

EVIDENCE FOR THE SUBGROUP NGALAKGAN-REMBARRNGA WITHIN GUNWINYGUAN

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An examination of inflecting verb morphology in two Gunwinyguan languages of central Arnhem Land - Ngalakgan and Rembarrnga - shows several sets of systematic correspondences. On comparing the verbal morphology of other languages in the proposed Gunwinyguan family I conclude that Ngalakgan and Rembarrnga have innovated several features, and can therefore be subgrouped together. It has been suggested by several authors that Ngalakgan and Ngandi are subgroupable. On the basis of verbal morphology I show that in fact Ngandi should be subgrouped with Wubuy (Nunggubuyu) (as suggested by (Heath, 1984)). These two languages are quite divergent in their verbal morphology from other members of the family, and the relationship between them and other languages such as Ngalakgan must be regarded as relatively distant, if they are indeed members of the Gunwinyguan family at all.

1 Introduction

I will be addressing the internal subgrouping of the Gunwinyguan (GN) family, originally proposed by O'Grady et al. (1966).

The most recent and extensive argument for this family is Alpher, Evans, and Harvey (2000). They include the following languages: Uwinymirr, Warray (Wrry), Jawoyn (Jwyn), Bininj Gun-wok (BGW: Mayali, Kunwinjku, Kune), Dalabon (Dlbn), Rembarrnga (Rmba), Mangarrayi, Ngalakgan (Ngkn), Ngandi (Ngdi), Nunggubuyu (Wubuy: Wby), with Kungarakany and Kunbarlang being possible additional members. I take this family level grouping as a given in my discussion.¹

My primary focus is on Ngalakgan and Rembarrnga. I propose that these two languages are more closely related to each other than either is to any other language, and may be subgrouped as a group I'll call 'Jala' (the word for 'mouth' in Rmba and Ngkn), for want of a better name.

A look at this group of languages is germane to the debate concerning lexical comparison methods in Australia. Rebecca Green (ms) notes that Ngalakgan and Rembarrnga share 36% of their vocabulary – not a particularly high figure. However, Ngalakgan shares 48% of its vocabulary with Ngandi. Nevertheless, an examination of irregular morphology – especially verbal morphology - in these three languages clearly demonstrates that Rembarrnga is closely related to Ngalakgan. Indeed, the similarities are such that they can only have been separated for a comparatively short time. On the other hand, the verbal morphology of Ngandi is quite different to Ngalakgan and Rembarrnga. In the final section of the paper I look briefly at evidence suggesting that Ngandi should be subgrouped with Wubuy. Therefore, this exercise provides another demonstration (if

¹ For abbreviations and sources see end of paper.

such were needed) that Heath's (1978) point is still valid and can be applied to other linguistic groupings.

My evidence for this subgroup consists primarily of the organisation of inflecting verb paradigms, and the form of stems and suffixes in these. Examination of these paradigms in comparison to those of other GN languages shows that proto-Jala (the ancestor of Ngalakgan and Rembarrnga) innovated several features which do not appear to be retentions from the superordinate ancestor proto-GN. Among these innovations are:²

1. Organisation of all inflecting verb paradigms into NonPast stems of three distinct types
2. The NonPast stem as a base for the Future and Irrealis inflections
3. The Future suffix *-a ~ -ra*

Other features which subgroup Ngalakgan and Rembarrnga, but which may also be retentions, are the following:

4. The feminine gender prefix **ja-*
5. The prefixal agreement paradigm. In particular, the opaque 1st/2nd -> 1st/2nd forms.

Along the way, I'll be discussing to what extent these features constitute innovations or retentions, and how they relate to neighbouring languages. In particular, I want to address two concerns: the oft-noted but I believe spurious similarity between Ngalakgan and Ngandi, and the proposal in AEH that GN may be internally subgrouped into a 'Central GN' group consisting of BGW (Mayali) and Dalabon, and an 'Eastern GN' group consisting of Ngandi, Wubuy, Ngalakgan, and Rembarrnga. This proposal, while intuitively attractive, so far lacks empirical foundation.

²Orthography for Ngalakgan, Ngandi, Dalabon/Ngalkbon, Rembarrnga

	Labial	Apico-alveolar	Apico-postalveolar	Lamino-alveo-palatal	Velar	Glottal
Simple stops syll init...syll fin	b...p	d...t	rd...rt	j...tj	g...k	h
Geminate stops	...pb...	...td...	...rtd...	...tjj...	...kg...	
Nasal	m	n	rn	ny	ng	
Lateral		l	rl			
Tap		rr				
Approximant			r	y	w	

Ngandi and Wby in addition have syllable-initial dental stop *dh*, and nasal *nh*, Ngdi also has geminate *tdh* and Wby has lateral *lh*. Clusters: *nk* : [ng], contrast *ngg* for [ŋg], similarly *nj* [ɲj] and *ntj* [ɲtj]. Apicals are neutralised morpheme-initially to postalveolar, but for simplicity only the apico-alveolar symbols are used. Apico-postalveolar clusters are simplified: *rnd* [ɲd], *rtd* [ɲt]. In Rembarrnga, *v* represents a schwa, which is in variation with [i] and [u] realisations. In BGW *dj*, *nj* are the palatal stop and nasal, though *y* is the glide. Stops are written with voiced or voiceless symbols depending on dialect. 'Long' stops are written double.

1.1 Background

In this paper I am only considering the morphological evidence. See Harvey (To appear) for lexical correspondences among the various languages. I look at two main sources: the inflection of verbs for tense/aspect/mood, and the form of inflectional prefixes. That is, my sources are inflectional morphology, both prefixing and suffixing. For reasons why this area of morphology, verb suffixing especially, is a prime source of evidence for reconstruction see Baker (1999).

Within verb inflection, I in turn look at two main sources of evidence. One is the inflections themselves. The other is the form of stems, the source of stem forms, and the deployment of stems according to inflectional category. The latter is the prime evidence for the innovation of morphology in proto-Jala, and thus for the subgrouping of Ngalakgan and Rembarrnga (and other languages).

1.1.1 Phonological correspondences

See Harvey (to appear) for details. The main correspondences relevant to what follows are:

	Ngkn	Rmba	Ngdi	
a.	[j	[d ~ j	[dh ~ j	‘Laminal-apical correspondences’
b.	i, u	v, i, u		‘Vowel reduction’
c.	o	uwa, uwe		‘Vowel breaking’
	e	iya, iye		

(a) The reconstruction of the initial palatal-apical-dental contrast is difficult and I will not address it here (see Harvey, to appear, for discussion). For correspondences of Ngkn *j*: Rmba *d* I reconstruct a lamino-palatal *j* for pJala.

Apart from this, Rmba has undergone two changes to vowels which did not occur in other GN languages apart from neighbouring Dln.

(b) Vowel reduction in unstressed syllables. Where Rmba has the vowel *v* I reconstruct pJala *i* or *u*, depending on the Ngalakgan cognate. These two vowels have become merged and reduced in certain environments in both Rmba and Dln. (The environments include: preceding apico-postalveolar segments, word-finally, and in unstressed positions generally).

(c) Vowel breaking. Many monosyllabic forms in pGN became reconstructed with disyllabic high^low/mid vowel sequences in Rmba. (See Harvey, to appear, for details). Some cognates are pGN, Ngkn *gony* ‘macropod’ Rmba *guweny*, Ngkn *jelng* ‘tongue’ Rmba *diyaling*, pGN **nguk* ‘guts’ Ngkn *ngoh* Rmba *nguwah*.

1.1.2. The form of tense paradigms in GN

Ngkn and Rmba have innovated the following features:

1. Organisation of inflecting verb paradigms into NonPast stems of three distinct types
2. The NonPast stem as a base for the Future and Irrealis inflections
3. The Future suffix *-a ~ -ra*
4. The PastPunctual *-Ø* forms

Most of the innovations refer to developments in the nonpast categories of the verb paradigm (see following section). In Jala, the innovation lies in regularising the nonpast paradigm, both in the form of nonpast suffixes and in the form of nonpast stems. In order to explain the innovations we need to first understand the TAM system from which pJala developed.

GN verb paradigms have a characteristic morphological structure, as described in AEH and (Baker, 1999). Example (1) shows the range apparent in Ngalakgan inflected verbs.

	$\sqrt{bu+}$ 'hit'	$\sqrt{ma+}$ 'get'	$\sqrt{ja(ng)+}$ 'stand (itv)'	$\sqrt{garrbe+}$ 'crawl'	$\sqrt{jo+}$ 'chop'
PP	<i>(boh)bo</i>	<i>(meh)me</i>	<i>ja+ny</i>	<i>garrbe+ny</i>	<i>je</i>
NP	<i>bu+n</i>	<i>(mah)ma</i>	<i>ja+nga+n</i>	<i>garrbe</i>	<i>jo</i>
PC	<i>bu+n+iny</i>	<i>ma+ng+iny</i>	<i>ja+ngan+iny</i>	<i>garrbe+n+iny</i>	<i>jo+ng+iny</i>
FUT	<i>bu+n+a</i>	<i>ma+ng+a</i>	<i>ja+ngan+a</i>	<i>garrbe+n+a</i>	<i>jo+ng+a</i>
IRR	<i>bu+n+i</i>	<i>ma+ng+i</i>	<i>ja+ngan+i</i>	<i>garrbe+n+i</i>	<i>jo+ng+i</i>
RR	<i>bu-yji-</i> <i>~ bu-ytjji-</i>	<i>ma+ngi-tjji-</i>			

(1) A range of inflected verb paradigms in Ngalakgan

Characteristically in Ngalakgan, as in GN languages generally, we may recognise *roots*, *stems*, and *suffixes*. Following traditional practice, a root is the indivisible portion of a word. The stem is that portion left when suffixes have been removed. Suffixes are those portions which generally recur from paradigm to paradigm in the same category. The forms in (1) have been separated with word internal morpheme boundaries (marked with '+') according to this basis. Note that this does not represent a synchronic analysis. I have shown elsewhere (Baker 1999) that there are clear differences between the morphological relationships between elements of inflected verbs, and those of other complex words in the grammar.

The distinctive characteristic of GN languages is that the PP typically involves concatenation of the root and a suffix, which may be zero. The NonPast category typically involves a suffix with the form *-N* (i.e. a nasal, this is almost always either an apico-alveolar or velar). The other TAM categories normally use the NonPast form as a stem form for further affixation. According to AEH, this use of the NP as a base for the PC and other nonpast categories was a characteristic of GN. Hence, I refer to all verb TAM categories except the PP as 'nonpast' categories. I distinguish these from the

NonPast *inflection* proper, which is used to implement the Present tense in most GN languages. The form of the NP *inflection* may or may not be equal to the form of the NP *stem*. For instance, the verb *jo* ‘chop’ has a NP form *jo*, but the NP stem is *jong*, this is the form we find in the Irrealis and Future categories.

There are 32 inflecting verbs in Ngalakgan, and 31 in Rembarrnga, inflected in the following formal TAM categories:

- (2) Past Punctual
 Past Continuous
 Present
 Future
 Irrealis
 Infinitive³ (Rmba only)

In terms of the formal categories of verb paradigms, these two languages are alike and differ from most other GN languages. Jwyn, Wrry, and BGW lack a distinct Future suffixal category. Jwyn and Wrry instead implement Future and other modal categories with prefixes. Ngandi and Nunggubuyu are similar to Jala, but have several inflectional or derivational stem forms in addition, including distinct Potential and Negative stems for many verbs. The most similar system to Jala is to be found in Dalabon/Ngalkbon, which has the same number and type of categories.

2 Verb paradigm macro-conjugations

Most Ngkn and Rmba verbs fit into one of three ‘macro’-conjugations based on the form of the nonpast categories: those with apical nasal theme, those with velar nasal theme, and stance verbs. The form of these three conjugations in the two languages is as shown in (3).⁴

(3)	Jala ‘macro’-conjugations			
N-conj	NP	PC	Irr	Fut
Ngkn	-n	-niny	-ni	-na
Rmba	-n	-niny	-nv	-na
NG-conj	NP	PC	Irr	Fut
Ngkn	-Ø	-ny ~ -nginy	-ngi	-nga
Rmba	-Ø	-ny ~ -nginy	-ngv	-ngara

³ What I have called the ‘Irrealis’ is referred to as the ‘Potential’ by Merlan (1983) and the ‘Past Counterfactual’ by McKay (1975). In both languages, verbs in this category are used to realise (typically past) unrealised situations: *nginy-raboni* (2sg-go+Irr) ‘You should have come’ (Ngkn). It is not clear from McKay (1975) what the precise distribution and function of the Infinitive form is, nor what form is used for Imperative, Evitative, and Jussive functions.

⁴ Tables of verb paradigms can be found at the end of the paper in the appendix.

Stance (itv)	NP	PC	Irr	Fut
Ngkn	<i>-ngan</i>	<i>-nganiny</i>	<i>-ngani</i>	<i>-ngana</i>
Rmba	<i>-ngan ~</i> <i>-uru</i>	<i>-nganiny</i>	<i>-nganv</i>	<i>-ngana</i>

I discuss each of these conjugations in turn in what follows.

2.1 The N-conjugation

The N-theme verbs are the most regular. Characteristically, the NonPast stem ends in *-n*, the PC is formed with this stem plus *-iny*, the Irrealis with the NP stem plus *-i* (Ngkn) or *-v* (Rmba) and the Future with the NP stem plus *-a*.

Some examples of N-themes are given in (4).

(4) Apical nasal themes

Root	Sense		Past Punct	NonPast	PastCont	Irrealis	Future
bu	'hit'	Ngkn	<i>bo</i>	<i>bun</i>	<i>buniny</i>	<i>buni</i>	<i>buna</i>
		Rmba	<i>buwa</i>	<i>bun</i>	<i>buniny</i>	<i>bunv</i>	<i>buna</i>
na	'see'	Ngkn	<i>na</i>	<i>nan</i>	<i>naniny</i>	<i>nani</i>	<i>nana</i>
		Rmba	<i>na</i>	<i>nan</i>	<i>naniny</i>	<i>nanv</i>	<i>nana</i>
ga	'take'	Ngkn	<i>ganginy</i>	<i>gan</i>	<i>ganiny</i>	<i>gani</i>	<i>gana</i>
		Rmba	<i>ganginy</i>	<i>gan</i>	<i>ganiny</i>	<i>ganv</i>	<i>gana</i>

The Ngalakgan and Rembarrnga forms of these verbs (as with verbs in the N-conjugation generally) are identical, allowing for regular phonological changes in Rmba. The monosyllabic root form *bo* 'hit (PP)' in Ngalakgan (which I reconstruct to pJala) underwent vowel breaking in Rmba, coming out as *buwa*. The form of the Irrealis is universally *-i* in Ngalakgan but *-v* in Rmba. Since the vowel is unstressed in this position, and hence was in the right context for reduction in Rmba, I reconstruct pJala *-i* (this is the form of the Irrealis reconstructed for pGN generally in AEH).

I reconstruct the nonpast categories in this conjugation in proto-Jala as in (5).

(5) Proto-Jala N-conjugation

NP	PC	Irr	Fut
<i>-n</i>	<i>-n-iny</i>	<i>-n-i</i>	<i>-n-a</i>

Formally, these are identical to the modern Ngalakgan forms, and to the NP and PC forms reconstructed to pGN for these verbs by AEH.

N-conjugation verbs in Ngalakgan are *bu* 'hit', *wu* 'give', *ngu* 'eat', *ga* 'take'/Causative, *rabo* 'go', *me* Inchoative, *na* 'see', *wa* 'follow', *wakge* 'return', *ru* 'cry', and the

Reflexive/Reciprocal stem *-tjji-*. In Rmba this conjugation includes *bu* 'hit', *ngu* 'eat', *ga* 'take', *mi* Inchoative, *na* 'see', *wa* 'follow', *ba* 'leave', *ru* 'cry' and the Reflexive/Reciprocal stem *-ttv-*.

2.2 The pJala Irrealis and Future

Where pJala innovated was in using the NP stem as a base for the Irrealis and the Future, and in the form of the Future suffix *-a* ~ *-ra*. Besides Ngkn and Rmba, only Dalabon, BGW, Ngandi, and Wubuy have an Irrealis suffix of the form *-(y)i* (, in Wubuy the 'Non-past 3').⁵ In Ngdi, Wby, Dlbn and BGW, the Irrealis is added directly to the root in verbs of this conjugation (with NP in *-n*). Ngalakgan and Rembarrnga have innovated in adding the suffix to the NP stem in all conjugations, never to the root:

(6)		Ngkn	Rmba	Dlbn	Ngdi
	'see'	<i>nani</i>	<i>nanv</i>	<i>ney</i>	<i>nayi</i>
	'give'	<i>woni</i>	<i>wonv</i>	<i>woy</i>	<i>woyi</i>
	'eat'	<i>nguni</i>	<i>ngunv</i>	<i>nguy</i>	<i>nguyi</i>

The NP+*i* form of the Irrealis is an innovation in pJala which distinguishes this group from other GN languages. I believe the Irrealis is important in reconstructing the internal breakup of pGN, and it is addressed separately below with respect to the other languages discussed here. In particular, it bears on AEH's proposed 'Central' vs 'Eastern' GN groups.

Similar remarks apply to the Future form in Ngkn and Rmba. In the N-conjugation, this is identical to the Irrealis except that the final vowel is *-a* rather than *-i*. This form of the Future is not found in any other GN languages. Dlbn has a regular Future suffix *-yan*, which is added to a stem equal to the Irrealis form. Presumably this was the case in pJala also. The difference is that in pJala, the Irrealis suffix *-i* and the Future suffix *-a* are in a substitution relationship, whereas in Dlbn, the Irrealis *-y* acts as an onset for the Future suffix *-an*.

(7)		The Future suffix	
		<u>pJala</u>	<u>Dlbn</u>
		Irrealis+a	Irrealis+an
	Irr	<i>nani</i>	<i>ney</i> (< * <i>na-y</i>)
	Fut	<i>nana</i>	<i>niyan</i> (< * <i>ne-y-an</i>)

Another characteristic of the Irrealis and the Future which indicates their recent origin in Jala is their regularity. Both inflections are entirely predictable on the basis of the PC of a verb. In Ngalakgan, if the PC ends in *-niny*, then the Irr is *-ni* and the Future is *-na*. If the PC ends in *-nginy*, the the Irr is *-ngi* and the Future is *-nga* (Ngkn) or *-ngara*

⁵ The Ngandi reflex of the pGN Irrealis is the Evitative. Their meanings are similar: both are used for unrealised events. The Ngkn and Rmba Irrealis is used for unrealised events of past time ('you should have come'), and is the stem used for Past and Present negative suffixes in Ngkn. The Evitative is used for unrealised events in the near future ('you might fall').

(Rmba). If the PC is *-ny* (rather than *-nginy*), then the Irr is *-ngi* and the Fut *-nga* (Ngkn) *-ngara* (Rmba).⁶ Verb inflection in general is unpredictable and irregular in GN languages (Baker 1999). This is true of the NP inflection, and especially of the PP, which is the least predictable inflectional category in GN languages (AEH). The fact that the Irrealis and Future *are* so predictable in Ngkn and Rmba indicates that they have been recently innovated.

2.3 The NG-conjugation

The NG-theme conjugation is formally more messy in both languages. Rmba and Ngkn underwent distinct development in this conjugation in the Future and Past Continuous categories. In Rmba, a distinct Future suffix *-ra* is used, which is not found in Ngalakgan except in the open conjugation (root *-mi*), to which I return. Ngkn simply adds *-a* to the NonPast stem, as with the N-conjugation forms. In both languages, verbs with a NP stem in *-ng* fall into two conjugations. In one of these, the PP is \emptyset but the root often shows ablaut. The PC in this conjugation varies between *-ny* and *-nginy*, with monosyllabic roots such as *ma-* ‘get’, *ne-* ‘burn (tv)’ taking *-nginy* in the PC, while in Ngkn disyllabic roots such as *marra-* ‘spear’, *mutji-* ‘show, teach’ take *-ny*. In Rmba, disyllabic roots can each vary between the two PC forms in *-ny* or *-nginy* (for some verbs, this variation is dialectally restricted). In the other conjugation, the PP is *-ny*, and in Ngkn the PC is *-nginy*, regardless of root size. In Rmba, the PC varies as in the other conjugation.

This conjugation in other GN languages typically has NP in *-ng*, and PC in *-nginy*, and hence the \emptyset NP and *-ny* PC forms found in Jala would appear to be innovations:⁷

PGN: PP **-y* PC **-nginy* NP **-ng* (e.g. *ma, jo*)

PGN: PP **-ny* PC **-nginy* NP **-ng* (e.g. *ru, ne, be*)

In pJala, these two conjugations are merged when the PR *-ng* is lost. In addition, a new PC form arises on the basis of the PR \emptyset : *-ny*. This form is licensed on those roots which are (a) polysyllabic, and (b) do not have PP in *-ny*.

The general form of the NG-conjugation is set out in (8).

(8) The pJala NG-conjugation

NP	PC	Irr	Fut
\emptyset	<i>-ny ~ -nginy</i>	<i>-ngi</i>	<i>-nga</i>

⁶ The exceptions to this pattern are the suppletive verb *batjja* in Ngkn, which has an Irrealis in *-ngi* but a Future in *-na* (Merlan 1983), and the irregular verb *ga(ba)* (Causative) in Rmba, which has some affinities with the open conjugation examined below.

⁷ The alternative is that in these two conjugations in pGN, there was variation in the form of the NP, \emptyset ~ *-ng*, and that pJala continued the \emptyset form, though no other GN languages did so. Other \emptyset inflection forms are limited just to pJala also, besides the NG-conjugation NP forms, we find for instance Ngkn *bo* ‘hit’ PP: pGN **bom, wo* ‘give’ PP: pGN **woy ~ wong, na* ‘see’ PP: pGN **nay ~ nang*, and Rmba *ngawa* ‘hear’ PP (with vowel breaking): pGN **ngam ~ ngang*. This is certainly a feature which unites Ngkn and Rmba as a group, though whether it is an innovation or an archaism is unclear.

I reconstruct the alternation of *-ny* ~ *-nginy* with a prosodic condition: disyllabic roots took the innovated form *-ny*, monosyllabic roots took the original form *-nginy*. In verbs which took a PP in *-ny*, the PC in *-nginy* was retained in disyllabic roots also, presumably to avoid neutralisation in the past tense. This solution accounts for the otherwise inexplicable variation in PC suffix allomorphs. Examples of the NG-theme are given in (9).

(9) NG-theme verbs

Root	Sense		Past Punct	NonPast	PastCont	Irrealis	Future
ma	'to get, pick up'	Ngkn	<i>me</i>	<i>ma</i>	<i>manginy</i>	<i>mangi</i>	<i>manga</i>
		Rmba	<i>miya</i>	<i>ma</i>	<i>manginy</i>	<i>mangv</i>	<i>mangara</i>
ne	'burn' (tv)	Ngkn	<i>neny</i>	<i>ne</i>	<i>nenginy</i>	<i>nengi</i>	<i>nenga</i>
		Rmba	<i>neny</i>	<i>niya</i>	<i>niyanginy</i>	<i>niyangv</i>	<i>niyangara</i>

In Ngalakgan, verbs in this conjugation include: *ne* 'cook, burn', *yini* 'do/say thus', *ma* 'get', *be* 'bite', *ye* 'put', *jo* 'chop', *batjji* 'hit' (suppletive), *marre* 'spear', *mutjji* 'show', *gortjji* 'load', and *ru* 'burn' (itv). In Rembarrnga, this class consists of: *ni* 'cook', *ma* 'get', *batja* 'hit' (suppletive), *marra* 'spear', *muttu* 'show', *ra* 'go', *gortdo* 'put (in bag)', *nvtv* 'keep', *ngeja* 'name, tell about', *gapba* 'frighten', *wurraya* 'find'.

2.4 Stance verbs

As AEH note, the stance verbs in GN are the most difficult to reconstruct, Ngkn and Rmba are no exception in this regard. Proto-GN apparently had two 'stand' verbs, one with a stative sense 'be standing', and one with a causative or active sense 'assume standing posture; cause to stand/become erect'. The forms of the nonpast categories in the two languages are presented below.

(10) Stance Verbs: stative

Root	Sense		NonPast	Past Cont	Irrealis	Future
<i>ja</i>	'stand'	Ngkn	<i>jangan</i>	<i>janganiny</i>	<i>jangani</i>	<i>jangana</i>
<i>da</i>	'stand'	Rmba	<i>dangan ~ duru</i>	<i>dany ~ dinganiny</i>	<i>dinganv</i>	<i>dingana</i>
<i>bara</i>	'be hanging'	Ngkn	<i>barangan</i>	<i>baranganiny</i>	<i>barangani</i>	<i>barangana</i>
<i>bari</i>	'be hanging'	Rmba	<i>boru</i>	<i>baringaniny</i>	<i>baringanv</i>	<i>baringana</i>

I reconstruct the stative stance paradigm in pJala with the following form:

(11) Stative stance verb conjugation in pJala

NP	PC	IRR	Fut
<i>-ngan ~ -ra</i>	<i>-ngan-iny</i>	<i>-ngan-i</i>	<i>-ngan-a</i>

In both languages, the stative stance paradigm constitutes a distinct conjugation class from other verbs. The monosyllabic root common to stance verbs has been extended with a syllable of the shape *-ngan* (in Ngkn, the vowel of this syllable is *o* if the root vowel is *o*, in the case of *yo* ‘lie’). The extension of this augment throughout the paradigm, though not the augment itself, appears to be an innovation unique to pJala. No other GN languages have stance verbs with this kind of stem extension throughout the paradigm, though the augment itself is found in BGW, and in Maung (Evans p.c.).⁸ Rmba also has an alternate form in the NP in *-ru ~ -ra*, added directly to the root. This may be a retention from pGN or the pre-GN period. Similar forms to the Rmba NP are found in the stance verb forms in Ngandi, Wubuy, and other non-GN languages (e.g. Burarra) (see AEH, §3.11). I do not regard this form as a pJala innovation.

The stative stance verbs in both Ngkn and Rmba consists of the verbs ‘stand’, ‘sit’, ‘lie’ and ‘hang’. In both Ngkn and Rmba, there are two active stance verbs, shown in table (12).

(12) Stance Verbs: active/causative

Root	Sense		NonPast	Past Cont	Irrealis	Future
<i>-ji</i>	‘erect’	Ngkn	<i>-ja</i>	<i>-jinginy</i>	<i>-jingi</i>	<i>-jinga</i>
<i>da</i>	‘erect’	Rmba	<i>da</i>	<i>danginy</i>	<i>dangv</i>	<i>dangara</i>
<i>bare</i>	‘hang’ (tv)	Ngkn	<i>bara</i>	<i>baranginy</i>	<i>barengi</i>	<i>barenga</i>
<i>bari</i>	‘hang’ (tv)	Rmba	<i>bari</i>	<i>bariny ~ baringiny</i>	<i>baringv</i>	<i>baringara</i>

The active paradigm may be reconstructed as in (13).

(13) Active stance verb conjugation in pJala

NP	PC	Irr	Fut
<i>-Ø</i>	<i>-nginy</i>	<i>-ngi</i>	<i>-nga</i>

The paradigm of active stance verbs is identical to the NG-conjugation in pJala.

2.5 The open conjugation

In both Ngkn and Rmba, the majority of verbal predicates belong to the open conjugation (called the ‘thematic’ conjugation in Merlan 1983). This is also the conjugation with which new verbs are productively formed from loanwords. Verbs in this

⁸ BGW has NP forms *yongen* ‘lie’, *tangen* ‘stand up’ which look similar. But these forms do not act as stems for the PC in BGW, unlike Ngkn, Rmba.

class consist of an invariant ‘coverb’ stem, which realises the meaning of the verb, and a meaningly dependent auxiliary root *-mi*, which carries the TAM inflections. Internal evidence in GN suggests that the root originally meant ‘say/do (thus)’, which is the meaning of the cognate root as an independent verb in Mangarrayi. Some examples from Ngalakgan are presented in (14), for the coverb *yerrert* ‘grow’, for the Kriol loan *bayimh* ‘buy’, and for the coverb *leh* ‘search for’.

(14)	PP	<i>yerrert-mi-ny</i>	<i>bayimh-mi-ny</i>
	PC	<i>yerrert-mi-riny</i> ~ <i>yerrert-mi-yiny</i>	<i>bayimh-mi-riny</i> ~ <i>bayimh-mi-yiny</i>
	PR	<i>yerrert-Ø</i>	<i>bayimh-Ø</i>
	IRR	<i>yerrert-de</i>	<i>bayimh-me</i>
	FUT	<i>yerrert-da</i>	<i>bayimh-ma</i>
	PP	<i>leh-mi-ny</i>	
	PC	<i>leh-mi-riny</i> ~ <i>leh-mi-yiny</i>	
	PR	<i>leh-Ø</i>	
	IRR	<i>leh-ye</i>	
	FUT	<i>leh-ya</i>	

There are several major differences between this verb conjugation and all other conjugations (the following remarks apply also to Rembarnga). Firstly, this is the only paradigm which involves suppletion.⁹ There is no identifiable root form which appears throughout the paradigm of tense inflections. Secondly, every inflected form of an open class verb is predictable from the phonological shape of the coverb stem (i.e. the stem to which the root *-mi* attaches). The Future and Irrealis forms are derived by means of gemination of the final supra-laryngeal consonant of the stem, plus the distinctive vowel associated with each tense form (McKay 1975:38, 133, Merlan 1983:120). In the case of coverb stems lacking a final supra-laryngeal consonant, these tense forms are realized with a glide onset determined by the place of articulation of the final vowel of the stem. The third major difference is that coverbs of this conjugation may appear in an alternate, phrasal, structure.

- (15) *burru-worrowk-mi-ny* [buruwóroukmi.n]
 3aS-gallop-AUX-PP
 ‘they galloped’

⁹ In Rmba, the Causative derivational stem *-ga* also has a suppletive paradigm. Some of the suppletive inflections (with stem *-ba*) are similar to the corresponding categories in the open class: PP *-gaba*, PC *-gabvrn* (open class *-mvrn*), NP *-gara*, Irr *-gabv* (open class *-mv*), Fut *-gara*. The Rmba verb *yinih* is also partly suppletive, taking a PP form in *yininy* like a verb of the N-conjugation, but for other TAM categories behaving like a verb in the open conjugation. The cognate verb in Ngalakgan, also *yini(h)*, has two paradigms: one in the open class, and one in the NG-conjugation. The NG-conjugation paradigm is distinct from all other verbs in having a PC variant in *-riny*. The full paradigm is: PP *yini*, PC *yineriny* ~ *yininy*, PR *yini*, FUT *yininga*, IRR *yiningi*.

- (16) *worrouk burru-mi-ny* [wórouk burumìɲ]
gallop 3a-AUX-PP
‘they galloped’

The standard construction for thematic verbs is as shown in (15). The phrasal construction shown in (16) is an alternate, used commonly in monologic discourse. It is only attested in the Past Punctual, and is only possible with change-of-state or event-type coverbs. The phrasal construction differs from compound constructions in several respects. Firstly, a pause is standardly placed between the coverb stem and the second constituent. However, in faster speech, the two may be cliticized together. Secondly, primary stress can only be placed on the first constituent. Thirdly, the coverb may appear alone, at the end of an intonational group, to signal the termination of a durative sequence of events. The second constituent can never appear alone.

The paradigm for this class in Rembarrnga is similar (the paradigms are presented in the appendix). As in Ngalakgan, the Future category of open class verbs is created productively, by geminating the final supra-laryngeal consonant of the stem, or by gliding from a final vowel. In the case of stems ending in *a*, in both languages the Future tense suffix is *-ra*, e.g. Ngkn *warrjah-ra* ‘search for, walk around’-FUT. Presumably this is the original form of the suffix in both languages, with the other forms derived by phonological processes which affect glides at morpheme boundaries generally in both languages. The *-ra* form is found as a variant after all vowel-final verbs in this class, at least in Ngalakgan. The Irrealis forms differ, while Ngkn appears to have innovated a new Irrealis form by analogy with the Future, substituting *e* for *a*, Rmba has an Irrealis in *-mv*, which is presumably a reflex of the original form: the root plus the pGN Irrealis ending *-(y)i*.

The open conjugation finds cognates in other GN languages, where it is commonly the open and/or largest verb class found. However, the productive formation of the Future (and, in Ngkn, the Irrealis) on the basis of the stem-final segments of the coverb, finds no analog elsewhere in GN. This is indeed a radical departure from the typical morphology of inflected verbs in these languages, where direct inflection of verbs is a completely closed, lexicalised area of the morphology.

2.6 Significance of the NP conjugations

The elaboration of NP categories in GN languages, with the possible exception of the PC category, appears to have happened independently in each subgroup of the family, while inheriting the form of the NP itself from the pGN ancestor. The forms of these categories in the various daughter languages therefore provide good evidence for the internal relationships of the family, since the nonpast categories (except for the PC and Present itself) appear to have been undeveloped or nascent in the proto language. I have noted already that some modern languages of the family (Jwyn, Wrry, BGW) lack a formal suffixal category of Future. In Ngandi and Wubuy, the Future form corresponds generally to what is the NonPast/Present form in other GN languages. This may be an innovation particular to Ngandi and Wubuy, and hence evidence for subgrouping them. There is

other evidence from the verb paradigms of Ngandi and Wubuy, particularly in the nonpast categories, which confirms this view (I return to this below).

Aside from the evidence of verb paradigms, there is other evidence subgrouping Ngkn and Rmba, this is discussed in the following sections.

3 Gender prefixes and other bound morphology

Gender morphology manifests in two forms in Ngalakgan and Rembarrnga: prefixes, and semi-independent dative enclitics. These two classes manifest distinct forms of the feminine gender, at least one of which is distinctive in the Jala group.

3.1 Gender prefixes.

Ngalakgan has a four class system marked by prefixes to nouns, adjectives, demonstratives, and verbs. Prefixes have two overt forms, called ‘short’ and ‘long’ in Merlan (1983). All four lexical categories also have the possibility of taking no overt prefix for noun class.

(17) Noun class prefixes Ngalakgan

	Indefinite/focus	Definite/topic
Masculine	∅ ~ <i>nu-</i>	<i>nu-gu-</i>
Feminine	∅ ~ <i>ju-</i>	<i>ju-gu-</i>
Vegetable	∅ ~ <i>mu-</i>	<i>mun-gu-</i> (~ <i>mun-</i>) ¹⁰
Neuter	∅ ~ <i>gu-</i>	<i>gun-gu-</i> (~ <i>gun-</i>)

(18) Gender prefixes Rembarrnga

Feminine	<i>da-</i> <i>ngal(ik)-</i>
Masculine	<i>na(yik)-</i>

In Ngalakgan, all nouns are assigned to a noun class, with two well-defined classes of lexical exceptions.¹¹ The same set of prefixes are used on nouns, adjectives (whether functioning as referential expressions or predicates), and demonstratives. Demonstratives in addition have the possibility of using just the initial element of the ‘definite’ forms: *gun-*, *mun-*. Verbs show overt agreement only for the two inanimate classes VEG and NEUT.

In Rembarrnga, the gender prefix *da-* occurs as a frozen element on kinterms, deriving feminine forms of ‘around half’ of the kinterms in Rembarrnga (McKay 1975): e.g. *dage*

¹⁰ The forms *mun-*, *gun-* are found only on demonstratives as alternates of the long forms: *mun-gohje* ‘that [veg class]’, *gun-gohje* ‘that [neut class]’.

¹¹ Kinterms and age-grade categories (e.g. *bolo* ‘old person’), as well as (optionally) terms for some higher mammal species (e.g. *gajah* ‘dog’), are assigned to a noun class on the basis of biological sex. Some generic nouns (e.g. *gony* ‘(any) macropod’, *junggu* ‘meat, large game’) can take head and agreement prefixes of either Neuter or Masculine class; see (Baker, 2000) for discussion.

‘woman’s daughter’, *ge* ‘woman’s son’, cf. Ngkn *ju-ge*, *nu-ge* ‘man’s daughter, man’s son’. The prefix also appears on variants of the feminine forms of subsection terms: *gotjjan* ~ *dagotjjan* (Ngkn *gotjjan* ~ *ju-gotjjan*). There is no trace of the inanimate prefixes in Rembarrnga.¹² I return to the masculine prefix momentarily.

In Ngalakgan, prefixes are stressless, regardless of the length of the stem to which they are attached, and are freely omissible for most nouns in most contexts. The feminine kinterms in Rembarrnga appear to be frozen formations: the prefixed is stressed in these forms (as if it were part of the word), and cannot be omitted without changing the reference of the word. (I am not sure of the status of the feminine subsection forms). Furthermore, not all kinterms in Rembarrnga have a feminine-prefixed form, even though those which might be expected to do so.¹³ Therefore, as stated by (McKay, 1975:73), the prefix appears to be unproductive.

The prefixes *na-* ~ *nayik-* (Masc.) and *ngal-* ~ *ngalik-* (Fem.) are prefixed to the *daworro* (patrilineal clan) names to indicate male and female members of a clan: *na-balngarra* ‘a Balngarra [clan] man’ (McKay 1975:74). The shorter forms of the prefixes are identical to the Gunwinjgu MASC and FEM gender prefixes, and are presumably borrowed from that source. In this case, the prefixes are omissible – in free variation with the prefixed forms. They would also appear to be fully productive. I consider them to be a recent calque from BGW.

Despite the fact that Ngandi has five noun classes, and Ngalakgan and Ngandi are thus alike in having noun classes, while Rembarrnga lacks them, nevertheless, the *form* of the prefixes in Ngalakgan is mirrored systematically in Rembarrnga. One reflex of initial *j-* in Ngkn is *d-* in Rmba, and prefixes with *u* in Ngkn correspond systematically to *a* in Rmba (Ngkn has largely eliminated vowel contrasts in inflectional prefixes to *u* or *i*; this reflects the fact that in Ngkn prefixes are stressless).

Ngalakgan also resembles Rembarrnga in reserving the gender prefixes just for male and female humans, and in the case of Ngalakgan, animals (all animals, unless specifically feminine, are in the MASC class). This contrasts with the situation in other GN languages. In Ngandi, Wubuy, and other Gunwinyguan languages, MASC/FEM are not so congruent with biological sex, and animals are distributed among the various classes (Harvey, 1997).

No other Gunwinyguan language, with the exception of Dlnb, has a FEM morph of the form *DHa-. Dlnb has a feminine gender *suffix* of the form *-jan* ~ *-tjjan*. This form occurs on some kinterms to mark feminine (*be* ‘son’, *bejan* ‘daughter’ - Evans p.c.), as well as on subsection terms: *wamut*, *wamutjjan*, *gojok*, *gotjjan*, etc. These are the

¹² There are some possibilities in the domain of food, with initial *man-* (cf. Ngalakgan *mu(n)-*, BGW *man-* ~ *ngan-* ~ *an-* vegetable class)(from Saulwick and Campion n.d.): *manburre* ‘longyam’ (Dioscorea transversa), *manburlgung* ‘vegetable food’, *manbatbirri* ‘yam type’ (also *batbirri*), *mankardabat* ‘yam type’, *manjaburlhjaburlh* ‘roo food’. It could also be that these are direct borrowings from BGW or Burarran (I haven’t checked this possibility).

¹³ This would need to be checked with speakers, but (McKay, 1975:73)

subsection terms which are widely distributed in Arnhem Land, and since Dlbn is the only language in this area with feminine suffixes of this form outside the subsection system, we infer that this group of subsection terms originated with Dlbn. The form of the suffix in Dlbn is reminiscent of the *da-*, *ju-* forms found in Ngkn and Rmba, and of the feminine dative clitics examined below. Dlbn is the only GN language which has any gender affixes resembling these prefixes found in Jala. This form of the FEM marker may go back to a putative ancestor of pGN and ‘Maningrida’ languages (REF Green, to appear), since we find similar forms in Burarran languages: e.g. the Gurrgoni Fem. prefix *jin-*. Anindhilyakwa also has a feminine prefix of this form: *dhi-*.

3.2 Dative clitics

The MASC and FEM forms of the Dative enclitics in Ngkn and Rmba are shown in (19). These forms are used to head-mark possession on an alienably possessed noun: kin terms are the most common locus. They can also be suffixed to verbs in both languages, to mark a Dative argument (Ngkn *nu-ne-ngorre* (2aug-cook+NP-12aug) ‘you mob cook it for us’). They are distinct from genitive forms of independent pronouns, which can also mark possession, but more commonly act as predicates in a contrastive function (‘it’s mine, not yours’). In Ngkn, the Dative enclitics are normally bound, in Rmba they are apparently somewhat freer.

(19)	Dative clitics		
	Ngalakgan	Rembarrnga	pJala
3m fem	- <i>ngoji</i>	- <i>ngadv</i>	*- <i>ngoji</i>
3masc	- <i>nowi</i>	- <i>nawv</i>	*- <i>nowi</i>

The Ngkn and Rmba forms are again closely cognate, allowing for systematic correspondences. Note that the correspondence *j:d* here is non-standard. This correspondence is found typically only in morpheme-initial position (see Harvey, to appear). It may be an indicator of an old morpheme boundary in this form i.e. *-*nga-ji*. I reconstruct the initial vowel in both clitics tentatively as *o*. Levelling of vowels to *a* has affected pronominal forms generally in Rmba. Besides this, the Dlbn 3m clitic form *-no* also argues for the mid-back vowel in this position. The final vowel I reconstruct as *i*, with reduction again being a feature of the Rmba forms.

Traces of the same gender marking are found in the independent pronoun forms in both languages, shown in (20). Here, while Ngkn uses the FEM *prefix* form as a base for the independent pronoun *jinjah*, Rmba uses the stem found in the Dative *enclitic*, with an interesting difference. While the Dative form uses the apicalised *-ngadv*, the independent pronoun retains the laminal stop found in Ngkn and reconstructable to pJala: *-*ngoji*. I am not sure what to make of this difference between the two. My impression is that the Dative pronoun sets found in languages tend to preserve older features lost in the independent sets (which, as Harvey notes, to appear b, tend to be reshaped on the basis of pronominal prefix paradigms). On this basis, *-ngadv* would be the older form. But it is then unclear whence the *-ngaji* form in Rmba is derived.

(20)		Independent pronoun forms	
	Ngkn	Rmba	
	3m fem	<i>jinjah</i>	<i>ngajihda-nda ~</i>
		<i>ngayihda-nda</i>	
	3m masc	<i>ninjah</i>	<i>nihda-nda</i> ¹⁴
	3fem emphatic	<i>jinjarnih</i>	<i>ngajihgarnvh</i>
	3masc emphatic	<i>ninjarnih</i>	<i>nihgarnvh</i>

The endings *-jah*, *-jarnih* in Ngkn are found only with the 3min and 2min pronoun forms. Other independent pronoun forms have endings *-kgah*, *-kgarnih*: 1min *ngaykgarnih*, 12 *yikgarnih*, 1aug *yirrkarnih*, 12aug *ngurrkarnih*, 2aug *nurrkarnih*, 3aug *burrkarnih*. The 2min prefix is *nginy-* (for intransitive verbs), so the *-jarnih* ending is presumably to be derived from assimilation of *k* to preceding laminal nasal. If this is also true of the 3min forms, it implies the gender stems also ended in a laminal segment (unless these forms are simply derived through analogy to the 2min). The Dalabon Feminine suffix *-jan* would also suggest a stem for the Feminine with final (coronal) nasal. The exact changes involved remain obscure.

Note that the Rmba 3min masculine form indicate a pJala origin for the masculine/feminine gender opposition.

4 Pronominal prefixes

The prefixal paradigms are presented in full in the appendix. The inflectional prefixal systems of Ngalakgan and Rembarnga show a remarkable degree of similarity. There are two major differences:

1. The relative order of subjects and objects in some parts of the system
2. Some of the forms in the SAP -> SAP subsystem (Speech Act Participant: 1st and 2nd person categories)

The prefixal system can be divided into 3 basic subsystems: the intransitive system, the system of prefixes realising at least one 3rd person argument, and the SAP->SAP system. In both languages, the intransitive prefixes are equal (with minor differences) to the prefixes realising the subject in combination with a 3rd person minimal object in the transitive system.

The subsystem of transitive prefixes realising one 3rd person category is the most transparent subsystem. Most prefixes in this subsystem can be derived regularly from the intransitive prefixes, allowing for some morphological rules. While the allomorphs used in both languages on the whole closely correspond (allowing for regular phonological changes), there are differences in ordering in the case of prefixes involving one 3rd person argument. Both Ngkn and Rmba make use of Object allomorphs of prefixes, ending in an apical nasal segment (in Rmba, the apical is always alveolar, but in Ngkn it is

states that the prefix is unproductive, and that ‘perhaps around half’ of the kinterms have feminine counterparts.

¹⁴ McKay (1975:105-6) states that the *ngajihdanda* form is the most common for all speakers, but that both forms are rare. He also notes that the final element *-(n)da* on independent pronouns is occasionally omitted or in a substitution relationship with overt case suffixes: *nihda-gan* 3min-Dat.

postalveolar when preceded by *-rrv-* or is otherwise in an augmented category: *nun-* 2minO, *nurn-* 2augO). When the subject is 3rd person, and the object is a SAP, the order is Object ^ Subject, using the Object allomorph of the SAP prefix: e.g. Ngkn *ngun-bu-* (1minO-3aug) 3aug -> 1min, Rmba *ngan-ba-*. The Object ^ Subject order is also used in Rmba for 3rd person objects, with SAP Subjects: *ba-nga-* (3aug-1min-) 1minS/3augO. In Ngkn however, the order Subject ^ Object is used for prefixes in this category: *ngu-bu-* (1minS-3aug) 1min -> 3aug.

The SAP -> SAP system is the most morphologically opaque subsystem in the prefix paradigm. It contains several forms which cannot be derived from the forms of intransitive prefixes. Heath (1991) has proposed that this is due to sociolinguistic factors, including a restriction against direct attribution of agentivity to 2nd person referents. As a result, pronominal skewing, obscuring or merging of pronominal categories, or the use of suppletive forms can be observed in this subsystem of the prefixal paradigms of many NPN languages. We might expect to find two kinds of effects in the SAP/SAP subsystem: a higher rate of replacement, and perhaps conversely the retention of old, opaque forms.

Of particular interest here are the forms found in Ngkn and Rmba. I present the complete SAP/SAP subsystem in (21).

(21) Ngalakan, Rembarrnga SAP -> SAP

Patient	2aug		2min		Patient	1aug		1min	
Agent	Rmba	Ngkn	Rmba	Ngkn	Agent	Rmba	Ngkn	Rmba	Ngkn
1aug	nayarr-	yirri-	??	yirri-	2aug	yarranba-	yini-	yana-	yini-
1min	nanga-	nugu-	nginy-	nginy-	2min	yarra-	yini-	dan-	jun-

The forms of interest are in bold typeface. These forms cannot be derived regularly from the prefixal paradigms of the two languages. I return to these momentarily. The other forms in the table can be derived from existing intransitive or transitive forms, with pronominal skewing or merger in some cases. Rmba in particular has reshaped this paradigm to fit the rest of the transitive prefix paradigms: *nayarr-* and *nanga-* are transparently 2aug-1aug- and 2aug-1min- respectively, following the Obj ^ Subj order found in 3rd person object prefixes. Given that these forms are transparent, compared (especially) to the opaque Ngkn form *nugu-* (1minS/2augO), this would indicate a recent origin for these prefixes in Rmba, and hence for the order Obj ^ Subj.

Several prefixes derive from forms found in the intransitive (or 3rd minimal object) paradigm. The prefix *nginy-*, found in both Ngkn and Rmba as the marker of 1minS/2minO is particularly interesting in this regard. This form is used in both languages as the intransitive prefix for 2nd person minimal, and in Ngalakan and one dialect of Rmba as the marker of 2nd minimal object with 3rd minimal subject. This is the only prefix category which has a markedly different intransitive and transitive form, the transitive form for 2min Agent is *ju-* (Ngkn), *da-* (Rmba). In this case then, there is no marker of 1st person, rather, an intransitive subject or object form of the 2nd person prefix is used alone.

The form *yirri-* in Ngkn marks 1augS/2O (minimal or augmented). As an intransitive prefix, this realises the category of 1st person augmented, the category of 2nd person finds no formal realisation here. The cognate prefix *yarra-*, in Rmba, marks the *opposite* relation 2minS/1augO. The prefix *yarranba-* in Rmba marks 2augS/1augO in this paradigm, but in the 3rd person paradigm realises 3augS/1augO, a case of category merger.

The opaque prefixes in Ngkn and Rmba are *nugu-* (Ngkn only), *yini-* (Ngkn) ~ *yana-* (Rmba), and *jun-* (Ngkn) ~ *dan-* (Rmba). The latter looks on the face of it like 2minAgent form *ju-* plus the object allomorph *-n*, which makes no sense in this case since the form realises 2minS -> 1minO. The latter form I would regard as a retention from at least the pJala stage, since I can find no close cognates in other GN languages nearby (Dlbn, BGW, Ngdi, Wby, Jwyn).¹⁵ The forms *yini-* ~ *yana-* are probably cognate with Ngdi *nyana-*, which realises exactly the same range of combinations: 2->1 (one of which is nonsingular). These forms are most probably derived ultimately from the either the 1st augmented prefix forms, *yirri-*, *yarra-* and *nyarra-* (Ngkn, Rmba, Ngdi), or the apparently related 1st du.incl forms *yi-*, *ya-*, *nya-*. These forms are presumably then retentions from a stage prior to pJala.

5 The Eastern GN subgroup: Ngandi and Nunggubuyu (Wubuy)

Heath has claimed since 1978 that Ngandi and Nunggubuyu (Wby) form a subgroup, together with Anindhilyakwa. I will briefly discuss this proposal in what follows, arguing that Heath was right, at least for Ngandi and Wubuy. (I will not be looking at Anindhilyakwa here.)¹⁶ However, there is no evidence to suggest that Ngandi (with or without Wubuy) is more closely related to Ngkn and Rmba than it is to other GN languages. Indeed, the differences between the Ngdi and Wby paradigms, and those in other GN languages, are so radical we must consider them to have undergone separate development for a considerable length of time. I consider the issue of wider relationships within GN further in §6.

Ngandi and Wubuy verb paradigms are presented in the appendix. There are more than enough formal similarities between the two to indicate that these two languages formed a subgroup of GN, which I will call ‘Eastern GN’ (EGN). Proto EGN elaborated nonpast categories, as did pJala, but in a very different fashion. Where pJala eliminated differences between paradigms, pEGN extended them. As a result, the paradigms of EGN are extremely complex and irregular. Unlike Jala, it is not possible to predict the forms of any inflectional categories in EGN on the basis of any of the others, with any degree of

¹⁵ This does not rule out one or more of the forms being a retention from an older stage. For instance Ngarinyin has the form *jan-* in just this combination 2sg->1sg (Rumsey, 1982:85), which is identical to a proposed pJala form **jan-*. This scenario would imply that pGN was already internally diverse when it split from its own ancestor language (e.g. Green’s ‘Proto Arnhem’, to appear).

¹⁶ Anindhilyakwa retains so little in the way of recognisable monomorphemic roots and inflections that it is impossible to say if it was once related to Ngandi and Nunggubuyu. My feeling is it is a family-level isolate.

confidence. Instead, verbs fall into smaller conjugation classes of (generally) a few members each. Each conjugation class tends to have its own unique forms of the nonpast categories, which can be used to characterise the class (as is done by Heath, 1984). On the whole, these forms are shared between Ngandi and Wubuy, but no other languages.¹⁷

The inflectional category equivalences are as follows:

pGN	Ngdi	Wby
PP	PP	Past1
PC	PC	Past2
	Pr	NP2
NP	Fut	NP1
	Pot	Evit
Irr	Evit	NP3

The PP and PC correspond to these categories in other GN languages. The cognate of the pGN NP (Present) is generally the Future category in Ngdi and Ngby, though sometimes it is apparently the Present. Wby and to some extent Ngdi have reshaped the Future, including generalising a Future ending in *-ng*, obscuring correspondences with the pGN NP in some cases (AEH). The pGN Irrealis corresponds to the Ngdi Evitative, and the Wby ‘NonPast 3’ category, which is also used for the evitative, as well as the future negative.

I consider a few representative developments in what follows, leaving a fuller treatment to future work. Again, I concentrate on the innovated forms – in this case the Present, Potential, and to some extent the Future - disregarding the PP and PC. Only the Ngdi names for the inflectional categories will be shown in the tables.

The MA-augment class.

This is the class containing *bu* ‘hit’ as its major member.

	PR	FUT	POT
Ngdi 'hit'	<i>bu+ma+na</i>	<i>bunung</i>	<i>bo+mi+ni</i>
Wby 'hit'	<i>bu+ma+na</i>	<i>biny</i>	<i>bu+ma+ngun</i>

The factor which unites these two languages is in sharing the augment *-ma-* for the PR and POT. Other GN do not in general make use of augments, except in the case of the stative stance verbs. But they are a consistent feature of EGN.

¹⁷ Rebecca Green’s paper suggests that some of the Ngandi and Wubuy formations are retentions from a deeper level which she calls ‘proto-Arnhem’, since we find similar forms in Maningrida languages such as Burarra and Ndjébbana.

The NGA-augment class.

		PR	FUT	POT
<i>yo</i> 'put'	Ngdi	<i>yo+nga+na</i>	<i>yi+ya+ng</i>	<i>yo+ngi+ni</i>
<i>yu</i> 'make'	Wby	<i>yu+nga+na</i>	<i>ya+ng</i>	<i>yu+nga+ngun</i>
<i>ba</i> 'bite', <i>na</i> 'burn'	Ngdi	<i>ba+nga+na</i>	<i>bi+ya+ng</i>	<i>ba+ngi+ni</i>
<i>ba</i> 'bite', <i>na</i> 'burn (tv)'	Wby	<i>ba+nga+na</i>	<i>ba+ng</i>	<i>ba+nga+ngun</i>

This class is similar to the MA-augment class (*bu*), in both the PR and POT, except that the augment is *-nga-* rather than *-ma-*. In both cases, the augment is presumably derived from the PP form of the verb: e.g. Ngdi *bo:m* 'hit' PP, *bang* 'bite' PP. EGN is the only group in which the PP acts as a stem for other inflectional categories. Hence, this was an innovation in pEGN, one which did not occur in any other GN languages.

The conjugation class containing the verbs 'to get' and 'chop' is similar in using the *-nga-* augment in the Potential, though not in the Present.

		PR	FUT	POT
'pick up'	Ngdi	<i>ma+ni</i>	<i>mi+yang</i>	<i>ma+ngan</i>
'pick up/get'	Wby	<i>ma+ni</i>	<i>ma+ng</i>	<i>ma+ngan</i>
'chop'	Ngdi	<i>dho+ni</i>	<i>dho+ng</i>	<i>dho+ngan</i>
'chop'	Wby	<i>lha+ni</i>	<i>lhi+ny</i>	<i>lha+ngan</i>

The Present and Potential forms are identical in Ngdi and Wby, allowing for regular changes (such as Ngdi *dh*: Wby *lh*). The Future forms (which are the erstwhile pGN Present/NP forms) are distinct, with Wby showing an anomalous ending *-ny* for the 'chop' verb.

ga 'take'

	PC	PR	FUT	POT
Ngdi <i>ga-</i> 'carry'	<i>ga+ndi</i>	<i>ga+ntjini</i>	<i>ga+n</i>	<i>ga+ntjan</i>
Wby [war] <i>ga-</i> 'take'	<i>ga+ndi</i>	<i>ga+ntji:</i>	<i>ga+ng</i>	<i>ga+ntjan</i>

I show the PC forms here since they are not shared by other GN languages, though they are found in other NPN languages such as Marra. This again would indicate a very old split between EGN and the rest of GN. The POT forms are identical, and the PR forms are also cognate, with irregular lenition of intervocalic *n* in Wby (a common feature in other inflectional forms). The Future forms are distinct. The NP form in pGN was **gan*. Wby appears to have generalised the Future *-ng* ending found in other conjugations.

The JA-augment class

This class includes the roots *nga* 'hear', *na* 'see', *wo* 'give', and *ngu* 'eat' in EGN. In other GN languages, these are N-theme conjugation verbs. In EGN, they acquire an augment **-ji-* ~ *-ja-* in the Present and Potential inflections.

Root	Language	PR	FUT	POT
<i>nga</i> 'hear'	Ngdi	<i>nga+tjji+ni</i>	<i>nga+n</i>	<i>nga+tjja+n</i>
Wby <i>yanga</i> (<* <i>yang</i> 'language'+ <i>nga</i> -)	Wby	[<i>ya</i>] <i>nga+yi:</i>	[<i>ya</i>] <i>nga+ng</i>	[<i>ya</i>] <i>nga+ya+n</i>
<i>na</i> 'see'	Ngdi	<i>na+tjji+ni</i>	<i>na+n</i>	<i>na+tjja+n</i>
	Wby	<i>na+yi:</i>	<i>na+ng</i>	<i>na+ya+n</i>
<i>ngu</i> 'eat'	Ngdi	<i>ngu+tjji+ni</i>	<i>ngu+nu+ng</i>	<i>ngu+tjja+n</i>
	Wby	<i>nga+yi:</i>	<i>nga+ng</i>	<i>nga+ya+n</i>
<i>wo</i> 'give'	Ngdi	<i>wo+tjji+ni</i>	<i>wo+nu+ng</i>	<i>wo+tjja+n</i>
	Wby	[<i>y</i>] <i>u+yi</i>	[<i>y</i>] <i>u+ny</i>	[<i>y</i>] <i>u+ya+n</i>

I assume here that the pEGN augment was *-*ja*-, which has undergone independent changes in each daughter language. In Ngdi, it underwent fortition, becoming a geminate. This is a common process at morpheme boundaries in Ngdi, Ngkn and Rmba. In Wby, the augment was lenited to -*y*-, a process which affected simple stops generally in Wby. In addition, the onset of the PR ending -*ni* found in Ngdi was elided, a process which is attested sporadically in Wby suffixes of this form, as in the PR form of the *ga* verb, shown above.

If the augment is assumed instead to be a geminate, the lenition in Wby seems unlikely. Under the assumption that the geminate in Ngandi results from fortition, we have a prima facie case that the verb root and the augment derive from an old compound. Fortition in Ngandi applied historically to the initial stops of some suffixes and roots, when these were preceded by a stem. Fortition in the verb paradigm here implies that the morpheme boundary, at one time, was analysable, that is, that the augment had an identifiable meaning. The only likely candidate for such a morpheme in this position is another inflecting verb root, suggesting that some monomorphemic forms were historically compounds (cf. Merlan 1980).

Although this discussion of Wby and Ngdi is necessarily brief, I think it is clear that these two languages share a substantial amount of innovation in the verb paradigms, and should therefore be considered a subgroup also, 'Eastern GN'. It is also rather clear that EGN lacks the forms which make Jala a subgroup: the paradigm reshaping that led to the highly regular N, NG, and stative stance conjugation classes. The innovated paradigms found in EGN are not, by and large, regular, and must be considered to be much older developments than those found in Jala, which have the appearance of very recent paradigmatic levelling.

6 Further relationships

AEH claim that GN can be internally subgrouped into a 'Central' group (BGW, Dlnb) as opposed to an 'Eastern' group (Ngkn, Rmba, Ngdi, Wby), though they do not explicitly discuss this claim. I will briefly address this issue, though space and lack of research into this issue precludes a fuller treatment here.

There is little in the way of evidence linking BGW and Dlbn as a ‘Central GN’ subgroup, to the exclusion of other nearby languages such as Jala, on the one hand. BGW and Dlbn share no formal verb categories that can be shown to be an innovation unique to these two languages, to the exclusion of other GN languages. The issue is complicated by the lack, in BGW, of a Future category. The formal categories present in BGW seem simply to be those inherited from pGN. Dlbn however, has innovated a Future category. This fact alone would suggest that, in fact, BGW and Dlbn do *not* form a subgroup.

Nor is there much evidence linking Jala to Ngdi and Wby as an ‘Eastern’ group, on the other. This question relates to the issue of the supposed relationship of Ngkn and Ngdi, which I will address separately below. There is likewise no evidence that BGW, Dlbn, Ngkn and Rmba form a subgroup, despite some broad similarities. The evidence for subgrouping Ngkn and Rmba comes from the behaviour of the nonpast categories, in particular the Future and Irrealis. The clinching difference here is that in BGW and Dlbn, the Irrealis is sometimes based on the root, sometimes on the NP stem, while in Jala it is always based on the NP stem, never on the root. Since in Ngdi and Wby the descendent of the Irrealis generally follows the same pattern as Dlbn, this indicates the Jala pattern is an innovation. This innovation was not shared by BGW, Dlbn, Ngdi or Wby, hence none of these languages can be subgrouped with Ngkn and Rmba, at least at the stage where this category was innovated. Further, the Jala Future is an entirely new formation, not found in this form in other GN languages. Likewise, the Dlbn Future appears to be unique to Dlbn, among GN languages. I examine the Irrealis category in detail here since it seems in general to preserve some important differences in the daughter languages.

The Irrealis

The forms of the Irrealis category in Dlbn are closer to those in Ngdi, than they are to BGW. Like Ngdi, Dlbn has two major forms of the Irrealis: forms in $-y \sim -yi$, and forms in $-ngi$. The first corresponds mostly to Irrealis forms in $-ni$ in Jala (the N-conjugation), with the exception of the root *ma-* ‘to get’, the second to forms in $-ngi$ in Jala (the NG-conjugation) or $-ngVni$ (the stative stance conjugation).

PGN root	BGW	Dlbn	Ngdi	Ngkn
Apical themes				
*ga 'take'/ CAUS	kayi(nj)	gey	gayi	gani
*ru 'cry'		ruy	XX	runi
*na 'see'	nayi(nj)	ney	nayi	nani
*ngu 'eat'	nguyi	nguy	nguyi	nguni
*wo 'give'	woyi(nj)	woy	woyi	wuni
*bu 'hit'	buninj	buy	buyi	buni
Velar themes				
*ma 'get'	mayi	mey	mayi	mangi
*ba 'bite'	bayemeninj	bangi	bangi	bengi
*ru 'burn'	ruyi(nj)	rungi	XX	rungi
*yu 'put'	XX	yungi	yongi	yengi
*DHu 'growl'	duyi(nj)	dungi	?dhu [open class]	
Stance				
*DHi 'stand'	dangemeninj/ diwirrinj	dangi	dhingi	-jingi (tv)
*ni 'sit'	niwirrinj	ningi	ningi	nangani
*mi open class	meninj	mi	[yi]mi+ [say]	
*me INCH	meninj	meni	XX	meni
*bo 'go'	XX	boni	XX	raboni

(22) Irrealis in four GN languages. (XX means this root does not occur in the relevant language.)

BGW has no Irrealis forms in *-ngi*. BGW appears to have reshaped the Irrealis paradigm to a large extent (e.g. with PC forms, e.g. *buninj*, or forms in *-meninj*, *-wirrinj*). In the Irrealis forms which do appear to have been retained in BGW, we see contrasts with Dlbn, Ngdi and Jala. The BGW Irrealis of 'burn' for instance is *ruyi(nj)* rather than the form *rungi* we find in Dlbn and Ngkn.

There are two ways of accounting for this pattern. One possibility is that an early split in pGN divided Ngdi, Wby, Ngkn, Rmba, and Dlbn from BGW (and others?). The other is that Dlbn and Ngdi preserve the essential details of the Irrealis category from pGN, which has become reshaped in various daughter languages such as BGW, and Jala.

As to evidence linking Ngkn, Rmba, Ngdi and Wby, I have shown that Ngdi and Wby form a subgroup, but their inflectional system is quite distinct from Jala. There are no innovations linking pJala and pEGN, apart from the *-ngi* Irrealis form (if this is indeed an innovation and not an archaism).

I now consider the evidence of dative pronouns, shown in table (23). We have seen that Dative clitics preserve some apparently ancient elements of gender morphology, which are otherwise not apparent in Rmba. Only Ngkn, Rmba, Dlbn and Ngdi have a true class of dative enclitics. The BGW paradigm has been largely reshaped according to the prefixal paradigm, and shows little in the way of significant retentions, with some exceptions in the singulars. The Wby forms are entirely analogous to the independent forms and do not really belong here, I include them for completeness.

(23) The form of dative pronouns in ‘Central’ and ‘Eastern’ GN

		Ngkn	Rmba	BGW	Dlbn	Ngdi ¹⁸	Wby
Min.	1	-ngini	ngvnv	ngarduk(ki)	-ngan	-nginangi	ngaya
	12	-yikgi	yvkkv	ngarrgu	-nyong	-nyakguy	nagawi
	2	-nggi	(ng)kv	ngudda ~ nguddanggi =ge (E), (ng)ungke	-ngu	-nukguy	nugawi
	3	-nowi	nawv	nuye	-no	-nayi	nigawi
		-ngoji	ngadv	ngarre		-ngutdhayi	ngigawi
Aug	1	-yerre	yarrv	ngadberre	-nyelng	-nyirrayi	nurraa
	12	-nggorre	ngagorrv	gadberre	-ngogorrng	-ngurrkgurrayi	ngagurraa
	2	-nunggorre	nagorrv	ngudberre	-nogolng	-nukgurrayi	nugurraa
	3	-borre	barrv	bedberre	-bulng	-burrayi	wugurraa

The dative pronouns do not provide compelling evidence for subgrouping of any kind, beyond that already claimed for Ngkn and Rmba. On the one hand, BGW (in Kune) shares the distinctive 2minimal form found in Ngkn and Rmba, but Dalabon does not, having instead an anomalous form not found in the other languages (unless it is related to the initial portion of Kune *(ng)ungke*).¹⁹ Conversely, all of the languages *except* BGW have what appear to be related forms for the 1st person augmented incl and excl. and 2nd aug. allowing for the regular correspondence (in pronominal paradigms, not in lexemes) Ngdi, Dlbn *ny-* (12aug) : Rmba, Ngkn *y-* : Wby *n-*.

Ngandi has similar forms to Jala for the 3min Feminine form. The base in Ngdi *-ngutdha* corresponds well with Ngkn *-ngoji* and Rmba *-ngadv*, but the vowel correspondence in both syllables is not regular. The stem ending in *-yi* appears to be a Ngandi innovation in the dative clitic paradigm.

Since the Ngdi FEM NC prefix is *na-*, this suggests that the dative clitics represent ancient retentions, rather than innovations specific to proto-Jala.²⁰

¹⁸ All Ngandi dative pronouns are preceded by glottal stop. I have shown elsewhere (Baker 1999) that this segment is a boundary-marking device in Ngalakgan, Rembarnga, and Ngandi, and to a lesser extent in the other GN languages.

¹⁹ A form *-ngka* (i.e. *-ŋkə*) for the 2min dative suffix in Ndjébbana suggests that this form is probably a retention from a deeper level. As with the languages discussed here, the Ndjébbana form is anomalous when compared with other forms of the 2min category.

²⁰ Indeed, a brief survey of NPN languages on the eastern side of the Stuart Highway suggests that Dative suffixal pronouns in general may preserve some of the oldest pronominal morphology. E.g. Alawa 2sg

7 Other issues: the false similarity between Ngandi and Ngalakgan

Authors have on several occasions proposed a closer relationship between Ngandi and Ngalakgan. The above discussion has shown that such a proposal cannot be maintained in the face of substantial differences in the organisation of verb paradigms and the form of inflections. So why do people persist in regarding Ngandi and Ngalakgan as being closely related? The features which seem to stand out are these:

1. Segment inventory: 5 vowels, “two series of consonants”
2. Degemination and delaryngealisation rules
3. Noun classes
4. Case affixes incl. ergative
5. Adverbial/derivational prefixes
6. Pronominal prefixes

I address these briefly in turn, suggesting that none of them constitute evidence of a subgrouping relationship. We can therefore regard these as features as ‘false friends’: the kind of evidence to avoid when deciding on possible genetic relationships.

1. Ngdi and Ngkn have similar segmental inventories. But so do Ngkn and Rmba, Ngkn and BGW. Indeed, Ngdi is again more similar to Wby in this regard: these are the only two GN languages with a laminal contrast. Ngdi and Ngkn both have a singleton:geminate opposition, but this is also a feature of many languages of Arnhem Land, related or not.

2. Degemination and delaryngealisation rules are found in Ngkn, Rmba, and Ngdi, to date. It is true these rules are fundamentally of the same type, and lenite geminates and glottal stops at a distance following a preceding geminate or stop cluster. These rules are conditioned by the prosodic structure of complex words (Baker 1999), and are presumably related to the fact that these three languages have undergone extensive fortition and laryngealisation at morpheme boundaries (as has Dlnb, and many other languages, to a lesser extent). It points to a long period of association between the three languages. But phonological rules (particularly prosodic ones) are not typically regarded as evidence of a genetic relationship. Possibly an areal phenomenon.

3. Ngdi and Ngkn both have noun classes, while they are lacking in Rmba, Dlnb. But there are differences between them: Ngkn has 4, Ngdi has 5. Wby has 5 NCs, and in this case they appear to be cognate with Ngdi. Ngkn NCs appear to derive from a different source in at least one case (FEM *ju-*), and in this case the closest cognate is found in the relic lexicalised form *da-* in Rmba.

suffix *-manja* ~ *-minji* and Yanyuwa 2sg Pres suffix *-mu*, with no analogs elsewhere in the pronominal morphology of either language.

4. Both Ngdi and Ngkn have a similar array of case suffixes, including an Ergative case. Wby lacks an Ergative case. However, many of these same case forms are found in other GN languages, and in other non-GN languages nearby, e.g. Comitative/Ergative/Instrumental *-yi(h)* found in a range of languages from BGW, through Rmba to Ngkn.

5. Ngdi and Ngkn share a number of derivational verb prefixes, such as *bak-*, *re-*, *bartda-* (Applicatives), *meleh-* ‘lest’ (forms the Evitative category with Ngdi Evitative/Ngkn Irrealis), *na-* ‘still’. *birditj-* ‘nearly’, *garra-* ‘many’, (Applicative), *namulu-* ‘really’, and so on. Again, these items tend to have a very wide range of occurrence. The Ngkn prefix *warna-* ‘still, yet’ for instance is also found in Jawoyn, which is only distantly related but contiguous. The form *guh-* ‘raw’ is also found in both languages as a prefix. Perhaps more significantly, the prefix *birditj-* at least is also found as an independent adverb in the neighbouring but unrelated Yolngu language Ritharrngu, with the same meaning.

6. The pronominal prefix forms of Ngdi are presented in the appendix. It can be seen that, while there are some broad correspondences with Ngkn, they are no more than might be expected between any two GN languages. In particular, Ngdi lacks the object allomorph forms which are shared by Rmba and Ngkn.

In short, none of the characteristics argues convincingly for a systematic correspondence between Ngandi and Ngalakgan, of the order that we have seen for, on the one hand, Rmba and Ngkn, and on the other, Ngdi and Wby.

8 Conclusion

I hope to have shown conclusively that Ngalakgan and Rembarrnga are not only closely related, but share a number of systematic correspondences not found in other languages of the GN family. These correspondences indicate a period of independent innovation in their immediate ancestor, which is reflected in each daughter language. Similarly, there are sets of correspondences in Ngandi and Wubuy which indicate that these two languages also should be considered to derive from a single ancestor. Apart from these two subgroups, it is difficult to show correspondences of the same order between any other two (groups of) GN languages, leaving the question of the internal breakup of GN as yet unresolved. Some tentative suggestions were made on the basis of the Irrealis paradigms of daughter languages, but these suggestions lack substance and must be regarded as preliminary. Indeed, the very complex nature of the innovative nonpast category inflections in Ngandi and Nunggubuyu suggest that the ancestor of these two languages was the first to break away from the core group represented by these languages and Ngkn, Rmba, BGW, and Dlbn. Their position at the periphery of the GN range would tend to confirm this view.

Sources and abbreviations (unless otherwise noted)

Ngalakgan (Ngkn)	(Merlan 1983; Baker 1999) and own fieldnotes
Ngandi (Ngdi)	(Heath, 1978) and own fieldnotes

Nunggubuyu (Wby)	(Heath, 1984)
Mayali/Bininj Gun-wok (BGW)	(Evans, 2000)
Warray (Wrry)	Harvey p.c.
Jawoyn (Jwyn)	(Merlan, n.d.)
Dalabon/Ngalkbon/Buan/Gun-dangbon	Heath (1974), Merlan (n.d.)
Rembarnga (Rmba)	(McKay, 1975)
GN	Alper, Evans, Harvey (AEH: to appear)

Other abbreviations

PP	Past Punctual
PC	Past Continuous
NP	NonPast
Fut	Future
Irr	Irrealis
SAP	Speech Act Participant (pronominal categories referring to 1 st or 2 nd person)
aug	augmented number (roughly equivalent to plural)
min	minimal number (roughly equivalent to singular)
O	object
S	subject

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