ye-pe	-pe-y-aɲ	lie
kurrma-ye-pe		snore
pønec-ye-pe		dream
pørrec-ye-pe		sleep
-ka-ɲca	-pa-ka-ŋ	take
war-ka-ɲca		lift
pirippirip-ka-ɲca		turn sthg round
-piɲc-e	-p-piɲc-aɲ	climb up
paŋan-piɲc-e		sing
-par-a	-p-pur-iŋ	walk
nitirr-par-a		go fishing
cena-par-a		run
ceɲme-par-a		go and relieve self
celme-pøcce-par-a		walk, carrying on the shoulder
carrwa-pøcce-par-a		walk, carrying on one's flank
yanulac-par-a		go spear-fishing
lenti-pøcce-par-a		walk, carrying on one's hip
kak-par-a		walk away
kawelec-par-a		go and urinate
ŋac-par-a		hide (self)
ŋala-pøcce-par-a		walk, carrying in the hand

pepera-pøcce-par-a		walk, carrying on one's back
pøce-pøcce-par-a		walk, carrying on the head
parrac-mecak-pøcce-par-a		walk, carrying astride one's neck
mirak-par-a		go dancing (women)
mecak-pøcce-par-a		walk, wearing round one's neck
manac-pøcce-par-a		walk, wearing on the chest
murraŋ-par-a		inform on
muŋuyil-par-a		paddle
mununuk-par-a		go dancing (men)
meyecma-mey-e	-p-mey-aŋ	work
kel-mønm-e	-p-mønm-aŋ	climb
-maŋc-ine	-p-maŋc aŋ	get up
paḷ-maŋc-ine		get up
mirak-muy-e	-p-muy-aŋ	dance (women)
-wecc-a	-p-ecc-aŋ	give birth
-wuŋc-e	-p-uŋc-aŋ	defecate

Conjugation 4

-turra	-pu-turra	cook
pullup-turra		stew
wuḷ-turra		fumigate house
I -nipe	-pi-ripe	hold, touch
pik-nipe		gaol
tup-nipe		hold tight
cirr-nipe		squeeze
recca-nipe		like, desire
wik-nime	-pi-rime	fetch water
cøt-nønme	-pø-nønme	prevent
I perkperk-nønme		start barking
møŋ-nønme		start sthg
-rikka	-pi-rikka	sort
kittirak-rikka		peel and sort
-riŋa	-pi-riŋa	fall
-cetpe	-pe-cetpe	take out

	luŋ-cetpe		extract
	kel-cetpe		take the lead
	ŋak-cetpe		open
	ŋanaŋana-cetpe		split
	mipe-cetpe		open
	munmun-cetpe		pluck
	pipere-celkme	-pe-celkme	think about
	-caŋa	-pa-caŋ	stand
	cat-caŋa		stand
	terrk-caŋa		be wedged
	ŋaḷak-caŋa		be bogged
	pilpima-caŋa		be alight
	puḷk-caŋa		be floppy
	-currka	-pu-currka	jump
	-yika	-pi-yika	go down
	kak-yika		go away down
	curr-yika		climb down
	-kirrwa	-pi-kirrwa	dig
	-kaca	-pa-kaca	bake
	-karriɲmice	-pa-karriɲmice	play
	ŋanaŋ-karriɲmice		change shape
	møŋ-karriɲmice		wander
	ŋana-karraɲme	-pa-karraɲme	turn sthg over; follow sthg,
	kannak-kape	-pa-kape	laugh
	-kapica	-pa-kapica	throw away
	yanac-kapica		throw on
	ŋac-kapica		hide sthg
	put-kapica		throw in
	-kunme	-pu-kunme	bring
I	ŋalapala-kunme		lose
	-ŋaca	-pa-ŋaca	return
	-ŋawe	-pa-ŋawe	hear
	-ŋawa	-pa-ŋawa	recognise
	-ŋuccica	-pu-ŋuccica	withhold
I	-ŋuka	-pu-ŋuka	blow (wind)
	yirril-pikica	-p-pikica	shed skin
	wice-pikica		pick one's nose
	-pe	-p-pe	go

nitirr-pe		go fishing
niɲcamalḷi-pe		be unlucky hunting game
ceɲme-pe		relieve oneself
celme-pøcce-pe		go, carrying on one's shoulder
carrwa-pøcce-pe		go, carrying on one's flank
ḷenti-pøcce-pe		go, carrying on one's hip
yanulac-pe		go spear-fishing
kak-pe		go away
kawelec-pe		urinate
ŋala-pøcce-pe		go, carrying in one's hand
pepera-pøcce-pe		go, carrying on one's back
pøce-pøcce-pe		go, carrying on one's head
parrac-mecak-pøcce-pe		go, carrying astride one's neck
mecak-pøcce-pe		go, wearing round one's neck
mirak-pe		go dancing (women)
mørrø-pe		be lucky getting vegetables
manac-pøcce-pe		go, wearing on one's chest
muɲuyil-pe		paddle
mununuk-pe		go dancing (men)
-pette	-p-pere	die
cerrpine-pette		be starving
marrcic-pette		be freezing
ŋakaḷi-pelepa	-p-pelepa	vomit
ŋak-pellerrme	-p-pellerrme	yawn
mipe-pellerrme		open eyes
-pøɲme	-p-pøɲme	smell; extinguish
-pøme	-p-pøme	hug
-panka	-p-paka	stab

I cirrcirr-paɲka		boil
ceɲcaɲ-paɲka		itch
cak-paɲka		erupt
cur-paɲka		sting
ɲal-paɲka		sew
ɲak-paɲka		hook fish
mit-paɲka		make pretty
-panpa	-p-panpa	be ignorant of
-palama	-p-palama	cut
-pørrice	-p-pørrice	scratch
-parrakka	-p-parrakka	pull
kappuk-puka	-p-puka	bathe
-mi	-p-mu	sit
nitirr-mi		sit, fishing
camaya-mi		chew
cøtpiyic-mi		tell story
kutpøpørør-mi		be anxious about
ɲalapiyic-mi		clap
ɲala-pøcce-mi		sit, carrying in one's hands
ɲurrkɲurrkwa-mi		sniff
parrac-mecak-pøcce-mi		sit, carrying astride one's neck
mecak-pøcce-mi		sit, wearing round one's neck
malwarraɲ-mi		chat
-me	-pe-me	say,tell, do
terrpmin-me		shrink
tuɻ-me		be upset, angry
cilk-me		ache
currk-me		be charred
yik-me		grow up
yu-me		change shape
yarrɳ-me		be right
ɲukku-me		tell lie
ɲalaɲala-me		cough
ɲulma-me		be very sick
pipere-ɲun-me		forget
perkperk-me		bark

	pø-me		smoke
	parrparr-me		shiver
	palk-me		swell up
	pul-me		be hot
	malk-me		sit on ground
	mipemipe-me		not know how to
	wirk-me		shriek
	war-me		float
	warrk-me		win
	warruɲ-me		miss
	-møɲce	-p-møɲce	send
	-møŋpica	-p-møŋpica	swallow
	-mara	-p-mara	kick
	møŋ-mara		catch up
	mununuk-mara		dance (men)
	mipe-wica		repeat
	-werepice	-p-erepice	speak
	-wa	-p-a	make
	mørrakmala-wa		build,make
	cøt-mørrakmala-wa		explain
	-wakaca	-p-akaca	come out, arrive
	mit-wakaca		come out pretty
	mipe-wakaca		check sthg out
	-waɲa	-p-aɲa	drown, dive
I	-wu	-----	grab
	-wuɲme	-p-uɲme	deceive
	-wuɲmice	-p-uɲmice	tell lie to
	-wuka	-p-uka	tie up, sting
	-wukka	-p-ukka	copy
	mipe-wukka		look alike
	-wukpica	-p-ukpica	call out.

Table 15: Bound pronominal prefixes to future and non-future transitive {wa-} verbs

	SINGULAR			DUAL		PLURAL			
	1sgA	2sgA	3sgm/fA	1duincA	1duexA	1plincA	1plexA	2plA	3plA
all persons	waŋ-	wa-	wa-	waŋka-	warr-kaŋi	wVrrV-	warr-	wanka-	kanpV-/ kat- (NF); panta- (FUT)

Appendix 2: Irregular verbs

(i) wa- verbs

Person and number are neutralised on pronominal prefixes shown in Table 15 for the following irregular verbs:

Conjugation 1

-nic-ene	-pi-nice	wait for
-ci-ɲene	-pi-ci	drink
pøce-pø-mene	-pø-pø	light a fire
mal-pøce-pø-mene		make a noise.

Conjugation 2

para-yi-ŋa	-pu-yu	swim
-purr-una	-p-purra	look for
ŋalawa-ma-ŋana	-pu-mu	help
ŋalapala-ma-ŋana		lose.

Conjugation 4

wik-nime	-pi-rime	fetch water
perkperk-nønme	-pø-nønme	start barking
ŋalapala-kunme	-pu-kunme	lose
-ŋuka	-pu-ŋuka	blow (wind)
cirrcirr-paŋka	-p-paka	boil
-wu	_____	grab

Transitive wa- verbs obligatorily cross-reference the person, number and 3sg gender of human object nominals in a pronominal enclitic, e.g.

waŋ-nic-ene-nøŋ	I wait/ed for him
waŋ-nic-ene-nacaŋ	I wait/ed for her
waŋ-nic-ene-pørraŋ	I wait/ed for them
wik wa-rime-ŋarrkka	Fetch me water!
ŋalawa-wa-pu-mu-pørraŋ	you/s/he will help them
ŋalawa-waŋka-pu-mu-nøŋ	you and I will help him.

Other variants are peculiar to individual wa-verbs.

(a) {wu} 'grab'.

Tense, person, number and gender are neutralised totally in {wawu}, the only form attested for this verb.

(b) {pøce-pø} 'heap up kindling'

{mal-pøce-pø} 'make noise'.

Speakers regularly omit the verb stem of {pøce-pø} 'heap up kindling' and {mal-pøce-pø} 'make a noise' in 1plincA.3O,

pøce-werre-pø-mene	>	pøcewerremene
head-1plincA.3O-hit-NF		we all heap/ed up kindling.

(ii) {ci} 'eat' {ci} drink'. The verb {ci} 'eat' is eligible to bear any pronominal prefix listed in Tables 11-12. The verb {ci} 'drink' bears only pronominal prefixes listed in Table 15. For both verbs, the stem-initial laminal stop lenites to an approximant intervocalically in non-future indicative and admonitory moods, e.g.

Indicative mood, non-future:

2/3sgA.3sgmO	ka-yi-ɲene	you/s/he eats/ate it
2/3A.3O	wa-yi-ɲene	you/s/he drink/s/drank it/them

Between high front vowels, the laminal approximant elides, eg.

1plincA/3sgmO	yerrV-yi-ɲene>	yerriɲene we all eat/ate it
3A.3plO	kanpV-yi-ɲene >	kanpiɲene s/he/they eat/ate them

Admonitory mood:

In admonitory mood, the laminal approximant is not elided:

1plincA.3sgO	yerre-pi-yi-ɲere	we should all eat/have eaten it
3A.3plO	kat-pi-yi-ɲere	s/he/they should eat/have eaten them

(iii) {ce} 'give'. The stem-initial laminal stop lenites to an approximant in all indicative non-future and admonitory forms, e.g.

Indicative mood, non-future:

3sgA.3sgmO	ka-ye-wene	s/he gives/gave him
1plincA.3sgmO	yerre-ye-wene	we all give/gave him

Admonitory mood

A regular verb inflected for admonitory mood has the structure: NFpronprx + FUT + Verb stem+FUT + Admonitory suffix.

The future verb stem {ce} 'give' elides in all admonitory forms, e.g.

kaɲce-pe-ce- nere> kaɲcepenere you should/have give/n her
2sgA.3sgfONF-IRR-giveFUT-Adm

(iv) {nipe} 'hold'.

After a prefix-final vowel, the stem-initial apico-alveolar nasal of the verb {-nipe} 'hold' lenites to a retroflex approximant, e.g.

ka-nipe-Ø	>	karipe
3sgA.3sgmONF-hold-NF		s/he holds/held him

(v) {wa} 'make'. Future forms lack a future prefix in all forms except 1sgA.3sgmOFUT:

1sgA.3sgmOFUT	yaŋ-p-a
2/3sgA.3OFUT	ya-wa
1duincA.3OFUT	yaŋka-wa
1duexA.3OFUT	yerr-wa-kaɲi

1plincA.3OFUT	yerra-wa
1plexA.3OFUT	yerr-wa
2plA.3OFUT	ɲerr-wa
3plA.3OFUT	yarr-wa

Appendix 3: Text

Text 2: How porpoise and wallaby got their shapes

Agnes Lippo and Johnny Biyanamu recorded this, the best-known Wajikiny myth, at Belyuen 13/9/89. Duration 8 minutes.

(1) muc pannakkula way ka-yepe-cø
wallaby Bannakkula way 3sgmSNF-lie-CONT

kuca-makka-kka pickuḻø-ka-yicca
that way-PERF-re change shape-3sgmSNF-askAUX

Wallaby was Bannakula way; over there he actually changed into an animal. (way is an English loan lexeme)

(2) ŋa karr-pø-ca-makka-kaɲi
Yes 3duSNF-hit-REC-PERF
Yes, they fought each other.

(3) kane kawanakka ɲa-puriŋ kancerra ŋace-nuŋ kacu
2sgP there 2sgS-walkFUT bush 1sgP-PUR this way
IMP

ŋa-puriŋ ŋalkin-pene kaɲ-me-ŋacaŋ
1sgS-walkFUT sea-LOC 3sgfSNF-tell-3sgfD

'You go off there into the bush, for me to go this way, to the saltwater' she told her.

(4) ŋa karr-me-ŋ-kaɲi
yes 3duSNF-say-PRES
'Yes!', they both say.

(5) meneɲ-ɲuŋ ŋaŋka-pe karr-me-ŋ-kaɲi
edveg-DAT 1duincS-go 3duSNF-say-PRES
IMP
'Let's both go for edible vegetables!' they both say.

(6) yu menen-ɲuŋ ŋaŋka-pe yaŋken-kirrwa-nuŋ
yes edveg-DAT 1plincS-go IMP 1duincA.3plO-dig-PUR

ŋaŋka-pe kaɲ-me-ŋacaŋ memempena-karraŋ
1duincS-go IMP 3sgfSNF-tell-3sgfD porpoise-ERG

'Yes, let's both go for vegetables!' porpoise told her.

(7) yu pa kak-ŋaŋka-pe
yes come on! go away-1duincS-goAUX IMP

kaɲ-me-m-parra-ŋacaŋ muc-karraŋ
3sgfSNF-tell-PRES-RET-3sgfD wallaby-ERG

'Yes, come on! Let's both go away' wallaby tells her back.

(8) karr-par-a-ŋ-kaɲi karr-mi-ŋ-kaɲi kancerra
3duSNF-walk-NF-PRES 3duSNF-sitAUX-PRES bush
They both walk off and sit in the bush.

(9) naka-nuŋ yec-p-pe naŋana
who-PUR 3sgfSFUT-FUT-go first

ŋace kaɲ-me-ŋacaŋ muc-karraŋ-kak
1sgP 3sgfSNF-tell-3sgfD wallaby-ERG-Foc

'Who's to go first?' 'Me,' wallaby told her.

(10) muc-pente-kak kaɲ-par-a-m
wallaby-now-Foc 3sgfSNF-walk-NF-PRES
Wallaby goes now.

(11) nulkŋawak-pente kanpa-ka-ɲca-m
small children-now 3A.3plONF-take-NF-PRES

kaɲ-mi-m-pørraŋ-kaɲi memempena-pøttuŋ muc-pøttuŋ
3sgfSNF-sitAUX-PRES-3duD porpoise-GEN wallaby-GEN

The small children, porpoise's and wallaby's, she sat and looked after, for them both.

(12) kaɲ-par-a kanpi-kirrwa kaɲ-pe-m
3sgfSNF-walk-NF 3A.3plONF-dig 3sgfSNF-goAUX-PRES

menen wuŋmarrac melŋmelŋ ɲinic menen
edveg long yam cheeky yam any kind edveg

She walked and went and dug long yams, cheeky yams, any kind of edible vegetable.

(13) ŋarran ka-pø-mene aw cecarec
goanna 3sgA.3sgmONF-kill-NF or possum

aw ɲinic mecem røcaŋ
or any kind meat bandicoot

She killed goanna, or possum, or bandicoot, any meat.

(14) e kawa kawa-parra ci-rak
eh! Come! Come!-RET 3sgmDetang-country
Eh! Come! Come back here!

(15) mepaŋ kanpu-turra kaɲ-mi
OK 3A.3plONF-cook 3sgfSNF-sitAUX

kanpi-Ø-ɲene kaɲ-mi-m ceɲmiyic muc
3A.eat-NF 3sgfSNF-sitAUX-PRES 3sgfP wallaby

OK, wallaby, she sat and cooked them; she sits and eats them.

(16) kane-nte ɲe-pe menen kaɲ-me-ŋacaŋ muc-karraŋ
2sgP-now 2sgSFUT-go edveg 3sgfSNF-tell-3sgfD wallaby ERG
IMP
'It's your turn to go for tucker!' wallaby told her.

(17) kaɲ-me-m-pakka-ŋacaŋ kane-nte ɲe-pe
3sgfSNF-tell-PRES-re-3sgfD 2sgP-now 2sgSFUT-go
IMP

ŋarr ŋace yaŋa-nipe ŋa-mu-wiŋ pampac
later 1sgP 1sgA.3sgfO-hold 1sgS-sitFUTAUX-2sgD baby
IMP IMP

memempena-pøttuŋ pampac muc-karraŋ kaɲ-me-ŋacaŋ
porpoise-GEN baby wallaby-ERG 3sgfSNF-tell-3sgfD

'It's your turn to go' she told her. 'Let me sit and hold your baby, porpoise's baby, for you!' wallaby said to her.

(18) ŋuna-kak kaɲ-par-a-m memempena-kak
then-Foc 3sgfSNF-walk-NF-PRES porpoise-Foc

ceɲmiyic-pente menɛɲ wuŋmarrac melŋmelŋ ŋalinkuɲ
3sgfP-now edveg long yam cheeky yam baby yam

Then porpoise walks off, it's her turn for long yam, cheeky yam, baby yam.

(19) pampac kan-ø-na-ŋ kaɲ-pe
baby 3sgfSNF-cry-NF-PRES 3sgfSNF-goAUX
Her baby keeps on crying.

(20) wiŋ-ŋuŋ-pente kaɲ-ukpica-ŋacaŋ
milk-DAT-now 3sgfSNF-call out-3sgfD
She cried out to her for milk.

(21) kaɲ-icc-a kan-acc-e-ɲ-cø
3sgfSNF-ask-NF 3sgfSNF-goAUX-NF-PRES-CONT
She keeps asking as she goes.

(22) kan-ø-na-m rømetmet
3sgfSNF-cry-NF-PRES heartbrokenly
She's crying heartbrokenly.

(23) kaɲ-icc-a kaɲ-par-a-ɲ-cø
3sgfSNF-ask-NF 3sgfSNF-walkAUX-NF-PRES-CONT
She is asking as she walks.

(24) memempena-kak kaɲ-akaca-n-kak kaɲ-icc-a-ŋacaŋ
porpoise-Foc 3sgfSNF-arrive-PRES-Foc 3sgfSNF-ask-NF-3sgfD
Porpoise arrives and asks for her.

(25) pampac-parra-nte ɲen-ce-pe kaɲ-me-ŋacaŋ
baby-RET-now 2sgA.1sgfO-give-FUT 3sgfSNF-tell-3sgfD
IMP
memempena-karraŋ
porpoise-ERG

'You give me my baby back now!' porpoise told her.

(26) kamaŋka
Nothing.

(27) kaɲ-ŋuccica-m-parra-nte-kak-paŋa muc-karraŋ
3sgfSNF-withhold-PRES-RET-now-Foc-3sgfIMPL wallaby-ERG
Wallaby keeps her back from her now.

(28) kamaŋka
Nothing.

(29) ya ŋakuḷø ŋaɲ-pe-ce ciɲ pampac
I don't know Neg 1sgA.2sgO-FUT-give 3sgfDetang baby

ŋace-pøttuŋ-pe
1sgP-GEN-ever

'No! I'll never give you this baby. It's mine forever!

(30) kan-ø-na-ŋ kaɲ-pe
3sgfSNF-cry-NF-PRES 3sgfSNF-goAUX
She (the baby) keeps crying.

(31) ɲen-ce-parra werret kaɲ-me-ŋacaŋ
2sgA.give-RET quick 3sgfSNF-tell-3sgfD

wiŋ-ŋuŋ ŋak-yaŋaɲ-paka
milk-DAT mouth-1sgA.3sgfO-stab

'You give me (her) back quick so I can breast-feed her', she told her.

(32) kamaŋka
Nothing.

(33) kaɲ-ŋuccica muc-karraŋ-paŋa
3sgfSNF-withhold wallaby ERG-3sgfIMPL
Wallaby withheld her.

(34) wiɲ wa-wu-cø ceɲmiyic memempena
stick 3A.3O-grab-CONT 3sgfP porpoise
Porpoise was grabbing a stick.

(35) purr-kaɲ-icca pampac pørak
howl-3sgfSNF-askAUX baby little
The little baby howls.

(36) wiɲ wa-wu-cø
stick 3A.3O-grab-CONT
She was grabbing a stick.

(37) kutti-nuŋ-pente yaŋaɲ-pø-nuŋ kaɲ-me
fight-DAT-now 1sgA.3sgfO-hit-PUR 3sgfSNF-say
'I'm going to kill her', she said.

(38) ceɲmiyic muc wa-wu-parra laŋkurr
3sgfP wallaby 3sgA.3O-grab-RET club
Wallaby's response was to grab a club.

(39) ceɲmiyic laŋkurr ŋancic
3sgfP club one
She (porpoise), (grabbed) another club.

(40) pa karr-pø-ca karr-pe-ŋ-kaɲi
Come on! 3plSNF-hit-REC 3duSNF-goAUX-PRES
Come on! They keep clouting each other.

(41) pampac-pente karr-ø-na karr-mi-ŋ-kaɲi
child-now 3plSNF-cry-NF 3duSNF-sitAUX-PRES

muc-pøttuŋ memempena-pøttuŋ
wallaby-GEN porpoise-GEN

It's the children's turn to sit and cry, wallaby's and porpoise's.

(42) karr-pø-ca-m karr-pe-ŋ-kaɲi
3plSNF-hit-REC-PRES 3duSNF-goAUX-PRES
They both keep on hitting each other.

(43) carakkukku-kka para ŋuk-kaɲ-i-ŋa
suddenly-re arm break-3sgA.3sgfONF-put downAUX-NF

muc-kak memempena-karraŋ
wallaby-Foc porpoise-ERG

Suddenly, porpoise broke wallaby's arms.

(44) muc para ŋuk-kaɲ-i-ŋa
wallaby arm break-3sgA.3sgfONF-put downAUX-NF

wiɲ-cene laŋkurr para ŋuk-kaɲ-i-ŋa
stick-INS club arm break-3sgA.3sgfONF-put downAUX-NF

She broke wallaby's arms, she broke her arms with a stick.

(45) naŋkarra-makka-kka kaɲ-pø-mene-m
again-PERF-re 3sgA.3sgfONF-hit-NF-PRES

muc-karraŋ naŋana pøce kaɲ-cetpe
wallaby-ERG first head 3sgA.3sgfONF-take out

She hit her because wallaby took a slice out of her head first.

(46) memempena wik ka-wakaca-m ce-pene yura
porpoise water 3sgmSNF-come out-PRES 3sgmDetang-LOC hole
Water came out of porpoise at this hole.

(47) naŋkarra-nte kaŋ-pø-mene
again-now 3sgA.3sgfONF-hit-NF

memempena-karraŋ para ŋuk-kaŋ-i-ŋa
porpoise-ERG arm break-3sgA.3sgfONF-put downAUX-NF

So porpoise hit her and broke her arms.

(48) pampac-pente-kak kaŋ-kunme
child-now-Foc 3sgA.3sgfONF-take
She took the child.

(49) pickuḷø-karr-icca-ŋ-kaŋi-pente
change shape-3duSNF-askAUX-PRES-now
At once, they're starting to change shape.

(50) muc-kak pickuḷø-kaŋ-icc-a
wallaby-Foc change shape-3sgfSNF-askAUX-NF

pampac ka-ma-ŋana-m memempena-pøttuŋ-kak
baby 3sgA.3sgmONF-pick up-NF-PRES porpoise-GEN-Foc

kaŋ-currka kaŋ-currka-m-pente kaŋ-par-a
3sgfSNF-jump 3sgfSNF-jump-PRES-now 3sgfSNF-walkAUX-NF

Wallaby changes shape, picks up porpoise's child and hops off.

(51) ŋa-pe-me-nuŋ-pe ŋa-p-pe ŋace kaŋ-me-ŋacaŋ
1sgS-FUT-be-PUR-ever 1sgS-FUT-goAUX 1sgP 3sgfSNF-tell-3sgf
'I'm going to be me for ever', she told her.

(52) ceɲmiyic-pente pampac kan-ø-na
3sgfP-now baby 3sgfSNF-cry-NF

kaɲ-mi-m-parra muc-pøttuŋ
3sgfSNF-sitAUX-PRES-RET wallaby-GEN

As for wallaby's baby, her response was to sit and cry.

(53) kaɲ-ʈut-mene yeɲere-kaɲ-kunme
3sgA.3sgfONF-leave-NF steal-3sg.3sgfONF-takeAUX

kaɲ-par-a memempena-pøttuŋ pampac
3sgfSNF-walkAUX-NF porpoise-GEN baby
(Wallaby) abandoned her, and went and stole porpoise's baby.

(54) karruŋmalaŋananŋ pampac ceɲmiyic-pøttuŋ-kak
beautiful baby 3sgfP GEN Foc

memempena-pøttuŋ muc-pøttuŋ-kak ceɲuḻukpa
porpoise GEN wallaby-GEN-Foc no good

ceɲuḻukpa pampac ceɲena
no good baby 3sgfDeaud

Her baby, porpoise's was beautiful; wallaby's was no good- that one was no good.

(55) ka-n-ene-ŋ kaɲ-mi pampac
3sgA.3sgfONF-see-NF-PRES 3sgfSNF-sitAUX baby

memempena-karraŋ kaɲ-kunme-ø parrkkatta
porpoise-ERG 3sgA.3sgfONF-take-NF two

karral kaɲ-kapica ɲørrec-pene
leg 3sgA.3sgfONF-throw away pandanus-LOC

Porpoise sits and looks at the child; she picked her up by both legs and chucked her away into the pandanus.

(57) ŋuna kanø-na kaɲ-pe kittil kittil kittil
then 3sgfSNF-cry-NF 3sgfSNF-goAUX

kan-ø-na ceɲena muc-pøttuŋ pampac-kak
3sgfSNF-cry-NF 3sgfDeaud wallaby-GEN baby-Foc

ɲørrec-pene
pandanus-LOC

Then that baby of wallaby cried and became white frog in the pandanus.

(57) ceɲmiyic-pente puc kaɲ-par-a-cena ŋalkin-pene
3sgfP-now straight 3sgfSNF-walkAUX-NF-run sea-LOC
It's porpoise's turn to run straight into the sea.

(58) pap kaɲ-currka-m-kak kaɲ-aɲa
up 3sgfSNF-jump-PRES-Foc 3sgfSNF-dive

mipe-kaɲ-akaca-m-kak
eye-3sgfSNF-come out-PRES-Foc
She jumped up, she dived, she surfaced and looked.

(59) wik ka-wakaca-pøce-pene-paŋa
water 3sgSNF-come out-head-LOC-3sgfIMPL
Water came out of her head.

(60) ci ŋancic ŋala kaɲ-aɲa-ɲ-cø
3sgmDetang one hand 3sgfSNF-dive-PRES-CONT
She's diving one more time.

(61) mipe-kaɲ-akaca wik ka-wakaca
eye-3sgfSNF-come out water 3sgmSNF-come out
She surfaced, looked and water came out.

(62) ŋa-pe-me-nuŋ-pe ŋa-p-pe ŋace
1sgS-FUT-be-PUR-ever 1sgS-FUT-goAUX 1sgP

memempena-nuŋ-pente ŋa-p-pe ŋace-kak
porpoise-DAT-now 1sgS-FUT-goAUX 1sgP-Foc

kaɲ-me-m-pente-kak
3sgfSNF-say-PRES-now-Foc

'As for me, I'm going to be porpoise for ever'
she says.

(63) pampac-pente ka-kapica-m ɲørrec-pene
baby-now 3sgA.3sgmO-throw away-PRES pandanus-LOC

cica kittil kittil-kak muc-pøttuŋ pampac
3sgmDevis white frog-Foc wallaby-GEN baby

kittil kittil ka-yepe-rraŋ-ɲini paypay-kak
white frog 3sgfSNF-lie-HAB-PLAC white-Foc

cawana-kak muc-pøttuŋ-ŋacaŋ pampac
3sgmDeaud-Foc wallaby-GEN-3sgfD baby

The baby she throws away into the pandanus, that white frog, wallaby's baby, always lies in that place, for her, that white one, wallaby's child.

(64) ceɲmiyic-kak ŋuna kaɲ-par-a-m-pente
3sgfP-Foc then 3sgfSNF-walk-NF-PRES-now

memempena-kak ŋa-pe-me-nuŋ ŋa-p-pe
porpoise-Foc 1sgS-FUT-be-PUR 1sgS-FUT-go

ŋace-kak memempena-kak
1sgP Foc porpoise Foc

Then porpoise goes, (saying): 'As for me, I'm going to be porpoise for ever'.

(65) perrmeɲ
The end.

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