

10 *Western Gunwinyguan*

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This paper provides evidence that Jawoyn (Merlan n.d.) and Warray (Harvey n.d.) are more closely related to one another than either is to any other GN language. There is both lexical and grammatical evidence for this connection. As such, Jawoyn and Warray could from some perspectives be viewed as forming a subgroup within the GN family. However, the relationship is not a close one, and the term 'subgroup' must be treated with caution. Rather than 'more closely', it would be somewhat more appropriate to describe Jawoyn and Warray as being less distantly related to each other than either is to any other GN language.

Given that Jawoyn and Warray are not contiguous (Map 3), establishing a particular connection between Jawoyn and Warray necessitates consideration of the intervening language varieties. There were two, now extinct, language varieties intervening between Jawoyn and Warray: Uwinymil and Wulwulam. Uwinymil is poorly recorded, but the available materials suffice to establish that it was a distinct language (Harvey, to appear). Wulwulam is even more poorly recorded, and the available materials do not suffice to establish its technical linguistic status. The available materials on Wulwulam are examined in §3.

1 lexical correspondences

Jawoyn and Warray show a high degree of lexical cognacy across all lexical domains (Harvey this volume, Chapter 8), but the diachronic significance of this requires consideration. Firstly, Jawoyn also shows a high degree of lexical cognacy with Bininj Gunwok, its northern neighbour. Secondly, there are examples in Australia of intensive borrowing leading to high degree of lexical cognacy (Heath 1978a). In order to determine the significance of the degree of lexical cognacy between Jawoyn and Warray, it is necessary to examine the distribution of cognates by morphological type and semantic domain.

In general terms, it is well established that correspondences between word forms involving root-level morphological relations are indicative of a greater time depth than are correspondences between word forms not involving root-level morphological relations. In terms of semantic domains, there is evidence that among nominals the 'adjective' and 'body

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part' domains are comparatively resistant to diffusion (Harvey this volume, Chapter 8). Consequently, correspondences in these semantic domains are indicative of a greater time depth.

The correspondence sets appearing only in Jawoyn and Warray, or only in Jawoyn and Bininj Gun-wok, are listed in the Appendix. These two groups of correspondence sets show very different distributions, when examined against the criteria of morphological type and semantic domain discussed. These very different distributions are summarised in Table 1.

Among the GN languages, all verbal paradigms involve substantive root-level suffixation. There are two verbs which appear only in Jawoyn and Warray. There are no correspondences involving paradigmatic root-level morphology which are exclusive to Jawoyn and Bininj Gun-wok. Similarly, there are significantly more correspondences in the adjectival and body-part domains which are exclusive to Jawoyn and Warray than there are exclusive to Jawoyn and Bininj Gun-wok. The greatest number of correspondences, exclusive to Jawoyn and Bininj Gun-wok, are found in the domain of natural species names.

Table 1: Language-pair cognate counts by morphological type and semantic domain

	Jawoyn-Warray	Jawoyn-BGW
Verbs	2	0
Coverbs	17	21
Adjectives	13	1
Body parts	8	4
Material objects	2	5
Natural species	6	27
Other nominals	10	15
Total	58	73

The comparative distributions of these two groups of correspondence sets argues that the correspondences between Jawoyn and Warray are generally of a greater time depth, and that consequently that many are attributable to inheritance from a common ancestor, exclusive to Jawoyn and Warray. The correspondence sets between Jawoyn and Bininj Gun-wok are of a comparatively lesser time depth. Consequently, borrowing appears to have been a significant factor between these two languages.

2 Grammatical correspondences

It is well established that correspondences in affixal morphemes are indicative of a greater time depth than correspondences in root morphemes, particularly those root morphemes which can appear as self-sufficient phonological words, as is commonly the case with nominals in GN languages. We may note that there are no affixes which appear only in Jawoyn and Bininj Gun-wok. On the other hand, there are a number of affixes which appear only in Jawoyn and Warray. There are two affixes, a noun class prefix and a reduplicative prefix, which form part of larger paradigmatic systems, and consequently provide perhaps the clearest evidence of a connection between Jawoyn and Warray. We may begin by considering these prefixes.

2.1 Noun classes

The noun class systems of Jawoyn, Warray and the Gundjeihmi dialect of Bininj Gun-wok are very similar. All of the languages show a distinction between head and agreement classes (Evans 1997; Harvey 1997). The head classes of the three languages differ somewhat.

Gundjeihmi (Bininj Gun-wok) Head Classes (Evans 1997)

- | | | |
|-----|----------------|---|
| I | <i>na-</i> | Some human male referents, a few animals and others |
| II | <i>(ng)al-</i> | Some human female referents, a few animals and others |
| III | <i>(ng)an-</i> | Plants, weapons, manner adverbials, some body parts, some geographical features |
| IV | <i>kun-</i> | Body parts, geographical features, artefacts, fire, camp, abstract nouns |
| V | \emptyset - | Residue class including all other nouns |

Jawoyn Head Classes

- | | | |
|-----|---------------|--|
| I | <i>na-</i> | Some human male referents, a few animals and others |
| II | <i>ngal-</i> | Nearly all human female referents, a few others |
| III | <i>ngan-</i> | Locational/adverbial class, including body parts and geographical features |
| IV | \emptyset - | Residue class including all other nouns |

Warray Head Classes

- | | | |
|-----|---------------|---|
| I | <i>a-</i> | Some human male referents, a few others |
| II | <i>al-</i> | Human female referents |
| III | <i>an-</i> | Body parts, some geographical features |
| IV | \emptyset - | Residue class including all other nouns |

All three languages show essentially the same pattern of agreement classes.

Bininj Gun-wok, Jawoyn and Warray Agreement Classes

- | | | |
|-----|----------------|---|
| I | <i>(n)a-</i> | human male and (higher) animate referents; is the unmarked prefix form being a possible prefix with any class of referent |
| II | <i>(ng)al-</i> | human female referents |
| III | <i>(ng)an-</i> | other referents |

The Gundjeihmi head classes I and II relate directly to the Jawoyn and Warray classes, both in the form of the class prefix and in the nature of the semantic domains forming the classes. The form of the Gundjeihmi head class III prefix appears to relate to the head class III prefixes found in Jawoyn and Warray. However, the semantic domains associated with head class III in Gundjeihmi differ significantly from those associated with head class III in Jawoyn and Warray. Head class III in Jawoyn and Warray is focally a part noun class.

The Gundjeihmi head class III does include a few body and geographical part nouns. However most part nouns in Gundjeihmi belong to head class IV, and head class III is focally a plant class. The disparity between the semantic domains marked by the *(ng)an-* prefix in Gundjeihmi and those marked by this prefix in Jawoyn/Warray is such that any

relationship between the Gundjeihmi prefix and the Jawoyn/Warray prefixes must be viewed as less close than the relationship between the Jawoyn and Warray prefixes.

The nature of relationship between the Jawoyn and Warray prefixes requires some consideration. Heath (1978a:87–91) argues that prefixes marking non-human classes may be diffused. Therefore the possibility that the relationship is diffusional rather than inherited must be considered. In this particular case, the evidence is against diffusion. While Jawoyn and Warray show significant similarities in head class III, they also show some differences. In Jawoyn, the *ngan-* prefix forms part of a paradigm conveying both class and case information. In locative cases, the prefix for class III nouns is *ni-*.

- | | | |
|-----|-------------------------------|---------------------------|
| (1) | <i>ngan-coli</i> | <i>ni-coli</i> |
| | 'III-crossing' (non-locative) | 'III-crossing' (locative) |

In Warray, the prefixes do not convey case information, and the class III prefix is *an-* in all case roles. In Warray, not all body-part nouns belong to class III. Alienable body-part nouns generally belong to class IV (Harvey 1996). In Jawoyn, alienable body-part nouns generally belong to class III, along with the inalienable body-part nouns.

Given the greater paradigmatic complexity of the Jawoyn prefixes, any diffusion is likely to have been from Jawoyn into Warray (Heath 1978a:104–115). However, the differences in semantic organisation suggest that any putative diffusion into Warray is not recent. Further, there is evidence from place names in Warray country that the class III marker is of some antiquity in the language.

- | | | |
|-----|-----------------|------------------------|
| (2) | <i>Ancimcim</i> | <i>cimcim</i> |
| | 'place name' | 'itchy grub/substance' |

The place name *Ancimcim* derives from the noun *cimcim* 'itchy grub/substance'. However this derivational relation is not productive. Productive place-name derivation involves the use of the locative suffix *-lik* (i.e. the productive derivation would be *Cimcim-lik*). The place names *Anpekkola* and *Anporrokkorl* also appear to involve a similar non-productive use of the class III marker. *Anpekkola* and *Anporrokkorl* have a single primary stress on their second syllable, which is a possible pattern for four-syllable nouns consisting of a monosyllabic noun class prefix and trisyllabic stem. Four-syllable nouns consisting solely of an unanalysable root normatively have stresses on the first and third syllables. Consequently the place names appear to consist of the class III prefix *an-* + the stems *pekkola* and *porrokkorl*. These stems are however meaningless. Thus the names, including the frozen class III prefixes, have presumably not been given to the places in any recent period.

Given the evidence for the antiquity of **ngan-* as a head class marker for a part noun class in both Jawoyn and Warray, **ngan-* may be reconstructed as a prefix marking a class of part nouns in a proto-language ancestral to the two languages. The Gundjeihmi (*ng*)*an-* prefix argues that the **ngan-* prefix may be of some antiquity within the GN family. It seems unlikely that this prefix has been borrowed into Gundjeihmi from Jawoyn. The cases of potential diffusion of class prefixes, discussed by Heath (1978a:87–91), all involve the borrowing in tandem of a particular prefix form and the semantic domains associated with that prefix. As we have seen, the set of semantic domains focally associated with the (*ng*)*an-* prefix in Gundjeihmi shows considerable differences from the set of semantic domains associated with this prefix in Jawoyn and Warray.

The other Bininj Gun-wok dialects have essentially the same prefixal class system as Gundjeihmi. However, in the other dialects, the marker for head class III is *man-*. Many northern languages have a plant class which is marked by a prefix of the form *mV(n)-*. Among the Gunwinyguan languages, Ngalakgan and Ngandi have a noun class of this nature. There is one other NPN language, apart from Bininj Gun-wok, which shows an alternation between /m/ initial and /ng/ initial forms in the prefixal marking of a particular class: Maung. Maung has a plant class, which includes a number of part nouns. This class is generally marked by a prefix *ma-*. However, in a few adjectival paradigms, this class is marked by a prefix *nga-* (Capell & Hinch 1970:56). This suggests that the *nga(n)-* prefix may be an old form, which is preserved only in Gundjeihmi, Jawoyn, Maung, and Warray. However, it is only in Jawoyn and Warray that the class associated with this prefix form is focally a part noun class. The original function of this prefix, and its relationship with the *mV(n)-* prefixes, remain to be established.

2.2 Non-past verbal reduplication with monosyllabic verbs

The GN languages show two patterns of reduplication in the Non-Past with monosyllabic verbs. Reduplication in Bininj Gun-wok, Ngalakgan, Ngandi, and Rembarrnga involves a disyllabic reduplicant. Reduplication in Jawoyn, Uwinymil, and Warray involves a monosyllabic reduplicant. Most GN languages have a range of disyllabic reduplication patterns, which signal various kinds of imperfective meanings (iterativity etc.). The particular pattern found with monosyllables in Bininj Gun-wok, Ngalakgan, Ngandi, and Rembarrnga is a subclass within this more general disyllabic reduplication pattern.

In Bininj Gun-wok (Evans 1995:758; Evans 2003), reduplication of monosyllabic verbs conveys an iterative meaning and is found in all tenses. The Bininj Gun-wok reduplication pattern is illustrated in Table 2.

Table 2: Verbal reduplication patterns in Bininj Gun-wok

Base	Reduplication	
<i>tu-ng</i>	'scold-NP'	<i>tungu-tu-ng</i>
<i>to-y</i>	'strike-PP'	<i>tongo-to-y</i>
<i>tany</i>	'stand-PI'	<i>tanga-tany</i>
<i>wo-n</i>	'give-NP'	<i>wono-wo-n</i>

The reduplication pattern found in Rembarrnga (McKay 1975:198–199) appears to be related both formally and functionally to that found in Bininj Gun-wok.

Table 3: Verbal reduplication patterns in Rembarrnga

Base	Reduplication	
<i>rne-ny</i>	'cook-PP'	<i>rneye-rne-ny</i>
<i>ru-n</i>	'cry-PRES'	<i>runu-ru-n</i>

The reduplication apparently marks a variety of essentially iconic functions (iteration, durativity, emphasis, progressive McKay 1975:206–211).

Verbal reduplication in Ngandi appears to be related to that found in Bininj Gun-wok and Rembarrnga.

Table 4: Verbal reduplication patterns in Ngandi

Base	Reduplication	
<i>nga-n</i>	'hear-FUT'	<i>ngana-nga-n</i>
<i>tho-ngi</i>	'chop-PI'	<i>thongi-tho-ngi</i>

The reduplication indicates repetition, distribution and continuity (Heath 1978b:14).

In Ngalakgan, verbal reduplication is lexicalised (Merlan 1983:115–119). In the Non-Past, monosyllabic verbs show the same pattern as that found in Bininj Gun-wok, Ngandi, and Rembarrnga. This is illustrated with the paradigms of *ngu* 'to eat' and *pu* 'to hit' in Table 5.

A number of verbs have a reduplicated Present tense form. This reduplicated Present tense form either varies with an unreduplicated form, as with *ngu* 'to eat', or is the sole Present tense form, as with *pu* 'to hit'. The disyllabic reduplicant appearing in these Present tense forms has the same structure found in Bininj Gun-wok, Ngandi, and Rembarrnga.

Table 5: Verbal reduplication patterns in Ngalakgan

	'to eat'	'to hit'
Past Perfective	<i>ngo-winy</i>	<i>poq-po</i>
Past Imperfective	<i>ngu-niny</i>	<i>pu-niny</i>
Present	<i>ngu-n, ngunu-ngu-n</i>	<i>punu-pu-n</i>
Evitative/Imperative	<i>ngu-n</i>	<i>pu-n</i>
Future	<i>ngu-na</i>	<i>pu-na</i>
Potential	<i>ngu-ni</i>	<i>pu-ni</i>

By contrast, the reduplicant in Jawoyn, Uwinymil and Warray is a monosyllable. In Warray the reduplicated form is used in the present tense and as an emphatic future; the simple form is used as an unmarked future.

- (3) *ka-nga-n* *ka-ngan-nga-n*
 NP-listen-NP NP-RED-listen-NP
 'he will listen to him' 'he is listening to him, he will really listen to him'

The formal relationship between the simple and reduplicated forms in Warray is in all cases that of a regular complete reduplication of the verb. The system in Uwinymil appears to be similar.

- (4) *ne-rre-na-n* *arn-na(n)-na-n*
 2PL-PLS-see-NP 1SGO-RED-see-NP
 'you mob will see him.' 'you/he are looking at me.'
- (5) *wunek at-pe-n* *narn-pen-pe-n*
 later 1SGS-hit-NP 2PLO-RED-hit-NP
 'I will hit him later.' 'He will (really) belt you mob.'

The reduplications appear to be regular, allowing for some inaccuracies in the materials. It also appears that reduplication distinguishes the present, and possibly the emphatic future, from the general future for all verbs in Uwinymil (polysyllabic verbs use other reduplication patterns).

Jawoyn differs from Uwinymil and Warray in two ways. Firstly, there is no contrast in meaning between the simple and reduplicated forms. The two are simply variants of the Non-Past form. Secondly in Jawoyn some of the reduplications are formally irregular.

Table 6: Jawoyn reduplicated forms in contrast to Warray

	Jawoyn		Warray	
	Simple	Reduplication	Simple	Reduplication
'to drink'	<i>pi</i>	<i>piwi</i>	<i>pi-rl</i>	<i>pirl-pi-rl</i>
'to get'	<i>ma-ng</i>	<i>mama-ng</i>	<i>ma-ny</i>	<i>many-ma-ny</i>
'to give'	<i>wo-n</i>	<i>wonwo-n ~ wonko-n</i>	<i>wu-n</i>	<i>wun-wu-n</i>
'to hear'	<i>nga-n</i>	<i>ngannga-n</i>	<i>nga-n</i>	<i>ngan-nga-n</i>
'to hit'	<i>bu-n</i>	<i>bunbu-n</i>	<i>bu-n</i>	<i>bun-bu-n</i>
'to see'	<i>rna-n</i>	<i>rnana-n</i>	<i>rna-n</i>	<i>rnana-na-n</i>
'to sit'	<i>rni</i>	<i>rni-rni</i>	<i>rni</i>	<i>rni-rni</i>
'to take'	<i>ka-n'</i>	<i>kanka-n</i>	<i>ka-n</i>	<i>kan-ka-n</i>

The predicted reduplications in Jawoyn for 'to drink', 'to get' and 'to see' would be **pipi*, **mangmang* and **rnannan* respectively. The attested forms *piwi*, *mamang* and *rnanan* may be related to these predicted forms. The change **pipi* > *piwi* involves medial lenition, which is a well-attested process in Jawoyn (Harvey this volume, Chapter 8). The appearance of lenition in this form argues that the innovation of this kind of monosyllabic reduplication preceded the sound change of medial lenition.

The change **mangmang* > *mamang* appears to involve two factors. One factor is the markedness of nasal + nasal clusters. Among Australian languages, sonorant + obstruent clusters are the least marked type of clusters in terms of manner of articulation (Hamilton 1996:155–159). Consequently, nasal + nasal clusters are a marked cluster type. The other factor is the status of the boundary between the base and reduplicant in the reduplicated form. This boundary was originally a clearcut boundary, and the reduplicated form had a distinct meaning from the non-reduplicated form. Australian languages generally allow a wider range of clusters across morphological boundaries than they do intramorphemically (Hamilton 1996:19). This is true of all the GN languages, including Jawoyn. When verbal monosyllabic reduplication ceased to have a distinctive function in Jawoyn, this nasal + nasal cluster, which had been clearly *intermorphemic*, effectively became *intramorphemic*. In this circumstance, we may expect more highly marked configurations to be replaced by related, but less marked, configurations. This replacement process will not necessarily be regular (Hamilton 1996:25–26). In this case, the related, and less marked, configuration was created by deletion of the coda portion of the cluster.

¹ The Jawoyn forms *kan* and *kankan* actually mean 'to go'. However comparative evidence indicates that 'to take' is the original meaning (Alpher, Evans & Harvey this volume).

The change **rnannan* > *nnanan* involves all of these factors, and there is also the fact that the proto-form involved a geminate nasal. Jawoyn like all GN languages does not permit geminate sonorants intra-morphemically. The *wonkon* variant of 'to give', which involves an irregular fortition **wonwon* > *wonkon*, may be explained by the same factors. Nasal + glide clusters are the most marked type of clusters from the perspective of manner of articulation (Hamilton 1996:181). Consequently, a fortition changing this most marked cluster type to the least marked sonorant + obstruent type accords with the changes affecting the other reduplicated constructions in Jawoyn.

The irregular and lexicalised reduplication system of Jawoyn presumably derives from a productive system with the same structure as that found in Uwinymil and Warray. There is some evidence from Warray, that the monosyllabic reduplication pattern is an innovation, replacing an earlier disyllabic reduplication pattern with the structure found in Bininj Gunwok, Ngalakgan, Ngandi, and Rembarnga. In Warray, the Non-Past generally serves as the stem for the Past Imperfective, and this pattern can be reconstructed for pGN (Alpher, Evans & Harvey this volume).

Table 7: Past Imperfectives with reduplicated stem — highly irregular, and evidently archaic

Base		Reduplication	
<i>pi-rl</i>	'drink-NP'	<i>pirl-pi-rl-ang</i>	'drink-PI'
<i>pe(-rr)</i>	'bite-NP'	<i>pit-pi-rr-iny</i>	'bite-PI'
<i>ca-rl</i>	'eat-NP'	<i>cu-ci-rr-iny, carl-ca-rl-any</i>	'eat-PI'
<i>ci-∅</i>	'stand-NP'	<i>ci-c-iny</i>	'stand-PI'
<i>rni-∅</i>	'sit-NP'	<i>rni-n-iny</i>	'sit-PI'
<i>yu-∅</i>	'lie-NP'	<i>yu-y-iny</i>	'lie-PI'

Generally, it is the simplex Non-Past form which serves as the stem. However, there are a few highly irregular, and evidently archaic, Past Imperfectives where the stem is a reduplicated Non-Past form (see Table 7). In most cases, the reduplicant is a monosyllable.

However, there are two verbs, where the Past Imperfective appears to be based on a Non-Past form with a disyllabic reduplicant.

Table 8: PI apparently based on NP with disyllabic reduplicant

Base		Reduplication	
<i>yi-ny</i>	'go-NP'	<i>yungo-y-iny</i>	'go-PI'
<i>ci-ny</i>	'do/say-NP'	<i>cungu-c-iny</i>	'do/say-PI'

The 'go' verb does not have correspondents elsewhere among the GN languages, but the 'do/say' verb does (Alpher, Evans & Harvey this volume).

Table 9: Reflexes of *THu ‘to tell off’

pGN	‘to tell off’	PP	PI	NP
		*THu-y	*THu-ng-iny	*THu-ng
Dalabon	‘to tell off’	<i>tu-ny</i>	<i>tu-nginy</i>	<i>tu-ng</i>
Jawoyn	‘to do, to say’	<i>cu-y</i>	<i>cu-ngay</i>	<i>cu(yu)-ng</i>
Mangarrayi	‘to swear at’	<i>cu-c</i>	<i>cu-nyi</i>	<i>cu-k</i>
Bininj Gun-wok	‘to scold, to tell off’	<i>tu-y</i>	<i>tu-ngi</i>	<i>tu-ng</i>
Ngandi	‘verbaliser’	<i>-thi</i>	<i>-thu-ngi</i>	<i>-thu-ng (Fut)</i>
Warray	‘to do, to say’	<i>ci-yi</i>	<i>cunguc-iny</i>	<i>ci-ny</i>

The Warray PI form is highly irregular, within the synchronic context of the Warray paradigm. However, from a diachronic perspective, it derives from *THungu-THu-ng-iny, with an irregular, but unsurprising, reduction from a quadrisyllabic form to a trisyllabic form. The Bininj Gun-wok reduplicant for ‘scold-NP’ is *tungu-tu-ng*, providing evidence that *THungu-THu-ng can be reconstructed as the reduplicated form of the Non-Past for pGN.

There is no equivalent evidence supporting the reconstruction of monosyllabic reduplication for pGN. Consequently, monosyllabic reduplication appears to be an innovation common to Jawoyn, Uwinymil, and Warray. While these three languages show the same basic reduplication pattern, there is one difference between Uwinymil, on the one hand, and Jawoyn and Warray, on the other.

Table 10: Monosyllabic reduplication in Jawoyn, Uwinymil, and Warray

	Uwinymil	Jawoyn	Warray
‘they are sitting’	<i>pi-rni-rni</i>	<i>pu-rni-rni</i>	<i>ka-pa-rni-rni</i>
‘he is sitting’	<i>karni-ka-rni</i>	<i>ka-rni-rni</i>	<i>ka-rni-rni</i>

In Jawoyn and Warray, it is only the verb which reduplicates in all cases. However in Uwinymil, forms with a 3sgS do not show monosyllabic reduplication. Rather, they show a disyllabic reduplication, which includes the prefix *ka-*. This argues that Warray and Jawoyn are slightly closer to each other than either is to Uwinymil.

2.3 Other affixes

Apart from the noun class prefix and the reduplicative prefix, discussed preceding, there are five other affixes which appear only in Jawoyn and Warray. They are listed in Table 11.

Table 11: Five affixes exclusive to Jawoyn and Warray

	Jawoyn	Warray
*- <i>cangki</i>	<i>-cangki</i> ‘plural/collective’	<i>-cangki</i> ‘really (intensifier)’
* <i>ke-</i>	<i>ke-</i>	<i>ke-/ki-</i>
*- <i>luk</i>	<i>-luk</i>	<i>-lik</i>
*- <i>wayen</i>	<i>-wayen</i>	<i>-wayin</i>
*- <i>wirru</i>	<i>-wirr</i>	<i>-wirru</i>

The irregular locational stem *lerrik* for 'camp' provides strong evidence for the antiquity of the locative case marker in Warray. The demonstrative form *angilak* 'hereabouts' provides somewhat less strong evidence for the same conclusion. There does not appear to be equivalent evidence for the antiquity of the locative case marker in Jawoyn. Consequently, borrowing into Jawoyn from Warray is a possibility. However, any such borrowing would have had to precede the irregular **u > i/_k, q* sound change in Warray (Harvey this volume, Chapter 8). Further, it should be noted that there is no positive evidence for borrowing into Jawoyn. Jawoyn does not show remnantal traces of some earlier locative case suffix.

The temporal suffixes, *-wayen* in Jawoyn and *-wayin* in Warray, could again involve borrowing. In this case, there is no evidence as to the antiquity of this suffix in either language, nor are there remnantal traces of some earlier suffix that it has replaced in either language.

Given that the diachronic status of neither the locative case, nor the temporal suffix, can be resolved by specific evidence, it becomes necessary to invoke more general considerations as to whether borrowing or inheritance is the default explanation for forms which appear in more than one language. I take inheritance to be the default explanation, in the absence of positive evidence for borrowing. Consequently, I analyse the related locative case markers and temporal suffixes of Jawoyn and Warray as being inherited from a common ancestral proto-language.

3 Wulwulam

It having been established that Jawoyn and Warray are most closely related to one another, it becomes necessary to consider the information on Wulwulam, the extinct and virtually unrecorded language variety which intervened between them. 'Wulwulam' is the name given by Spencer (1914:6–7, 199–200) in his work 'Native Tribes of the Northern Territory of Australia' to the language of the Pine Creek area, but in his fieldnotes² he spells the language name 'Wailwulam'. Also in his notes there is a statement that a Warray informant told him that the Pine Creek people were called 'Ungullukman'. Neither of these names were recognised by my Warray informants. In his notes Spencer records that the territory of the Wulwulam included Pine Creek, Burrundie, Mt Wells, and Yam Creek. He records that they met the Warray about Brock's Creek.

The few other older sources which describe the boundary between the Warray and their south-eastern neighbours locate the boundary in the Brock's Creek — Grove Hill area. There is no consistency as to the name of the south-eastern neighbours of the Warray in these sources. Parkhouse (1894:1) in one publication states that the Aggrakundi are the south-eastern neighbours of the Warray. However his Aggrakundi vocabulary is Uwinymil. In another publication (1895:638, map) he places the Uwinymil (Awinmil) around Fountain Head, between the Warray and the Aggrakundi. Basedow (1907:2) refers to the south-eastern neighbours of the Warray as the Agiwallem. The names Aggrakundi and Agiwallem are not now recognised, and so the reference of these names cannot be established.

² Spencer's fieldnotes are lodged in the Museum of Victoria.

Table 12: Wulwulam vocabulary

		Analysis	Cognates
'aunt, mWM'	<i>beok</i>	/peyok/	
'camp'	<i>bini</i>	/pini/	
'child'	<i>warri</i>	/warri/	(1166)
'daughter'	<i>algemundi</i>	/al-kemunti/	
'elder brother'	<i>baba</i>	/papa/	
'elder sister'	<i>(all)daidja</i>	/(al-)taca/	
'father'	<i>aiyuwai</i>	/a-yuway/	
'FF (recip), MM'	<i>kagu</i>	/kaku/	(196)
'husband, MBS'	<i>kakak</i>	/kakkak/	(192)
'man'	<i>gnall</i>	/ng~ny~nal/	(638)
'mDD'	<i>djamwin</i>	/cami~uny/	(161)
'mDDD'	<i>amirg/quell</i> ³	/a-mirrkkel/	
'mWF'	<i>meimei</i>	/mimi/	<i>mimi</i> 'uncle' (Warray)
'mother'	<i>aldumin</i>	/al-tumin~ny/	
'MMM'	<i>giwa(r)k</i>	/kiwa(rr)k/	
'my'	<i>norko</i>	/ngorrk-ko(-wo)/	
'one'	<i>unjerring</i>	/an-cerring/	(66)
'son'	<i>lagayan</i>	/lagkayen/	(411)
'two'	<i>billawilla</i>	/pila-wila/	
'wife'	<i>(all)geirl</i>	/(al-)kel/	(194)
'woman'	<i>aldumong</i>	/al-tumong/	
'wC'	<i>mammam</i>	/mamam/	<i>mamam</i> 'child' (Warray)
'wSS'	<i>djabuit</i>	/capuc/	<i>capuc</i> 'MF' (Kamu, Wagiman)
'wDDD'	<i>morlau</i>	/morlaw/	
'yB'	<i>auwo/urdu</i> ⁴	/a-wo~urtu/	
'yZ'	<i>(all)auwurdu</i>	/al-wo~urtu/	
'wBW ~ WHZ'	<i>ng(n)oiingyor geirl</i>	/ngonyorr kel/	? 'his wife' (meaning of <i>ng(n)oiingyor</i> is unclear)

The south-western neighbours of the Wulwulam were the Wagiman. No definite boundaries can be established, especially as the Wagiman have succeeded to all Wulwulam land west of Pine Creek. According to Warray and Wagiman people Hayes Creek and Butterfly/Douglas Gorge are in traditional Wagiman country. To the south-east, Spencer states that the area from Pine Creek to Katherine was associated with the Jawoyn language. However in the early 1900s, while the area around the upper Ferguson river was apparently associated with the Ngarlahmi dialect of Jawoyn, the area immediately to the south of Pine Creek on the Cullen and mid-Ferguson was associated with the Dagoman-speaking Gayn-jiwortbort clan.

3 Spencer has the /g/ and the /q/ as alternatives.

4 Spencer has /o/ and /u/ as alternatives.

Wulwulam appears to have bordered directly onto Jawoyn in the west. The upper Mary River above Moline appears to be associated with the Jawoyn language.⁵

The only material available on Wulwulam is a couple of pages in Spencer's notes, collected in 1912 when he passed through Pine Creek. The language materials are set out in Table 12, with putative phonological and morphological analysis. Numbered cognates refer to the sets in Harvey (this volume, Chapter 8).

This material does not contain any verb forms, and consequently its value in determining the relationships of Wulwulam is limited. The materials do however suggest that Wulwulam had a noun class system as set out here:

Wulwulam noun class system, as suggested by evidence in Table 12.

I	<i>a-</i>	Some human male nouns
II	<i>al-</i>	Some human female nouns
III	<i>an-</i>	This prefix appears on the numeral 'one'

This noun class system is cognate with that found in Jawoyn and Warray (§2.1). One of the differences between Jawoyn and Warray is that the Jawoyn class prefixes are consonant-initial: *na-* I, *ngal-* II, *ngan-* III, whereas the Warray prefixes are vowel-initial: *a-* I, *al-* II, *an-* III. Spencer records all three Wulwulam class markers as vowel-initial. In the case of the *al-* and *an-* markers, this is not of great significance as an initial velar nasal could easily have been missed by Spencer. Indeed it may commonly have been elided by speakers. However the situation with the masculine class marker (*n*)*a-* is rather different. Spencer did not normally miss initial apical nasals, and the elision of initial apical nasals is a much rarer pattern than the elision of initial velar nasals. On balance therefore it appears likely that the three class markers were vowel-initial in Wulwulam as in Warray, but not in Jawoyn.

There is also some lexical semantic evidence of Wulwulam being closer to Warray than to Jawoyn. This evidence comes from the correspondence sets listed in (11) and (12).

- (11) **ka(k)kak* 'parallel grandparent': D *kakkak* 'MM', Ja *kakak* 'MM', M *kakak*, BGW *kakkak* 'parallel grandparent, focally MM', Ngan *kokkok* 'MM', R *kakkak* 'parallel grandparent, focally MM', ?W *kakkak* 'close non-marriageable cross cousin' (Marra *kaka*, Warndarrang *kaka*) — Wulwulam *kakkak* 'husband, MBS'
- (12) **Nal*: Ja *rnal* 'countryman', W *rnal* 'man' — Wulwulam *ng~ny~nal* 'man' (Spencer *gnall*)

The meaning of the proto-form **ka(k)kak* is evidently to be reconstructed as 'parallel grandparent' (probably MM). If the Warray and Wulwulam forms are related to the forms in the other languages, then they share shift of reference to the cousin category. There is no evidence as to the historical shifts of meaning in (12). However, if Spencer's transcription does represent *nal*, then the Wulwulam form has the meaning found in Warray, rather than that found in Jawoyn.

While my Warray consultants did not recognise either of the names Wulwulam or Ungullukman, they did know of a language variety called Ngorrkgowo. This language variety was apparently either dialectal with Warray, or very closely related to it. One of my consultants heard Ngorrkgowo spoken as a young child and tentatively offered the following

⁵ This information was supplied by Francesca Merlan.

items as Ngorrkgowo (My consultant was uncertain about some items — these are preceded by a question mark).

Table 13: Ngorrkgowo vocabulary

Ngorrkgowo		Warray cognate
<i>an-bam</i>	'head'	<i>an-bam</i>
<i>pappa</i>	'brother'	<i>pappa</i>
? <i>pipi</i>	'father'	<i>pipi</i>
<i>pippi</i>	'son'	<i>pippi</i>
<i>al-tumarru</i>	'old woman'	<i>al-tumarru</i>
? <i>an-karra</i>	'shin'	<i>an-karra</i>
<i>an-kiparr</i>	'back'	<i>an-kipe</i>
<i>korrang</i>	'goanna sp.'	<i>korram</i>
<i>an-carr</i>	'thigh'	<i>an-ce</i>
<i>catpula</i>	'old man'	<i>catpula</i>
? <i>laliny</i>	'goanna sp.'	<i>laliny</i>
<i>lerr-lik</i>	'camp-LOC'	<i>lerrick</i>
<i>al-marntuparr</i>	'woman'	<i>al-marntupa</i>
<i>mimi</i>	'uncle'	<i>mimi</i>
<i>al-mulyawak</i>	'sister'	<i>al-mulyawak</i>
<i>muya</i>	'tucker'	<i>muya</i>
<i>an-naparr</i>	'hand'	<i>an-nepe</i>
? <i>nal</i>	'man'	<i>nal</i>
<i>ngirri</i>	'dog'	<i>ngirri</i>
<i>an-nguparr</i>	'foot'	<i>an-ngupe</i>
<i>wang</i>	'meat'	<i>wang</i>
<i>warrang</i>	'mother'	* <i>karrang</i> 'mother' (Harvey this volume, Chapter 8)
<i>wurrk</i>	'fire'	<i>wek</i>

This list suggests that Ngorrkgowo was dialectal with Warray. However, allowance must be made for the almost certain intrusion of Warray items. One difference between Warray and Ngorrkgowo is that Ngorrkgowo had not undergone the **Vrr* > *e* shift which affected Warray (Harvey this volume, Chapter 8). According to my consultants the word *ngorrkkowo* means 'my, mine' in the *Ngorrkgowo* language. The form *ngorrkko(wo)* parallels the Warray form for 'my, mine' which is *ngek-ku(-wu)*, consisting of the root *ngek* 'I', followed by the Oblique suffix *-ku*, followed by the Dative suffix *-wu*. The Warray Oblique suffix is historically derived from the Dative.

The sequence *-kowo* in the Wulwulam form may be viewed as a similar double reflex of the Dative **-ku*, paralleling the Warray double reflex *-ku-wu*. The proto-form of the 1sg pronoun for Warray is **ngarrk*. The initial sequence *ngorrk* in the Wulwulam form may be derived from this proto-form by assimilation under the influence of *-kowo*.

My consultants did not know where the country of the Ngorrkgowo language was. However the country on the east towards Pine Creek is the only possibility as the ownership of all other areas neighbouring Warray country is known. As such, there is a considerable

overlap between the countries associated with Ngorrkgowo and Wulwulam. This naturally raises the question of the relationship between the two. The principal possibilities are that the two names are alternate names for the same or similar language varieties, or that they refer to distinct language varieties.

In support of the first hypothesis, there is the Wulwulam form for 'my, mine' *norko* recorded by Spencer. Allowing for a not uncommon confusion of initial nasals, it would appear that this is *ngorrkkowo*. However, in support of the second hypothesis, there is the fact that the word list recorded by Spencer shows only 11 cognates out of 28 items, suggesting that Wulwulam was a separate language.

The question of whether Wulwulam was a distinct language from Warray, or in a dialectal relationship with it, and remembered by my consultants as Ngorrkgowo, cannot be resolved on the limited materials available. For the purposes of this paper I treat Wulwulam as a separate language.

4 Conclusion

While Jawoyn and Warray are most closely related to one another, they do not constitute a tightly bounded subgroup. Rather, there are regional patterns which do not overlap exactly with one another. Within each particular pattern, Jawoyn and Warray show the greatest degree of overall commonality with one another, but they also show commonalities with other languages. This focusing of commonalities presumably also included the language varieties intervening between Jawoyn and Warray. There was at least one intervening language variety, and probably more. The exact status of these language varieties cannot now be established, but the very slender evidence available suggests that they showed greater commonality with Warray than with Jawoyn.

Appendix

Correspondence sets appearing only in Jawoyn and Warray, or only in Jawoyn and Bininj Gun-wok.

VERBS:

Jawoyn-Warray (N=2)

**Laki*- 'to throw' : Ja *rlayi*-, W *rlaki*-, **pi*- 'to drink' : Ja *pi*-, W *pi*-

COVERBS:

Jawoyn-Warray (N=17)

**calq*- 'to flame up' : Ja *calq*-, W *calq*-, **cVp*- 'to drip' : Ja *cep*-, W *cup*-, **Lal/rlaq*- 'to tear' : Ja *rlarlaq*-, W *rlalaq*-, **mal/rr*- 'poison' : Ja *marr*-, W *mal*-, **mic*- : Ja *mic-co(yo)*- 'to not know'(co(yo)- 'to crush' as independent verb), W *mic-na*- 'to know' (*na* 'to see' as independent verb), **moc*- 'to mix' : Ja *moc*-, W *muc*-, **mork*- 'secretly' : Ja *mork*-, W *mok*-, **ngec*- 'to ask' : Ja *ngec*-, W *ngic-wu*-, **pam-ma* 'to bake' : Ja *pa-ma*-, W *pam-ma*-, **porr(q)*- 'to snore' : Ja *porr*-, W *porrq*-, **Terreng*- 'to attach to' : Ja *rierreng-wo*- 'to attach to, to put on', W *rtirring-la*- 'to thread on', **Tiqtiri(ny)*- 'to itch' : Ja *rtiqtiri(ny)*-, W *riiti*-, **Tolom-pu*- 'to cover' : Ja *riolom-pu*-, W *riulum-pu*-, **Tolq*- : Ja *rtolq*- 'to

break, to snap (tr)', W *rtulq-* 'to burst', **Tum-pay(ngq)-* 'to open eye' : Ja *rtum-pay-*, W *rtum-pay(ng)q-*, **wart-pu-* 'to skin' : Ja *wart-pu-*, W *wart-pu-*, **yoc-* 'to go a long way' : Ja *yoc-*, W *yuc-*

Jawoyn-Bininj Gun-wok (N=21)

**celq-* 'to drip' : Ja *celq-*, BGW *celq-*, **cirrk-ka-* 'to push' : Ja *cirrk-ka-*, BGW *cirrk-ka-*, **Lurl-* 'to swell up' : Ja *rlurl-*, BGW *lurl-*, **marri-* 'hunger' : Ja *marri-*, BGW *marri-*, **marrk-* 'to believe' : Ja *ngani-marrk-*, BGW *marrk-*, **marrq-* 'to open' : Ja *marrq-*, BGW *marrq-*, **martuq-* 'to flash (of lightening)' : Ja *martuq-*, BGW *martuqmartu-*, **mik-* 'to use m-in-law language' : Ja *mik-*, BGW *mik-*, **morna-* 'to carry on shoulder' : Ja *morna-*, BGW *morne-*, **ngort-* 'to suck blood (native doctor as curative practice)' : Ja *ngort-*, BGW *ngort-*, **nguk-tirrq-* 'to fart' : Ja *nguk-tirrq-*, BGW *nguk-tirrq-*, **palq-* 'to block' : Ja *palq-*, BGW *palq-*, **parrk/q-* 'to break/crack' : Ja *parrq-* 'to break (intr)', BGW *parrk-* 'to crack', **pingq-* 'to go tsk' : Ja *pingqping-*, BGW *pingq-*, **puk-* 'to show' : Ja *puk-*, BGW *puk-*, **punyuq-* 'to kiss' : Ja *punyuq-*, BGW *punyuq-*, **warow-* 'to toss' : Ja *warow-* 'to toss', BGW *warow-* 'to swing out', **wayalq-* 'to light a fire' : Ja *wayalq-*, BGW *wayalq-*, **worrumpok-ka-* 'to chase' : Ja *worrumpok-ka-*, BGW *worrumpok-ka-*, **wurrwurr-* : Ja *wurrwurr-* 'to shake', BGW *wurrwurr-* 'to feel giddy', **yurr-* 'to share' : Ja *yurr-* 'to share', BGW *yurmi-wo-* 'to swap'

ADJECTIVES:

Jawoyn - Warray 13

**ceccerr* : Ja *ceccerr* 'big [avoidance]', W *ceccerr* 'lots', **kamo* 'hard, tough' : Ja *-kamo*, W *-kamu*, **kereckerec* 'clean' : Ja *-kereckerec*, W *-kackac* (of water), **kul(p)pam* 'many' : Ja *kulppam* 'three, several', W *-kupam* 'lots', **malmal* : Ja *-malmal* 'young person', W *-malmal* 'soft', **paliwu* 'wide' : Ja *-paliwu* 'numerous', W *-pali-wu* 'wide' (note Jawoyn *-palpmi* 'wide, numerous'), **pal/rlpmi* : Ja *-palpmi* 'wide, numerous', W *-parlpmi* 'shallow', **piyak* 'dried up, wrinkled' : Ja *-piyak*, W *-piyak*, **rtek* 'good' : Ja *-rlek*, W *-rtek* (only in compound *a-wang-rtek-ku* 'a good hunter'), **Tirnrtirn* 'holey' : Ja *-rtirnrtirn*, W *-rtintin*, **walak* 'hot' : Ja *-wolawolak*, W *-wa/olak*, **wirlang* : Ja *-wirlang* 'hard, strong', W *-wirlang* 'narrow', **wirra/ung* 'different' : Ja *-wirrung*, W *-wirrang*

Jawoyn-Bininj Gun-wok 1

**kurtuk* 'black' : Ja *kurukkuruk*, BGW *kurtuk*

BODY PARTS:

Jawoyn-Warray 8

**camkalk* 'jaw' : Ja *-camkalk*, W *-camk/ngak*, **kokmele* 'cheek' : Ja *-kokmele*, W *-kukmili*, **kuny* 'soul' : Ja *-kuny*, W *-kuny*, **ngoro* 'ankle' : Ja *-ngoro*, W *-nguru*, **rtum* 'eye' : Ja *-rtum*, W *-rtum*, **Tum-mira* 'tears' : Ja *rtum-miri*, W *rtum-mila*, **wik* 'skin' : Ja *-wik*, W *-wik*, **yel* : Ja *-yil* 'large muscle on leg', W *-yel* 'flesh'

Jawoyn-Bininj Gun-wok 4

**kalpam* 'calf' : Ja *-kalwam*, BGW *-kalpam*, **ngerng* 'pouch' : Ja *-ngerng*, BGW *-ngeng*, **pork* 'track' : Ja *-pork*, BGW *-pok*, **To/uk* 'semen' : Ja *-rtok*, BGW *-iuk*

MATERIAL ITEMS:

Jawoyn-Warray 2

*ngat/rterr 'fishing line' : Ja ngarterr, W ngiterr, *welkmo 'firestick' : Ja welkmo, W wekmu

Jawoyn-Bininj Gun-wok 5

*Lama 'shovel spear' : Ja rlama, BGW lama, *murr(k)ka 'woven item' : Ja murrkka 'dillybag', BGW murrka 'hand-held string bag', *walapi 'fishnet' : Ja walapi, BGW walapi, *yakko 'dillybag' : Ja yakko, BGW yakko, *yipalirr 'dillybag' : Ja yipalirr, BGW yiparlirr

NATURAL SPECIES:

Jawoyn-Warray 6

*murrumpic 'dragonfly' : Ja murrumpic, W murrumpic, *Norn 'water rat' : Ja rnorn, W rnurn, *pilkpilk 'galah' : Ja pilkpilk, W pekpek, *Tarnrtamarra 'lizard sp.' : Ja rtarnrtamarra, W rtarnrtamarra, *Tirringkil 'tree sp.' : Ja rtirringkil, W rlirringkil, *Torriya 'rock wallaby' : Ja rtorriya, W rtorriya

Jawoyn-Bininj Gun-wok 27

*carrapuyuy 'floater insect' : Ja carrawuyuy, BGW carrapuyuy, *cartuk 'red apple' : Ja caruk, BGW -cartuk, *cokparl 'hornet' : Ja cokparl, BGW cakparl, *cularr 'goanna sp.' : Ja cularr, BGW cularr, *cumuk : Ja cumuk 'Canthium attenuatum', BGW tumuk 'Exocarpus latifolius', *karnma 'big bandicoot' : Ja karnma, BGW karnma, *karrng 'insect sp.' : Ja karrng 'bee (generic)', BGW karrngcalarrk 'large green ant', karrngkile(q) 'small green ant', *karterre 'bee sp.' : Ja karterre, BGW karterre, *kongkong 'plant sp.' : Ja kongkong 'tree sp.', BGW -kongkong 'bush potato', *Nornorrmi 'insect sp.' : Ja rnornorrmi, BGW nornorrmi, *kurr/rat/rtpa 'bush string' : Ja kuratpa, BGW kurrartpa, *mamtak 'Canthium lucidum' : Ja mamtakmorakmo, BGW mamrtak, *mutmurr 'fly sp.' : Ja mutmurr, BGW mutmut, *Na-cik 'frogmouth' : Ja na-cik, BGW na-cik, *ngakngak 'grey-crowned babbler' : Ja ngakngak, BGW ngakngak, *parna(c)ca 'tree sp.' : Ja parnacca, BGW parnaca, *parraca 'kookaburra' : Ja parraya, BGW parraca, *parri : Ja parri 'native cat', BGW parri 'native rat', *pel(k)kangqmi 'frog sp.' : Ja pelkkangqmi, BGW pelkangqmi, *poccalc 'archer fish' : Ja poccalc, BGW poccalc, *Talak 'sand goanna' : Ja rtalak, BGW talak, *Tickanku 'yam sp.' : Ja rtickanku, BGW tickanku, *Torok 'tree sp.' : Ja rtorok, BGW -torok, *wirik 'possum' : Ja wirk, BGW wi/urik, *wirriwirriyak 'black-faced cuckoo shrike' : Ja wirriwirriyak, BGW wirriwirriyak, *yamic 'grasshopper sp.' : Ja yimicmi, BGW yamic, *yerr/riny 'bird sp.' : Ja yerriny 'mopoke', BGW yeriny 'kite'

OTHER NOMINALS:

Jawoyn-Warray 10

*-camorrwu 'ritual guardian' : Ja -camorrwu, W -camurru, *kVrrang 'two' : Ja catkorrang, W kirrang-qlul, *Loywa 'red ochre' : Ja rloywa, W rloywa, *mac 'wind' : Ja mac, W mac, *merre 'north' : Ja merre, W merri, *Nal : Ja rnal 'countryman', W rnal 'man', *pemarrk 'dew' : Ja pemarrk, W pimek, *Tum-ke(k)ka 'asleep' : Ja rtum-kekka, W rtumkika, *wang 'meat' : Ja wang, W wang, *-won 'female' : Ja -won, W -wun

Jawoyn-Bininj Gun-wok 15

**kakkali* 'spouse' : Ja *kakkali*, BGW *kakkali*, **kurl* 'cloud' : Ja *kurl*, BGW *kurl*, **Lakkayen* 'initiated young man' : Ja *rlakkayen*, BGW *lakkayin*, **mamurrng* 'ceremony' : Ja *mamurrng*, BGW *mamurrng*, **mayompol* 'Milky Way' : Ja *mayompol* (also road), BGW *mayompol*, **mokurrkurr* 'clan' : Ja *mowurrwurr*, BGW *-mokurrkurr*, **morla* : Ja *morla(wk)* 'father's cross-cousin', BGW *morla* 'mother's older sister', **-palukkayin* 'ritual sponsor' : Ja *-palukkayin*, BGW *-palukkayin*, **pany* 'smell' : Ja *pany*, BGW *pany*, **-parlac* : Ja *-parlac* 'level ground', BGW *-palac* 'clear ground', **parrarn* : Ja *parrarn* 'rockhole', BGW *parrarn* 'end of cliff', **powk* 'flat country, floodplain' : Ja *powk*, BGW *powk*, **Tilk-* : Ja *tilk* 'sharp edge', BGW *tilk-* 'to carve', **warrarlarla* 'leaves for rubbing corpse' : Ja *warrarlarla*, BGW *warrarlarla*, **yony* 'ground' : Ja *yony* 'ground', BGW (respect variety) *-yony* 'country'

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* Spencer's fieldnotes are lodged in the Museum of Victoria.

