

On the Typological and Genetic Affiliation of Jingulu

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1. Introduction¹

Jingulu is the language of the Jingili people, who live in the area immediately east of Lake Woods and along Newcastle Creek, and now at the town of Elliott, in the western Barkly Tablelands of the Northern Territory. The first sound recording of Jingulu was made in 1960 by Ken Hale, who considered it to be a non-prefixing non-Pama-Nyungan language (O'Grady, Wurm, and Hale 1966).² Hale's (1960) fieldnotes consist of 46 handwritten and two typed pages of words and sentences, and reveal most of the morphological and syntactic properties of Jingulu. The existence of these notes has made it possible to document some of the changes that the language has undergone over the last forty years, such as the increasing use of case markers to mark discourse prominence (Pensalfini 1999a, see also section 4.2 of this paper) and the weakening of the gender concord system (Pensalfini 1999b). The first thorough investigation of Jingulu was carried out by Neil Chadwick in the late 1960s and published in Chadwick 1975. Until the 1980s, the genetic affiliation of Jingulu remained uncertain, and Dixon (1980) even stated that there was no evidence to suggest that Jingulu is related to any other language at all, much like the Tiwi and Tasmanian languages. Chadwick, however, showed that Jingulu is related to the MacArthur River language (Wambaya, Gudanji, and Binbinka) and Ngarnka (also known as Ngarnji), with which it forms the Barkly language grouping, and to the Yirram languages Jaminjung, Nungali, and Ngaliwurru (Chadwick 1978, 1984). These languages are known collectively as the Mindi languages,

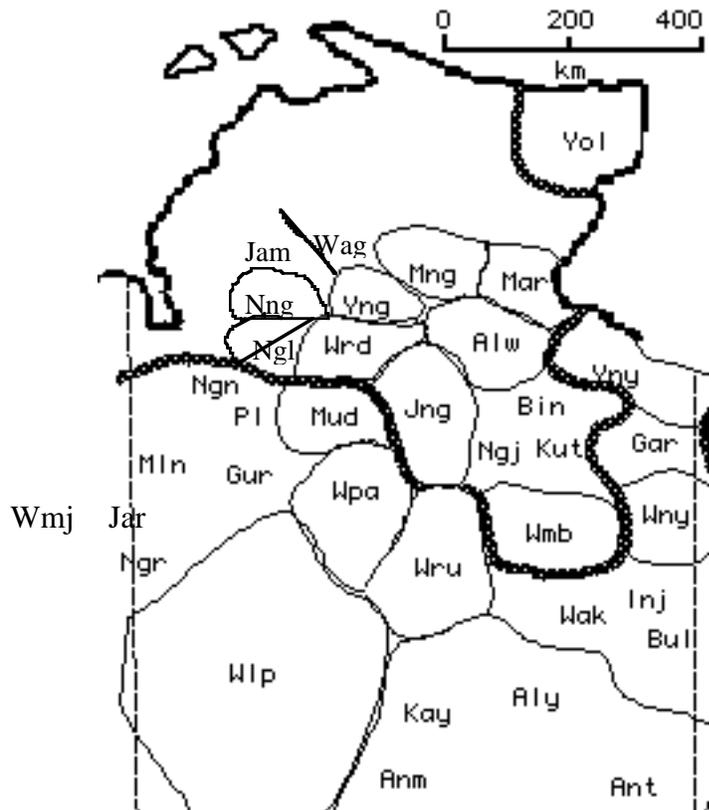
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² Earlier collectors of Jingulu data include Mathews (1901) and Arthur Capell in the early 1950s.

named for the characteristic form of the first person dual inclusive pronominal marker, and there is certainly strong morphosyntactic evidence to support this grouping.

Figure 1 shows the approximate modern location of Jingulu and its neighbours. This map is a slightly amended version of the one which appears in Nash and Simpson 1996.

Figure 1 Jingulu and its Neighbours



Pama-Nyungan languages south and east of the broad line, non-Pama-Nyungan languages to the north

Abbreviations of language names

Bin	Binbinka	Ngl	Ngaliwurru
Gar	Garrwa	Nng	Nungali
Gud	Gudanji [[Kut]]	Nun	Nungali
Gur	Gurindji	Wlp	Warlpiri
Jam	Jaminjung	Wmb	Wambaya

Jar	Jaru	Wrd	Wardaman
Jng	Jingulu	Wpa	Warlmanpa
Kay	Kaytetye	Wru	Warumungu
Mng	Mangarayi	Yng	Yangman
Mud	Mudburra	Yny	Yanyula
Ngj	Ngarnka (Ngarnji)	Yol	Yolngu

None of the work cited above questioned the typological classification of Jingulu as non-prefixing, however. In section 2 of this paper, an argument is presented for considering Jingulu to be a prefixing language like other Mindi languages, based on a re-analysis of the structure of its verbal words. I will also argue that one of the the patterns of adverb-like co-verbal elements is borrowed from Jingulu's Pama-Nyungan neighbours.

As one of the southern-most non-Pama-Nyungan languages, Jingulu displays a number of characteristics of Pama-Nyungan languages, and shares a large proportion of its vocabulary with Mudburra. Jingili and Eastern Mudburra people have cohabited the same area for a long time, so a high degree of borrowing between languages is to be expected. In section 3 I discuss the results and ramifications of a lexicostatistical comparison of a number of languages in the West Barkly area, and conclude that Jingili and Mudburra people may have been living together for longer than has previously been suspected.

Some further non-Mindi influences on Jingulu phonology and morphology are discussed in section 4. In section 5, I conclude by addressing a question which I have been asked on many occasions since I began working on Jingulu in 1995: Is Jingulu a Creole? Jingulu does not appear to be a Creole in the classic sense, though it certainly might be considered a mixed language.

2. Morphosyntax

Jingulu has been described as non-prefixing (e.g. Chadwick 1975) because of the structure of many of its verbal words. As indicated in (1), the verb can consist of an uninflecting root

(here termed a pre-verb), followed by agreement markers, followed by a final element which appears to inflect for tense, aspect, and mood, as well as encoding elements of direction.

- (1) a. *Ngirriki-nya-jiyimi?*
hunt-2SG-come
'Are you coming hunting?'
- b. *Ngangarra ngaja-nga-ju.*
wild_rice see-1SG-do
'I can see wild rice.'
- c. *Maya-nya-ana-nu.*
hit-2SG-1OBJ-did
'You hit us.'
- d. *Ngirribiji-ji!*
tell-NEG.IMPV
'Don't tell anyone!'

The final element is glossed with a form of the English verb 'come', 'go' or 'do', depending on whether the element encodes motion towards or away or is motion neutral, or with an abbreviation for mood (motion neutral).³

However, the word-initial root is not obligatory, and some notions (e.g. 'come' and 'go', demonstrated in (2a-b)) can only be expressed without a root:

³ The abbreviations used in the glosses in this article are: 1, 2, 3 first, second, third person; SG, PL singular, plural number; INC, EXC inclusive, exclusive; LOC locative case; DEM demonstrative; OBJ object; DIST. PRES. FUT distant past. present. future tenses; NEG negative; IMPV imperative.

- (2) a. *Ya-ardu kardarda ya-jiyimi.*
 3SG-go always 3SG-come
 ‘He’s always coming and going.’
- b. *Ya-angku.*
 3SG-will.come
 ‘He will come.’
- c. *Kara-mbili nga-ju.*
 fog-LOC 1SG-do
 ‘I’m in the fog.’
- d. *Jangu wurru-ju.*
 nothing 3PL-do
 ‘They’re doing nothing.’
- e. *Nam wunyu-ju.*
 stuck 3DL-do
 ‘They’re stuck together.’
- f. *Ajuwaramanyan nya-nu? - Ngindi-mbili nga-nu.*
 where sleep 2SG-did DEM-LOC 1SG-did
 ‘Where did you sleep?’ ‘I did it there.’
- g. *Marlarlukaya-marriyimi.*
 old.men 3SG-did(DIST)
 ‘They did (it) in the old days.’

- h. *Ngini-mbilimankiya-nga-yi, ngawu nga-yi.*
 DEM-LOC sit-1SG-FUT home 1SG-FUT
 ‘I’ll stay here, I will (stay) home.’

Sentence (2e) demonstrates the use of a root-less verb with an coverbal element that is usually preverbal. More will be said about these elements later. The phenomenon of root-dropping is illustrated in (2f-h), where the verb appears without a root even though a root might be used to disambiguate the verb. This differs from the familiar pattern of VP-ellipsis in languages such as English in several important ways. First of all, VP-ellipsis requires a linguistic antecedent, while the omission of a root in Jingulu does not. Sentence (2g), for example, was uttered on seeing a picture (in a book) of women grinding grass seeds, where no previous discussion of the topic had taken place. English requires the use of the demonstrative *that* with focus (*They did THAT in the old days* / *#They did it in the old days*) under such circumstances, while Jingulu does not (though a focused demonstrative is possible). Furthermore, while VP-ellipsis requires the omission of internal complements as well as the verb, omission of a root in Jingulu does not, as (2h) shows.

Rather than viewing the verb word as consisting of a stem which can be dropped in some cases with a series of suffixes, I have argued elsewhere (Pensalfini 1997, in press) that the final tense/aspect/mood/direction marker is best viewed as the syntactic verb, with agreement prefixes. Thus Jingulu is a prefixing language like its western Mindi relatives. However, the initial root, which can be considered a preverb, is phonologically prefixed to the agreement+verb complex, making it unlike verbs in the other (eastern, Macarthur River) Mindi languages.

In the Yirram languages, the root and the complex containing the agreement markers (which I shall call the ‘auxiliary’, following Green 1995) are phonologically separate words, though the root (or preverb) normally immediately precede the auxiliary. The Jingulu preverb+verb sequence, however, constitutes a phonological word, as evidenced by the

regressive vowel harmony illustrated in (3). This phenomenon involves a high vowel in an adjacent agreement marker triggering raising of adjacent low vowels in the root.⁴

- (3) a. *ngaja-nga-nu* vs *ngiji-ngirru-nu*
see-1SG-did see-1PL.EXC
'I saw (him/her/it/them)' 'we saw (him/her/it/them)'
- b. *maja-nya-yi* vs *miji-wurri-yi*
get-2SG-FUT get-3PL-FUT
'you will get (it)' 'they will get (it)'
- c. *lakarr maja-nya-yi* vs *lakarr miji-wurri-yi*
break get-2SG-FUT break get-3PL-FUT
'you will break (it)' 'they will break (it)'

As (3c) shows, the domain of harmony is the phonological word and not the semantic lexeme. None of the other Mindi languages displays such a close phonological bond between the preverb and the syntactic verb complex (see, for example, Nordlinger (this volume) for discussion of Wambaya), and it is this bond which has led Jingulu to be classified as suffixing in its verbal morphology. However, as the evidence in (2) shows, the initial root is not morphosyntactically a verb, and it is therefore inaccurate to say that Jingulu agreement markers are suffixes to the verb. Rather, the final tense-bearing element is more properly considered the core verb of the clause, akin to a light verb in English, which means that agreement markers in Jingulu are verbal prefixes.

⁴ The situation is somewhat more complex than I have presented it here. While harmony is generally only triggered by subject agreement markers and not by (syntactic) verbs (and certainly never by object agreement markers), there are two syntactic verbs which are capable of triggering harmony. These are imperative verbs; the

The Yirram auxiliary differs from the Barkly languages' agreement+verb sequence in two further important respects. Firstly, the final element in the West Barkly languages encodes mood, tense, aspect, and other verbal information in a single morpheme, whereas Yirram languages separate mood from the other categories into a separate morpheme. Secondly, the Yirram languages have more tense-bearing final elements than do the Barkly languages. The Yirram languages have about twenty morphemes in this function, encoding action-type as well as tense and direction, while the Barkly languages encode only direction (associated motion) in addition to tense, mood, and aspect. Nordlinger (this volume), observes that the category of associated motion in Wambaya is more like that found in central Australian Pama-Nyungan languages, though diachronic evidence indicates that the forms came from verbal classifiers like those found in Jaminjung. The same can be said of Jingulu, except that there appears to be no evidence that the forms of the final verbs in Jingulu are cognate with other Mindi forms.

In both the Barkly and Yirram cases, however, these final elements are properly considered light verbs, with the roots which may accompany them of a different category.⁵ My use of the term 'light verb' for these constructions has drawn some criticism, mainly on the grounds that the accompanying elements in Jingulu and the Yirram languages are not syntactically nouns, as they are alleged to be in English light verb constructions such as 'give (it) a look/listen/taste/feel/burl', 'have a go', or 'go the boot'. However, the noun-like elements in these English constructions do not behave like other nouns either, as demonstrated in (4).⁶ Unlike other objects, it cannot passivise, nor can it semantically agree in number.

- (4) a. *The Tigers gave three senior players the sack.*
b. **The Tigers gave three players sacks.*

⁵ Pensalfini (in press) argues that these roots are category-less.

⁶ Thanks to Marv Laughren for pointing this out.

- c. **The sack was given (to) three players (by the Tigers).*

Wambaya differs from both Jingulu and the Yirram languages in that the root is not optional, and it may be inflected (with the future/imperative /-ba/), and therefore could be considered a syntactic verb in its own right. The agreement+tense/mood/aspect/direction complex, also obligatory in verbal clauses, is a separate phonological word (Nordlinger 1998 and this volume).

Mudburra, Jingulu's western and socially closest neighbour is a Pama-Nyungan language closely related to Gurindji (both Mudburra and Gurindji are classified as Ngumpin languages by O'Grady, Voegelin and Voegelin 1966) and thence to the Yapa languages (which include Warlpiri and Warlmanpa). It also has an auxiliary complex which includes agreement morphology. Unlike the Jingulu agreement+verb complex, but like the Wambaya auxiliary complex (and auxiliaries in other Ngumpin-Yapa languages), the Mudburra complex is phonologically distinct from (and can be separated from) the verb root (Green in preparation). Unlike the Barkly languages, however, the Ngumpin-Yapa languages suffix agreement markers to the auxiliary element. The Ngumpin languages, and to a lesser extent the Yapa languages, make extensive use of coverbs, uninflecting elements which co-occur with the inflected lexical verb and provide more specific information about the predicate. Consider the following Mudburra verbs (from Green in preparation, co-verbs in bold):

- (5) a. ***dak*** *kayini*
sit be-PRES
'(someone) is sitting down'

- b. ***dak*** *wandi*
sit fall
'sit down'

c. *darndarn wandi*
enter fall
'go inside'

d. *yurrub wandi*
hide fall
'hide (oneself)'

e. *yurrub kuya*
hide cause
'hide (something)'

Jingulu also employs a similar strategy, where a complex verb consists of two parts, the first being a coverb, an uninflected element which precedes an inflected verb (which usually also has an initial preverb, but may not (6d)):

(6) a. *Yurrub wardka-nga-yi.*
hide fall-1SG-do.FUT
'I'm going to hide.'

b. *Dang maya-nga-nu.*
dead hit-1SG-did
'I killed it.'

c. *Dang wardka-nu.*
dead fall-did
'It dropped dead.'

d. **Lurdba** *nga-rriyi*.
close 1SG-will.go
'I'll go up close.'

e. **Lurdba** *ngaja-nga-ju*.
close see-1SG-do
'I'm inspecting (it).'

I use the term 'coverb' to refer to elements such as *yurrub*, *dang*, and *lurdba* which are not phonologically bound to the verb and which can either precede or follow, or be separated from, the inflected verb. I use the term 'preverb' to refer to the elements which are phonologically bound to the front of the inflected verb and cannot stand alone. The term 'verb' or 'true verb' is used for the final element of verbal words, which carries tense and aspectual information and is inflected with agreement prefixes. In both Jingulu and Mudburra, coverbs are phonologically marked, often ending in a consonant. Closer examination of these elements in both languages shows that they are almost entirely cognate across these two languages, but absent from the other Mindi languages.⁷ It appears that Jingulu has borrowed the strategy and vocabulary of these adverbial elements entirely from the Ngumpin languages. In Ngumpin, these elements modify the inflecting verb, while in Jingulu they modify the co-verbal root which is prefixed to the verb.

It appears, then, that the verbal system of Jingulu is largely inherited from Proto Mindi, as Green (1995) argued. The apparent suffixing nature of Jingulu verbs is not a result of contact with its Pama-Nyungan neighbours, as Blake (1990) suggested, but is due to the

⁷ Many of these forms also have cognates in other Pama-Nyungan languages. The form *manyān* ('lie down'), for example, is found in Jingulu (see (2f)) and Mudburra, and in distant Pama-Nyungan neighbours Jaru and Walmajarri, but not in other Yirram languages. The form *lurdba* (6d-e) could conceivably be related to Warlmanpa *lurt* ('hidden from view') and *yurrub* (6a) to Warlpiri *lurru* ('hidden from view')

phonological fusion of a preverb with the true verb and its agreement prefixes. However, the use and form of a set of coverbs preceding a fully inflected verb (with or without preverbs) appears to be the result of diffusion from Ngumpin into Jingulu. Of course, it is also possible that these elements were borrowed into Ngumpin languages from other non-Pama-Nyungan neighbours at an earlier stage, given that these forms do not appear in Warlpiri (with the possible exception of a cognate for *yurru* - see note above). It seems unlikely, however, that the Mindi languages were the source for this, given that the forms do not appear in any Mindi language other than Jingulu.

3. Lexicon

Chadwick (1979) puts shared vocabulary between Jingulu and Wambaya at 29 per cent, while Jingulu shares 28 per cent with Ngarnka. No figures are given for shared vocabulary between Jingulu and Mudburra. These results are based on a 100-item list, and the counts were conducted prior to extensive work having been done on Wambaya, Ngarnka, or Mudburra. Among Jingulu speakers, many words are recognised as borrowings from Mudburra. It could not be otherwise with Mudburra and Jingili people having lived together for generations, and with the Mudburra so outnumbering the Jingili in recent times. These borrowings, for the most part, are recognisable as such to the linguist as well, lacking the regular noun class suffixes that Jingulu words, by and large, have. But there are also many borrowed words, not recognised as such by speakers, which do have regular noun class morphology, and are probably borrowing from an earlier period. As one example, Jingulu has two words for 'dog', *warlaku* and *kunyarrba*. While *warlaku* is recognised as a Mudburra borrowing, the 'real proper Jingulu word' for 'dog' is given as *kunyarrba*. This word does, admittedly, have the regular masculine ending /a/, and forms its feminine in the usual manner, but both Jaru and Walmajarri have *kunyarr* for 'dog', and the suffix /pa/ is a regular way of making phonological words from roots which are unpronounceable in isolation in several Pama-Nyungan languages, including Warlpiri. None of the other Mindi languages appear to have *kunyarr*). Another instance involves the Mudburra *barlungbarlung* (a wattle species

known locally as ‘weeping willow’), appearing in Jingulu in the semantically appropriate vegetable gender and bearing the phonologically appropriate ending as *barlungbarlungmi*. This form also occurs in Eastern Mudburra alongside *barlungbarlung*, so it is possible that Mudburra has borrowed the form from Jingulu. However, the disappearance of the Jingulu vegetable gender suffix /-mi/ in Western Mudburra then remains unexplained.

This section discusses a new lexicostatistical comparison of Jingulu, Wambaya, Yirram, and Mudburra based on the Swadesh 200-item list (Dyen, Kruskal, and Black 1997), and incorporating recent collections of vocabulary from these languages.⁸ The Jingulu words come from the vocabulary which I have maintained since 1995 and which contains data from previous work done by Hale, Chadwick and others. The Wambaya data comes from the dictionary section of the grammar by Rachel Nordlinger (1998). The Yirram data comes from Schultze-Berndt (1997). The Mudburra data comes from the database being maintained by Rebecca Green.

Cognates were counted in three different ways. This was necessary because of the situation in the Barkly, typical of many parts of Australia, where a single item in the Swadesh list corresponds to a variety of synonymous words in any given language. This is due in large part to borrowing from neighbouring languages.

Count 1 (results in Table 1) follows the standard lexicostatistical procedure in which an item is counted as cognate between two languages if there are any cognate words for the item between the two languages (Paul Black, personal communication). The scoring procedure was therefore: score 1 cognate if any cognate pair exists for the item; score 1 non-cognate if both languages have entries for the item but there are no cognates.

⁸ The list was effectively reduced to 194 items, as six of the items (*and, to count, to freeze, ice, snow, and year*) did not occur in any of the available wordlists. In addition, for any given pair of languages, there were a further 20-45 items which could not be compared because the item was not listed in one or other of the wordlists. The actual number of items compared for each pair of languages is as follows: Jingulu-Mudburra 170, Jingulu-Wambaya 161, Jingulu-Yirram 172, Wambaya-Yirram 148, Wambaya-Mudburra 152, Yirram-Mudburra 166.

Because of the high degree of borrowing among neighbouring languages, a high degree of cognacy can not be taken as a sign of genetic relatedness, particularly for this count, in which an item is counted as cognate even if each of a pair of languages has five words for an item and only one is shared.

Count 2 (results in Table 2) attempts to weight the items for degree of shared vocabulary between languages. Under this system, each item is broken into fractions corresponding to the number of words present for that item. The scoring procedure was: each pair of cognates for an item contributes a fraction to the total cognate count equal to one over the number of pairs that exist for that item; each pair of non-cognates for an item contributes a fraction to the total non-cognate count equal to one over the number of pairs that exist for that item. This system will actually give an indication of percentage of cognate vocabulary between two languages.

Count 3 (results in Table 3) attempted to minimise the effects of borrowing on the count by counting as cognates only those items in which all words from one language are shared by the other language. The scoring system was: score 1 cognate only if all pairs for the item are cognate; score 1 non-cognate if any non-cognate pairs exist for the item. My assumption here (quite possibly false) was that, where a language has more than one word for an item, it is unlikely to have borrowed all of those words from the same language.

In each of the counts, if there was no word available in the data for a given item in a given language, that item did not count towards the denominator for calculating percentage of cognate vocabulary when that language was under consideration.

On the assumption that Jingili and Mudburra people have co-existed in the Elliott region for a long time (although Tindale (1974) reports an alternative tradition), I expected to find a very high degree of cognacy between Mudburra and Jingulu items for count 1, higher in fact than the degree of cognacy between Jingulu and Wambaya or the Yirram languages. However, I expected that the percentage of cognates between Jingulu and Mudburra would drop more sharply than the Jingulu-Wambaya or Jingulu-Yirram scores for counts 2 and 3. This expectation was based on the assumption that languages would retain many of their ancestral word forms in addition to borrowing from genetically unrelated languages, and that

entire vocabularies would not be borrowed in a period of a mere few centuries of relatively stable co-existence (following the ideas expressed in Dixon 1997). The results, in Tables 1-3, were somewhat surprising:

Table 1: percentage of items with cognate vocabulary (count 1)

	Jingulu	Wambaya	Yirram	Mudburra
Wambaya	34	-		-
Yirram	26	19	-	-
Mudburra	71	24	36	-

As expected, Jingulu and Mudburra show a very high percentage of shared vocabulary under this count. The score for Mudburra and Yirram is also considerably higher than that for Jingulu and Yirram, despite the putative genetic relationship between Jingulu and Yirram. I would suspect that a comparison between Wambaya and Garrwa would also provide quite high results under this scoring system, due to the effects of lexical borrowing between these two neighbours.⁹

Table 2: percentage cognate vocabulary (count 2)

	Jingulu	Wambaya	Yirram	Mudburra
Wambaya	27	-		-
Yirram	18	16	-	-
Mudburra	56	19	26	-

⁹ It is interesting to note, for instance, that the name ‘Wambaya’ could conceivably be related to the Jingulu root *wambay-* ‘to speak’, while the Wambaya word for ‘speak’ is similar to the Garrwa word (Rachel Nordlinger, personal communication). On the other hand, the name might derive from *wamba*, meaning ‘snappy gum’ (a species of eucalypt) in the Barkly languages (Nash 1997:188).

This count did not show markedly different results from count 1 (except for the fact that the results are all lower, which is an artifact of the different scoring systems). One result which may be significant is that the score for Wambaya-Yirram fell (compared to count 1) by a lesser degree than the other counts, which suggests that borrowing between these two languages has not been as extensive as between the others. This is to be expected as the languages do not neighbour and have not had the sort of extensive direct contact that other groups have. This result is further accentuated in count 3.

Table 3: percentage cognate items (count 3)

	Jingulu	Wambaya	Yirram	Mudburra
Wambaya	21	-	-	-
Yirram	11	14	-	-
Mudburra	40	16	17	-

What is extremely surprising about this count is that the score for Jingulu-Mudburra is still about twice that for Jingulu-Wambaya, which can mean one of two things: either Jingulu and Mudburra are genetically related, which seems unlikely given the morphosyntax of these two languages; or Jingulu and Mudburra have been in contact for so long that vocabulary borrowing has obscured traces of genetic relationships in the vocabulary. The other notable result is the significant drop in the scores comparing Yirram with both Jingulu and Mudburra, which suggests that the higher scores in count 1 might well be a result of recent borrowings from Mudburra/Gurindji.

Note that the Mudburra-Yirram score was higher on all three counts than the Mudburra-Wambaya score. This might indicate extensive contact and borrowing between Proto Ngumpin and Proto Yirram.

A number of other published lexicostatistical techniques, such as those of Guy (1980), Breen (1990), and Black (1997), remain to be tested in future work. It would also be instructive to compare the counts for verbs alone.

The results in this section underline the dangers of taking lexicostatistical information alone as an indicator of genetic relatedness, a danger which O'Grady, Wurm and Hale (1966) were well aware of. For many parts of southern Australia, however, the only data available are word lists, so any claims regarding genetic affiliations among these languages must be viewed with some skepticism.

4. Other non-Mindi influences on Jingulu

4.1 Phonology

At first sight, Jingulu phonology is quite unremarkable. It has a regular phoneme inventory for languages of the area and CV(C) syllables. However, there are at least three properties of Jingulu that are worthy of note with regard to influences on the language. First of all, Jingulu has an element in its phonetic inventory that is at least phonetically (Pensalfini 1997) but possibly phonologically (Chadwick 1975) a doubly-articulated stop.¹⁰ Derived historically from a palatal+velar consonant cluster, the phone appears to involve both dorso-velar and lamino-palatal closure. It is worth noting that Hale (1960) did not list this element separately in his Jingulu phoneme inventory, but his transcription does include [kʏ] in several places where Chadwick (1975) has the phoneme /ky/ and Pensalfini (1997) has the cluster /jk/. No other Mindi language, nor any of the neighbouring Pama-Nyungan languages, is said to have such a single segment, but just such a stop (along with a corresponding nasal) has been proposed in Yanyula and Garrwa (Kirton 1971 and Furby 1972 respectively). The Jingili do have direct ties with the people of the Gulf coast. Some Jingulu texts I have collected speak of traveling to Yanyula country to fish in the sea, and Yanyula people still travel to the Lake Woods area for ceremonial purposes.

¹⁰ The use here of the term 'doubly-articulated' might be questioned. While there is no part of the tongue between the blade and the dorsum that is not in contact with the roof of the mouth), nevertheless insofar as the tongue blade and the dorsum are independent articulators (following Halle's (1992) feature geometry), the articulation involves two articulators and is therefore 'doubly-articulated'.

Jingulu also has a pattern of internal reduplication found in a number of neighbouring languages which include some (but not all) other Mindi, Ngumpin and Yapa languages, as well as Alawa, Mangarayi and Wardaman (Nash and Simpson 1996). This therefore appears to be an areal rather than a genetic distribution, with Jingulu practically at its geographical centre. As the examples in (5) show, the reduplicant appears to be an infix (in bold type) composed of the coda of the first syllable plus the onset of the second.¹¹

- (7) a. *marluka* --> ***mar**larluka*
 ‘old man’ ‘old men’
- b. *nankuna* --> ***nank**ankuna*
 ‘cave’ ‘cave country’
- c. *jangkiyi* --> ***jangk**angkiyi*
 ‘high’ ‘summit’

The process applies only to a semantically restricted set of words in Jingulu, words for properties of people or for features of landscape. However, it does appear to be quite productive within that realm and so the appearance of these forms can not be put down to lexical borrowing (see Pensalfini 1998 for further discussion).

Jingulu stress shows properties of neighbouring Pama-Nyungan languages within a non-Pama-Nyungan framework. Like the prefixing languages further to the north, the main stress in a Jingulu word is the final one. This means that main stress often falls on suffixes. However, with regard to suffix coherence (the degree to which suffixes resist being footed

¹¹ The parse I have proposed, with the ‘copy’ preceding the ‘original’, is not the only possible one. It could be argued, for instance, that the ‘original’ precedes the ‘copy’, as in *marlarluka*. I prefer the parse in (7) for reasons which are set out in Pensalfini 1998.

with material from other morphemes, see Pensalfini 1999c for discussion), Jingulu behaves more like Warlpiri than other languages.

4.2 Case and discourse-marking morphology

The declining case system on Jingulu nominals is of further interest. The other Mindi languages, and Jingulu's Pama-Nyungan neighbours like Mudburra and Warlpiri, have obligatory and intact case systems in addition to extensive agreement systems. Jingulu's case system appears to be less grammaticalised. While case marking is obligatory in simple clauses (ERG/ABS distinction on free nominals, three way ERG/NOM/ACC distinction on pronouns), in discourse and in texts there is a high degree of absence of regular case marking. Nominals which are clause-peripheral, and set off by a very slight intonation break, regularly lack any case-marking (pronouns appearing in their NOM form). The regular case markers are now also used to mark discourse prominence, rather than case alone, and disambiguation is achieved chiefly through verbal agreement or context.

I argued in Pensalfini 1999a that the decline of case-marking and concomitant rise of discourse-marking may be the result of language attrition and the influence of English. However, the innovation of case morphology used as discourse-marking morphology is not noted elsewhere in Australia under similar sociolinguistic conditions. It is conceivable that Jingulu's weak or weakened case marking system is the result of influence from Jingulu's northern non-Pama-Nyungan neighbours. Merlan (1985) reports that there are instances of transitive subjects lacking the expected Ergative case in Mangarayi, one of Jingulu's nearby northern neighbours. Optional Ergative marking has also been reported in some Kimberley languages (McGregor 1992 on Gooniyandi, for example), but there is little likelihood of these languages having affected Jingulu and not intervening languages. It is more likely that language attrition in both areas has led to an erosion of morphological complexity. It is not uncommon, when the case-marking system of a language weakens, for the morphology associated with that system to be adopted for a new purpose. A comparison of Aleut (Bergsland 1997) with Eskimo languages demonstrates this (the historical Eskimo Ergative

suffix is no longer used to mark transitive subjecthood in Aleut, but instead appears on the subject to indicate the presence of elided material within the verb phrase). On the other hand, there is a possibility that the discourse markers in Jingulu are forms borrowed from neighbouring Mudburra and nearby Gurindji, rather than being new uses of the Ergative suffixes (discussed in Pensalfini 1999a).

5. Conclusion – Is Jingulu a Creole?

Given its placement by a series of water holes and seasonal lakes, and containing the only year-round lakes for a great distance in any direction, traditional Jingili country might be considered an ideal location for a creole to arise by way of a pidgin lingua franca developed for use among the variety of linguistic groups that might access those areas. The typological data discussed in the previous sections strongly suggests that Jingulu is a Mindi language, but one which has been influenced enormously by a variety of genetically diverse languages around it. Chadwick's (1975) mapping of Jingili country corresponds to the catchment areas of Lake Woods and Newcastle Creek, and while most of these areas are no longer inhabited by Jingili, older Jingili people with whom I worked continue to identify these areas as traditional Jingili country. Jingili country therefore appears to be an oasis of sorts, separated by arid stretches from a variety of peoples (Wambaya to the east and south east; Yangman and Mangarrayi to the north; Mudburra, Gurindji to the west; Warlpiri and Warlmanpa and Warumungu to the south and west), all of whom have some ceremonial ties to the area, many of whom, until very recently, would come to large ceremonies around Newcastle Creek and Lake Woods.¹² According to stories I have collected, these relationships have been at various times more or less peaceful.

¹² Most language maps and scholars also put Alawa as an immediate neighbour of Jingulu to the north east, but the Jingili people with whom I worked denied any direct contact between the Jingili and the Alawa, claiming that Ngarnka country lay between them.

According to this scenario, the ‘original’ Jingili inhabitants would have spoken a language probably quite similar to Wambaya, which subsequent waves of friends and invaders would have left a stamp on, altering not only its vocabulary but its syntactic structure as well, not unlike what has happened to English.

Modern Jingili people affiliate themselves most closely with the Mudburra, among whom they live and with whom they share a daily and ritual life. There is no modern Jingili culture separate from Mudburra culture. Linguistically, Jingulu and Mudburra share a great deal of vocabulary, but not much else. Wambaya is probably syntactically closer to Jingulu, and there are morphological similarities, but the relationship between Jingili and Wambaya people does not appear to be particularly close. The Wambaya are often blamed for violent incidents in the area’s history by the Jingili (but not directed against Jingili people, with whom the Wambaya mostly seem to have been on good terms). It is conceivable that, despite originating from the same people (and language) as the Wambaya, extended cohabitation with the Mudburra altered both culture and language so that the Jingili now see themselves as more closely affiliated with the Pama-Nyungan people of the area than with the Wambaya. Phonological influences from northerly-lying languages could have come into Jingulu at any time, as contact with these peoples would have been extensive and frequent. Some older Jingili people told stories of going to Yanyula country (on the coast of the Gulf of Carpentaria) to fish on a fairly regular basis, as late as the first half of the twentieth century, and Yanyula people still occasionally come to Jingili country for ceremonial purposes.

Still, under this scenario Jingulu could only be called a creole if English too is to be considered a creole. To many, ‘creole’ has a very specific meaning that would not suit the English situation. However, I think that both Jingulu and English could be considered ‘mixed languages’ (following Hudson 2000:444, for whom creoles are exceptional cases of mixed languages, or Bakker and Mous 1994, who distinguish mixed language from creoles entirely), showing very strong influence from a variety of linguistic sources.

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