

11 *Proto Gunwinyguan verb suffixes*

BARRY ALPHER, NICHOLAS EVANS AND MARK HARVEY

1 Introduction¹

The study of paradigmatic irregularities is crucial to the genetic subclassification of languages, particularly in language families like Australian, where extensive diffusion of morphological items has sometimes taken place and where phonological conservatism often makes diffusion hard to trace.

In Australian languages, conjugational irregularities of verbs, particularly in the suffixal systems encoding tense, aspect and mood (hereafter TAM),² often appear to be the grammatical domain most resistant to borrowing. Even such intense cases of linguistic diffusion as those in eastern Arnhem Land (Heath 1978a), providing as they do evidence both of indirect typological diffusion and of occasional direct diffusion of case markers and pronominal enclitics, do not appear to result in the diffusion of verbal conjugational irregularities.

The comparison of verbal inflectional paradigms was central to Alpher's (1972) study of the subgrouping of the languages of southwestern Cape York Peninsula, and Dixon (1980) again used verbal conjugations as prime evidence for the relatedness of Australian languages. Dixon's chapter on verbal reconstruction proposes that not only is it possible to reconstruct a small set of mostly monosyllabic verbs at the level of 'Proto Australian' (pA), but that it is also possible to reconstruct seven 'conjugation markers' upon which the Tense/Aspect/Mood (henceforth TAM) suffixes of pA and its descendants are based.

Most of the evidence in Dixon (1980) for reconstructing seven pA conjugation markers comes from Pama-Nyungan (hereafter PN) languages.³ The only nonPN languages he considers are Kunwinjku (K), Ngandi (Ngan) and Rembarrnga (R) — all members of the Gunwinyguan (GN) family. He attributes the lack of conjugation markers in other nonPN languages to elimination following the development of radical morphophonemic alternations in the complex verbal words found in prefixing languages. However, the existence of TAM

¹ We thank Brett Baker, Carolyn Coleman, and Rebecca Green for comments on an earlier version of this paper.

² See I. Green (this volume) for a revealing discussion of conjugational irregularities in Daly *prefix* systems.

³ Note that Dixon himself rejects the existence of PN as a subgroup, both in his 1980 book and in subsequent publications (e.g. Dixon 1997). For further discussion, see the introduction to this volume.

suffixes not cognate with PN conjugation markers, but shared between many nonPN languages, suggests that loss of an original pA conjugational system may not be the best explanation. An alternative is that, like many of the features claimed as ‘Proto Australian’ by Dixon, the conjugation marker system is really much more recent, appearing at the emergence of Proto Pama-Nyungan (hereafter pPN), or of the shared ancestor of pPN and GN, but not earlier.

The status of conjugational irregularities in Gunwinyguan is therefore of considerable historical importance, for three main reasons: (a) Dixon’s claims for cognacy of conjugation markers between Gunwinyguan and pPN, (b) the relatively close genetic relationship between Gunwinyguan and pPN, and (c) the large number of closely related languages found in the GN group, which allows for a reasonably full morphological reconstruction.

In this study we carry out a partial reconstruction of Gunwinyguan verbal suffixes. The forms we shall reconstruct provide some evidence of cognacy with pPN ‘conjugation markers’, but we will argue that ‘conjugation marker’ is a misleading term when applied to Gunwinyguan. Rather, there was a complex set of conjugational irregularities, from which the selection and generalisation of certain forms as analogical bases at a time when pPN was separating from Gunwinyguan would have created a system analysable as having ‘conjugation markers’. Sometimes these analogic bases took the past perfective as primary, sometimes the non-past. Some of the PN ‘conjugations’ do not appear to have cognates in Gunwinyguan. Some recurring segments in Gunwinyguan appear to have cognates in other nonPN languages but not in PN itself; these may prove useful in carrying out wider subgroupings within nonPN. All of these facts, we will conclude, point to the PN conjugational system being an innovation which proceeded by taking certain irregular morphological elements already present as part of a complex paradigm, and analogically reshaping them into a system of conjugation markers.

1.1 Conjugation in Pama-Nyungan: an overview

Because the resemblances of GN and PN verb inflection are at the same time interesting and problematic, a useful preliminary will be to look at verbal inflection in Pama-Nyungan.

PN languages, like GN languages, mark TAM with suffixes to verbs. In most PN languages verb roots fall into two or more sets, or ‘conjugations’, according to which set of tense suffixes they take. Typically the markers for some but not all of the tense categories of a given verb are morphologically bipartite, with the first part, or ‘conjugation marker’, recurring in more than one tense category of a given verb root, and the second part, or TAM-ending proper, recurring in the TAM paradigms of other verb roots.

As an example, consider the following partial paradigm from Yir-Yoront:

Table 1: Partial TAM paradigm from Yir-Yoront

	‘swim’	‘break’	‘die’
Purposive	<i>moyle</i>	<i>luwrre</i>	<i>warrmlhe</i>
Past Imperfective	<i>moynh</i>	<i>luwrrnh</i>	<i>warrmlhnh</i>
Past Perfective	<i>moy</i>	<i>luw</i>	<i>warrmll</i>

The conjugation markers *l*, *rr*, and *lh* recur in the Purposive and Past Imperfective categories, but not the Past Perfective, of the verbs *moy* 'swim', *luw* 'break', and *warrm* 'die', respectively. The tense endings *e* and *nh* mark Purposive and Past Imperfective with any of these verbs, but the Past tense ending is *ll* for *warrm* 'die' and zero for the other two verbs in the sample. Such an arrangement, with regard to the typology of the marking system, is found in enough PN languages to be regarded as proto-typical; the only thing atypical about Yir-Yoront in this regard is that its verb roots have lost the final vowel that is present in cognate verbs in other PN languages. At issue in PN studies, however, is the precise extent to which such a system characterised pPN and the shape of the suffixes to be attributed to the proto-language.

One school of thought (for example Dixon 1980:378–421, especially p.409) holds that the modern conjugation markers are the reanalysed vestiges of consonants that were the final part of the verb root in the proto-language. For example, the Warlpiri Immediate Future verbs *yanku* 'will go', *ngalku* 'will eat', and *nyinaku* 'will sit' have the synchronic analysis *ya+n+ku*, *nga+l+ku*, and *nyina+ \emptyset +ku*. According to the root-final consonant school of thought, these forms continue **yan+ku*, **ngal+ku*, and **nyina+ku*, respectively (verb roots of the class of **nyina-* 'sit' having ended in vowels from the beginning). A feature of this analysis (though not a necessary one) is the assumption that the proto-language had one morphologically invariable ending for each tense category, no matter which verb root it was attached to. Such an analysis requires the postulation of large numbers of often elaborate sound changes to account for numerous tense forms in the modern languages that lack a conjugation marker in some forms of a given paradigm, such as the Warlpiri Past tense form *nga+rnu* 'ate' (which lacks *l*), and for the rather diverse shapes that the marker for a given tense category can take in different verbs in a given language, such as the *+rnu* and *+nyu* Past endings in some languages. Under this analysis one of the questions that remains is the historical stage at which root-final consonants were synchronically present as such: was this stage pPN, or Proto PN-GN (if such a node existed), or Proto Australian, as Dixon (1980) held it to be?

Another approach to the question of the conjugation markers (for example Alpher 1990) is simply to reconstruct from actual TAM forms in the modern languages without making any assumption that there was a stage of the language at which a given conjugation marker was present in every form in a given paradigm. Under this approach, the attestation in modern languages appears to constitute confirming evidence that PN is indeed a genetic subgroup. The reconstructed ancestral system appears to have been less regular than that of a number of the daughter languages, with conjugation markers recurring in fewer of the tense-categories of given verbs. The daughter languages appear to have in certain instances generalised conjugation markers to TAM categories that did not originally have them. It seems also clear that various verb stems in one or another modern PN language have changed their conjugation membership since the time of the proto-language, and that various languages have created new conjugation markers: Yir-Yoront *lh*, for example, does not appear to continue any of the conjugation markers that can be reconstructed for pPN.

1.2 The Gunwinyguan family

It has been suggested for some time now that many of the non-Yolngu languages of Arnhem Land are related to one another as members of a GN family of the Australian language family. Building on established classifications (e.g. O'Grady, Wurm & Hale 1966) we will argue for the addition of the following three languages (classed as isolates in the above-named classification) to 'greater Gunwinyguan': Nunggubuyu (Nu),⁴ Warray (W), and Uwinymil (U); the reasons for these additions are given in the rest of this article (verb inflection), as well as in other papers in this volume (see the papers by Harvey on pGN historical phonology and on Western Gunwinyguan).

The status of Mangarrayi (M) is still in dispute. Merlan (this volume) argues for grouping it with the Maran family, on the grounds of shared nominal and demonstrative morphology, but its verbal inflections exhibit such striking resemblances to the GN languages that we believe it should be considered a GN language, and the resemblances to Maran languages attributed to shared inheritance from the Proto Arnhem level. See R. Green (this volume) for a discussion of some features of Proto Arnhem verb-suffixal morphology.

Our view of the interrelations between these groups — which at this early stage of research is still heuristic rather than established — is given in Figure 1, which is based partly on a 100-word lexicostatistical classification (numbers at nodes show the lowest percentage of shared vocabulary between any pair of languages beneath that node) and partly on more qualitative considerations. The '*bak*' and '*marne*' subgroups are named arbitrarily after the forms of the benefactive applicative found in these two groups. The verbal suffix system of Kunbarlang is so aberrant that we decided not to integrate it into our reconstruction at this stage.

The division of GN into western, central and eastern branches, though only heuristic at this stage, will be useful in deciding whether scantily attested forms have a sufficiently broad distribution, across genetic space, to be reconstructed back to pGN. Nunggubuyu, as indicated in Figure 1, appears to have relatively close affinities to the eastern group. Numbers at nodes indicate the minimum percentage of words from the Swadesh 100-word list between any pair of languages below that node of the tree.

⁴ Heath (1978a, 1997) has argued that Anindilyakwa (= Enindhilyakwa) is relatively closely related to Nunggubuyu, and in fact that those two languages plus Ngandi form a subgroup; it would follow from this that Anindilyakwa should also be subsumed under the Gunwinyguan family. While not wishing to reject this hypothesis out of hand, we do not feel it has been demonstrated conclusively at this point with any significant body of cognate lexical items or grammatical morphology, and because of the difficulties of the Anindilyakwa data do not discuss it in this article.

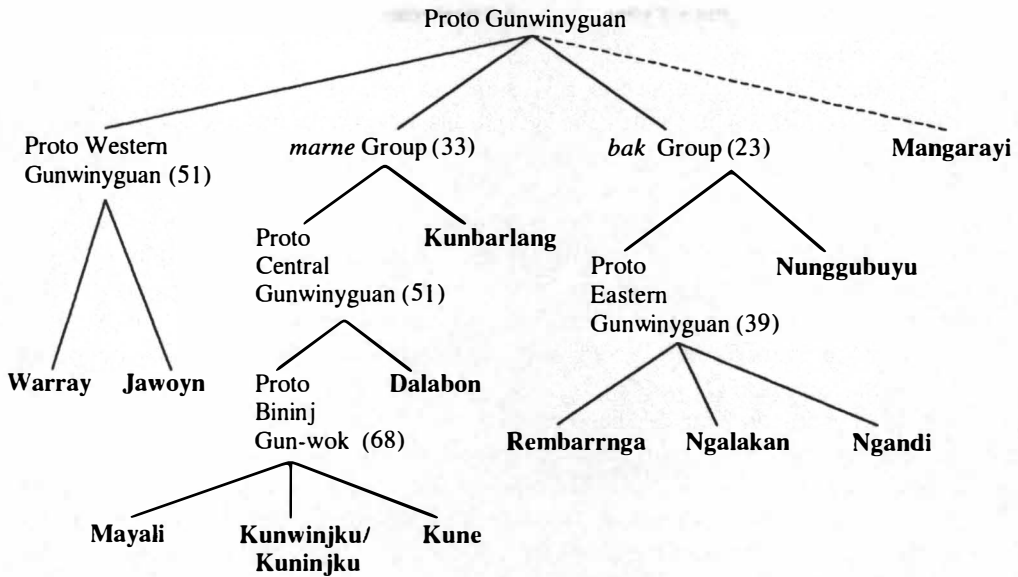


Figure 1: Heuristic division of the GN family

This paper examines the verbal systems of the languages which potentially fall within this putative 'greater Gunwinyguan' group, with a view to reconstructing a proto-verbal system, and establishing if this reconstruction provides any evidence for the existence of a subgroup. The total set of languages on which this reconstruction is based is thus Dalabon (D; Evans & Merlan this volume), Bininj Gun-wok (BGW — comprising Kunwinjku, Mayali and Kune dialects; Evans 2003), Jawoyn (Ja; Merlan to appear), Ngalakgan (Ngal; Merlan 1983), Ngandi (Ngan; Heath 1978b), Rembarrnga (R; McKay 1975), Warray (Harvey 1990) and Nunggubuyu (Heath 1984), plus occasional information from Uwinymil (U; Harvey field notes).

Before commencing our reconstruction we will briefly consider some of the principles underlying our methodologies.

First, we take it as a given that proto-languages, including pGN, varied as currently attested ones do, e.g. in allowing some alternative forms.

Second, we approach the conjugational system from a paradigmatic point of view. As a consequence, in addition to deriving forms through sound changes (see Harvey this volume, Chapter 8, for a discussion of Gunwinyguan historical phonology), we assign a major role to analogy in our morphological reconstruction (cf. Koch 1996).

Thirdly, as discussed in §1.1 above, our reconstructions are word-based rather than morpheme-based: we compare, and reconstruct, inflected words rather than morphemes taken in isolation.

In all of the languages under consideration, except M, verbs have the basic form:

pronominal prefixes + verb stem (+ derivational suffix) + TAM

In addition, the languages under consideration display varying degrees of polysynthesis, with optional adverbial prefixes, incorporated nominals, applicatives, and even incorporated participials between the pronominal prefixes and the verb stem. In all GN languages, up to

two arguments are represented by pronominal prefix. However, we will not consider the morphology preceding the verb stem in this paper.

All GN languages have two types of verb stems, simple and compound. Simple verb stems consist of a verb root to which the inflection for tense and aspect may be added directly. All of the languages have a score or so monosyllabic simple verb roots and it is with these that we will chiefly be concerned. Compound verb stems consist of either a verb or nominal root (here designated the 'prepond'), followed by a 'thematic' which takes the inflections. In all of the languages, at least some of the thematics can function as simple stems (e.g. *pu-* 'hit'), and others may have cognates which are independent monosyllabic verbs in other Australian languages. The Bininj Gun-wok thematic *-wa*, for example, appears only in compound stems (e.g. *wakwa* 'not to know, be ignorant') but is an independent stem in other GN languages such as D, in which *wa* means 'follow' (§3.6). Historically it appears that all of the thematics which can be reconstructed for pGN correspond to an independent monosyllabic verb in at least some GN language.

M has simple and compound verbs of the type described. However the majority of verbal lexemes in M consist of an independent particle with a following auxiliary; in this, as with other features discussed above and in Merlan (1981:xiii, also this volume), its outlier status with respect to GN is evident.

In addition, all GN languages have a number of derivational suffixes, such as the reflexive, reciprocal and inchoative, between the verb stem and the TAM inflections. Normally these, too, found their own particular pattern of TAM inflections; we will reconstruct forms and paradigms for two such V → V derivational suffixes (the reflexive and reciprocal) and two distinct inchoative suffixes deriving verbs predominantly from adjectives.

1.3 A sample Gunwinyguan paradigm: Bininj Gun-Wok

To give an overview of a typical GN TAM paradigm, consider the partial paradigm from BGW,⁵ given in Table 2. Verb thematics are given in bold, and we have included reflexes of all of the GN roots discussed in this paper. Omitted from the paradigm, because the lack of attestation in other GN languages makes comparison impossible, are the conjugation for defective verbs (e.g. *care* 'want') not showing the full range of TAM categories, and the participial form of the verb used when incorporated into another verb. The numbering of conjugations is that used in Evans (2003).

⁵ The paradigm given is identical for all dialects (Gun-djeihmi, Kunwinjku, Kunrayek and Kune, running from west to east) except that Kunrayek and Kune have lost the Past Imperfective category, replacing it according to a number of strategies such as reduplication, serialisation with *ni* 'sit', and use of the irrealis form for distant past repeated actions.

Table 2: Conjugation of verbs in Bininj Gun-wok
(The morpheme determining the conjugation is shown in capitals.)

Class	Imperative	Non-Past	Past Perfective	Past Imperf'tive	Irrealis	Reciprocal/ Reflexive	
1	karr ME 'have'	<i>karrmen</i>	<i>karrme</i>	<i>karrmeng</i>	<i>karrmi</i>	<i>karrmeninj</i>	<i>karrmerr-</i>
2	PAYE 'bite'	<i>payemen</i>	<i>paye</i>	<i>payeng</i>	<i>payeyi</i>	<i>payemeninj</i>	
2irr	TOWE 'die'	<i>towemen</i>	<i>towen</i>	<i>toweng</i>	<i>toweni</i>	<i>towemeninj</i>	<i>towerr-</i>
3a	KA 'take', NA 'see', WO 'give'	<i>ka</i>	<i>kan</i>	<i>kang</i>	<i>kani</i>	<i>kayi</i>	<i>karre-</i>
3b	NGU 'eat'	<i>ngu</i>	<i>ngun</i>	<i>nguneng</i>	<i>nguni</i>	<i>nguyi</i>	
4a	caWA 'ask'	<i>cawa</i>	<i>cawan</i>	<i>cawam</i>	<i>cawani</i>	<i>cawayi</i>	
4b	BU 'hit'	<i>pu</i>	<i>pun</i>	<i>pom</i>	<i>puni</i>	<i>puyi</i>	<i>purr-</i>
5a	TU 'growl'	<i>tu</i>	<i>tung</i>	<i>tuy</i>	<i>tungi</i>	<i>tuyi</i>	<i>turr-</i>
5b	turnTE 'return'	<i>turnte</i>	<i>turnteng</i>	<i>turnti</i>	<i>turntengi</i>	<i>turnteyi</i>	<i>turnterr-</i>
5c	MA 'pick up'	<i>ma</i>	<i>mang</i>	<i>me(i)</i>	<i>mangi</i>	<i>mayi</i>	<i>marr-</i>
6a	TA 'stand up'	<i>tangimen</i>	<i>tangen</i>	<i>tanginy</i>	<i>tany</i>	<i>tangemeniny/ tayi</i>	<i>tangerr-</i>
6b	wayTA 'be raised'	<i>waytan</i>	<i>wayta</i>	<i>wayti</i>	<i>waytany</i>	<i>waytangemeniny</i>	
	TI 'stand'	<i>tin, tangen</i>	<i>ti</i>	<i>ti</i>	<i>ti</i>	<i>tiwirriny</i>	<i>tirri-</i>
7	NI 'sit'	<i>nin</i>	<i>ni</i>	<i>ni</i>	<i>ni</i>	<i>niwirriny</i>	
	wokTI 'speak'	<i>woktin</i>	<i>wokti</i>	<i>woktany</i>	<i>wokti</i>	<i>woktiwirriny</i>	
8	YU 'lie'	<i>yun, yongen</i>	<i>yo</i>	<i>yonginy</i>	<i>yoy</i>	<i>yuwirriny</i>	
9	RE/WAM 'go'		<i>ray</i>	<i>re</i>	<i>wam</i>	<i>rey</i>	<i>raywiny/ rayi</i>
10	puRRE 'hit each other, fight'	<i>purremen</i>	<i>purren</i>	<i>purriny</i>	<i>purreni</i>	<i>purremeniny</i>	
11	warreMEN 'go bad'	<i>warremimen</i>	<i>warremen</i>	<i>warreminy</i>	<i>warremeni</i>	<i>warremeniny</i>	

The following three points are worth noting about the system. In all of them, BGW is typical of GN languages without of course being identical to pGN.

(a) CATEGORY STRUCTURE OF THE TAM INFLECTIONS. The five-way inflectional system can be schematised as shown in Figure 2.

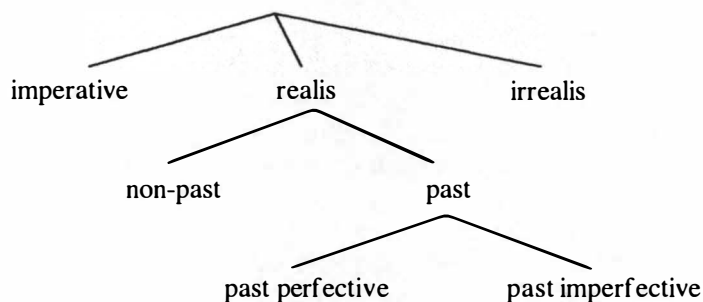


Figure 2: Typical semantic structure of Gunwinyguan TAM inflections

A distinct and cognate imperative form is not found in enough other GN languages to warrant reconstruction.

The irrealis form has cognates in D, Ngan (in the evitative) and Nu (in the non-past 2). Table 3 gives forms for the verbs ‘see’, ‘give’ and ‘eat’ where the cognacy is particularly clear. These suggest that an irrealis series is reconstructable for pGN, but so many languages have lost the distinction, or blurred or exchanged forms between the irrealis and the past imperfective, that the reconstruction is complex and will not be attempted in this paper.

Table 3: Sample verbs illustrating cognacy between the BGW irrealis, D irrealis, Ngan ‘evitative’ and Nu ‘non-past 2’

	BGW (irrealis)	D (irrealis)	Ngan (evitative)	Nu (non-past 2)
‘see’	<i>nayi(ny)</i>	<i>ney</i>	<i>nayi</i>	<i>nayi:</i>
‘give’	<i>woyi</i>	<i>woy</i>	<i>woyi</i>	<i>uyi:</i>
‘eat’	<i>nguyi</i>	<i>nguy</i>	<i>nguyi</i>	<i>nguyi:</i>

The other three categories — the non past, past perfective, and past imperfective — have clear cognates in the bulk of GN languages, and we will reconstruct them for pGN. There is one further category that may be reconstructable for pGN but is absent from BGW: a future/irrealis form; again we omit this for reasons of space.⁶

(b) REFLEXIVE/RECIPROCAL SUFFIX. The reflexive/reciprocal suffix is added to the root of any semantically eligible verb;⁷ it then takes its own pattern of TAM marking. Thus *pu-* ‘hit’ forms the RR *pu-rr(e)-*, which then inflects for TAM categories as in conjugation 10 in the paradigm (e.g. NPST *purren*), whereas the root *pu-* on its own follows conjugation 4b.

The form *-rr(e)-* for reflexive/reciprocals is a BGW/D innovation, and may be a development from earlier *-te*, itself deriving from a widespread detransitivising *-thi* by delamination (see Harvey this volume, Chapter 8). Most GN languages have a similar system, but involving some selection from the two distinct forms *-yi* and *-nyci*, both reconstructable to pGN and beyond. We will discuss these in §3.19.

(c) INAPPROPRIATENESS OF ‘CONJUGATION MARKER’ ANALYSIS. Most importantly for our understanding of how conjugations work, and unlike Dixon’s analysis of verbal conjugations, it is not usually possible to split the verbal desinences into ‘conjugation markers’ and invariant exponents of TAM categories.

Firstly, homophonous endings indicate different TAM categories according to the conjugation: thus *-ng* indicates the past perfective with verbs from conjugations 2 and 3, but the non-past with conjugation 5. Similarly, the desinence *-yi* marks past imperfective with verbs from conjugation 2, but the irrealis with verbs from conjugations 3 to 5, and conversely the sequence *-ni* marks past imperfective with conjugations 2 (irreg) to 4, but the irrealis (in its form *-niny*) in conjugation 1.

Secondly, certain segments that are distinctive to particular conjugations, such as the *-m* found with *pu-* and *-wa-*, are restricted to a single TAM category (in this case, the PP forms

⁶ Though see Evans and Merlan (this volume) for discussion of its Dalabon descendant (the future), and R. Green (this volume) for arguments that this category may go back to Proto Arnhem.

⁷ And note that the extension in BGW of the reflexive/reciprocal to collective action by subjects allows it to occur on many intransitives as well.

pom and *-wam*); their restricted distribution makes it impossible for them to be analysed as distinct 'conjugation markers', even though they are associated with particular conjugations.

Although it might be objected that these features of the TAM paradigm of BGW may result from a process of fusion that has obscured an earlier and more agglutinative system in which it was possible to isolate conjugation markers and TAM suffixes, our reconstruction of pGN inflected forms will show this not to be the case. For example, no other TAM category of *pu*- 'hit' except for the past perfective can be plausibly reconstructed with an *-m* suffix in pGN, and at least six different monophonemic exponents of the past perfective can clearly be reconstructed.

Most GN languages have retained systems comparable to BGW in conjugational complexity, and we shall see that a similarly irregular system is reconstructable for pGN. As a result, there have always been a number of rival inflected forms to serve as bases for analogical extension to other parts of the paradigm, and the selection of different roots as candidates for analogical extension has been a major factor in creating differences between GN languages.

One further feature of many GN languages that is only marginally evident in BGW is the presence of stem alternations between a monosyllabic form and a longer 'augmented' form. In BGW this is restricted to two of the stance verbs — the NPST of 'lie' has the two forms *yo* and *yongen*, and the NPST of 'stand' has the two forms *tan* ~ *ti* and *tangen*; the *-ng.en* forms are associated with assuming the stance. The *ng*-augmented forms recur in the PP forms *yonginy* and *tanginy*, and the IRR form *tangemeniny*. In BGW these alternate forms are halfway between separate verb lexemes (with the meaning 'assume stance', e.g. 'lie down', rather than just 'be in stance', e.g. 'be in a lying position') and specialised allomorphs of specific TAM-forms (rather like English *burned* and *burnt*); etymologically it seems plausible to reconstruct aspectual pairs of lexemes that have been partly conflated in BGW. But there are other verbs with comparable stem alternations, but where no evidence for such aspectual pairs exists. (BGW has made certain augmented forms the root, e.g. *towe-* and *paye-* 'bite';⁸ D has used the base form). It is important to note this archaic feature because (a) the augment may sometimes be reanalysed as inflectional material; (b) extension of the augmented form accounts for some of the more enigmatic correspondences between GN languages; (c) it often provides evidence of cognacy with languages beyond GN.

2 Proto-forms and categories of **pu* 'to hit'

We now turn to a reconstruction of the forms and related categories of the verb **pu* 'to hit'. Having established a system of categories on the basis of this verb, we will then proceed to reconstruct the forms for these categories of a number of other monosyllabic verbs in pGN. In this and the following expositions we set out the raw data (attestations of the relevant TAM forms) in tabular form. We caption the tables with the reconstructed TAM-form or enter the relevant reconstructions in a row of the table *with no implication intended that all the forms in all the cells are regular reflexes of this reconstructed form*, but rather as a labelling device and a way of presenting the data under consideration in a compactly accessible form.

⁸ This verb displays great complexities in its alternations and will not be considered in this article, though it undoubtedly goes back beyond pGN and has cognates across Australia.

2.1 Non-past **pu-n*

A form *pu-n*, with a variety of non-past meanings, is found in a number of GN languages.

Table 4: Data relating to the non-past form *pu-n* ‘hit’

J	<i>pu-n, punpun</i>	Non-past
W	<i>pu-n</i>	Future
	<i>pun-pu-n</i>	Present
BGW	<i>pu-n</i>	Non-past
D	<i>pu-n</i>	Unmarked: present, imperative, evitative
Ngal	<i>pu-n</i>	Evitative/Imperative
	<i>punu-pu-n</i>	Present
	<i>pu-n-a</i>	Future
	<i>pu-n-i</i>	Potential
R	<i>pu-n</i>	Present
	<i>pu-n-a</i>	Future
Ngan	<i>pu-nung</i>	Future
M	<i>pu-n</i>	Present

It may be observed that this form serves as a stem for other tenses in Ngal and R. We will see that the tendency to use the NPST as a founding form may be reconstructed generally for pGN, with the Non-Past serving as a stem for the Past Imperfective in all GN languages. In some languages the semantics of this category has become generalised — to the future in W, the evitative/imperative in Ngal, and the present in M and R.

The Ngan form *pu-nung* ‘hit-FUT’ appears to be derived from **pu-n* in this way (i.e. as **pu-n-ung*). The suffixes marking Future tense in Ngan fall into two major classes: those of the form *-C*, and those of the form *-Cu/ang*. For a number of verbs in the first class, the *-C* Future suffix corresponds directly to pGN Non-Past forms: ‘chop’ (§3.15), ‘tell off’ (§3.16), ‘hear’ (§3.4), ‘see’ (§3.1). This establishes a connection between the pGN Non-Past inflections and Ngan Future suffixal marking. Of the verbs in the second class, in addition to ‘hit’, there are three other verbs: ‘eat’ (§3.3), ‘do/say’ (§3.17), and ‘give’ (§3.2) where the initial C of the *-Cu/ang* Future suffix corresponds to the pGN Non-Past. This suggests that the Future suffixes of the form *-Cu/ang* were originally analysable as **-C-u/ang*, with an **-u/ang* suffix being added to a Non-Past stem.

2.2 Past realis: perfective **po-m* and imperfective **pu-n-iny*

All of the GN languages have an aspectual contrast between two forms of the verb ‘to hit’ within the past realis category — basically perfective vs imperfective. These are shown in Tables 5 and 6.

Table 5: Data relating to the Past realis perfective **po-m*

J	<i>pu-m</i>	Past punctual (realis and irrealis)
W	<i>pu-m</i>	Past realis perfective and 1st Subj Non-Past
BGW	<i>po-m</i>	Past realis perfective
D	<i>po-ng</i>	Past perfective
Ngal	<i>poq-po-Ø</i>	Past realis punctual
R	<i>puwa</i>	Factual past punctiliar
Ngan	<i>poo-m</i>	Past realis punctual
Nu	<i>pa-ng/C</i> _[cont] <i>wa-ng/elsewhere</i>	Past realis punctual
M	<i>pu-p</i>	Past realis punctual

Table 6: Data relating to the Past realis imperfective **pu-n-iny*

J	<i>pu-nay</i>	Past continuous (realis and irrealis)
W	<i>pu-n-iny</i>	Past realis imperfective
BGW	<i>pu-ni</i>	Past realis imperfective
D	<i>pu-niny</i>	Past imperfective
Ngal	<i>pu-n-iny</i>	Past realis continuous
R	<i>pu-n-iny</i>	Factual past continuous
Ngan	<i>pu-ni</i>	Past realis continuous
Nu	<i>pi-ni/C</i> _[cont] <i>wi-ni/elsewhere</i>	Past realis continuous, and other past categories, except past realis punctual
M	<i>pu-ni</i>	Past realis continuous

Although all GN languages have some sort of aspectual contrast, the exact nature of the distinction varies from language to language:

JAWOYN Where a clear contrast between Punctual and Continuous can be found ... Punctual is probably best defined as 'completed' in the past, and Continuous as 'ongoing', or realised over a time span, in the past. The latter includes notions of customary, traditional or habitual action. (Merlan n.d.)

MANGARRAYI Past continuous is the category used when punctuality (perfection at a specific moment in past time) is not explicitly expressed; elsewhere, the past continuous positively expresses continuity of the verbal meaning in past time, particularly imperfectivity at a moment identified as reference point of narrated past events. In contrast to the past continuous, past punctual is used to denote a single perfected action, not continuous in the past. (Merlan 1981:148–149)

BININJ GUN-WOK Most typically this [the Past Perfective] is used to refer to a single, completed past action.

The past imperfective is used for a variety of past actions that are uncompleted, neutralised, repeated, drawn out or backgrounded. ... Habitual, repeated past actions or past

states are typically but not necessarily accompanied by appropriate time adverbials with meanings like 'before, in ancient times, in the olden days'. The past imperfective extends to purpose complements of habitual verbs (Evans 2003).

NUNGGUBUYU Punctual is used for events which either occurred suddenly ('He died', 'He hit her'), or are represented as processes which took place over a relatively brief time span. Continuous applies to prolonged or repeated events/situations (Heath 1984:340).

NGALAKGAN In narrative the past continuous is used to represent the framework of events within which other events (continuous or punctual) occur (Merlan 1983:104).

NGANDI Several of the early texts in particular deal with formerly habitual activities (rather than specific events) and thus show many examples of the PCon. ... Clearly, PPun is typical for isolable events, PCon for prolonged activities or states (Heath 1978b:104–105).

While there are variations in the markedness relationship between the two forms, there are certain constants. In all languages for which reasonable detail is available one category typically describes past punctual events, while the other category typically describes past habitual events/situations, and sets situations.

The verb forms marking the Past Imperfective appear to be related. The only unclear case is the J form *pu-nay*; the likely analogic origins of the *-ay* imperfective are discussed in §3.13. The forms in the other languages are *pu-n(-)iny* [D, Ngal, R, W], *pu-ni* [M, BGW, Ngal, Wagiman], and *pi-ni ~ wi-ni* [Nu]. The root consonant is obviously to be reconstructed as **p*. The *w*-initial forms in Nu reflect the widespread operation of lenition in Nu (Heath 1978a:37–41). The root vowel is to be reconstructed as **u*. The *i* which occurs in Nu appears to reflect the operation of sporadic vowel harmony.

There are four languages where the Past Imperfective has a final *ny* [D, Ngal, R, W], and four where it does not [M, BGW, Ngal, Nu]. This is not a regular correspondence between these two sets of languages. However, there are phonetic motivations for irregular correspondences between forms with word-final *i* and forms with word-final *iny*. These phonetic motivations arise from the interaction between the distribution of the tense and lax allophones of *i*, and the distribution of release types for stops and nasals.

The distribution of tense and lax allophones varies somewhat from language to language. However, *i* is normally lax (open and slightly centred) in closed syllables, unless the syllable is closed by a palatal, in which case it is tense (close). It is also tense in word-final position. Stops and nasals are commonly unreleased in word-final position, and often the principal auditory cue to their presence is the fact that the final vowel is lax. However, there is no such cue with *i*, if the word-final consonant is palatal. Word-final palatal stops may be distinguishable by a relatively abrupt cessation of voicing, but even this cue is unavailable with nasals. Distinguishing *i#* and *iny#* from each other is thus comparatively difficult, and irregular correspondences between the two are to be expected. Another sporadic example of this correspondence (numbered as in Harvey this volume, Chapter 8) is **karri(ny)* (Harvey's Appendix 260).

In the case for the Past Imperfective, weight of numbers would slightly favour epenthesis, as there are four languages with *ny* and six without. However, additional evidence for the existence of an old *-iN* canonical shape comes from occasional cognate forms in other GN outliers with final nasals in the PI, though these are often velar rather than palatal. Consider

Uwinymil: though the Uwinymil PI form of ‘hit’ is not recorded, the PI form of ‘give’ is *woning* (§3.2). Likewise, in W, the verb ‘to drink’ has a final *-ang* in the PI.⁹

Table 7: TAM paradigm of the verb ‘to drink’ in Warray

Future	<i>pi-rl</i>
Present	<i>piri-pi-rl</i>
Past Imperfective	<i>piri-pi-rl-ang</i>
Past Perfective	<i>pi-ng</i>

These sporadic *ng*-final forms raise the question of whether we should not reconstruct an original *-ing* ending for the PI in pGN, since a development of **ing* > *iny* is much more likely than the reverse. Although this would be phonetically plausible, we resist doing so here because the attestation of final velar nasals is limited to these two cases. However, we leave open the possibility that our reconstruction will need to be modified in this regard once further data come in from other reconstructed families.

We reconstruct the PP of ‘hit’ (Table 4) as having two alternants **po-m*, with the ending **m* continued regularly as /m/ in J, W, and BGW and as /p/ in M (word-final nasals denasalise to stops (Harvey this volume, Chapter 8, §4.4), and the ending **ng* continued unchanged in D and Nu. Ngal and R show a zero suffix here which is not a regular development from **m*; here as in other paradigms (see below) Ngal and R have developed separately and in parallel with each other. The initial /p/ in all the forms in Table 4 continues regularly from pGN **p*; in Nu **p* regularly develops to /p/ after an obstruent and to /w/ elsewhere. The regular stressed-vowel correspondences for the languages are J /o/, W /o/, BGW /o/, D /o/, Ngal /o/, R /uwa/ (by vowel breaking), Ngan /oo/ (in monosyllables) Nu /a/ (Heath 1978a:44–45), and M /o/, reconstructed as **o*, and J /u/, W /u/, BGW /u/, D /u/, Ngal /u/, R /u/, Ngan /u/, Nu /u/, and M /u/, reconstructed as **u*. Because Nu /a/ can attest only **o* and not **u*, we reconstruct **pom* ~ **pong* for the PP with **o*. We take the /u/ forms in J, W, R, and M to originate analogically on the basis of the corresponding PI forms (Table 5), which uniformly attest **u*.

2.3 The pGN conjugation of **pu* ‘to hit’

The preceding reconstruction has established a verb root **pu* ‘to hit’. This verb root had the following inflected forms in the following categories.

Table 8: Inflected forms of pGN **pu* ‘to hit’

<i>*po-m</i> ~ <i>*po-ng</i>	Past Realis Perfective
<i>*pu-n-iny</i>	Past Realis Imperfective
<i>*pu-n</i>	Non-Past

⁹ This verb is one of a number of monosyllabic verbs in Warray, where the stem for the Past Imperfective is a reduplicated rather than a simplex Non-Past form. This structure is evidently old in Warray, as many of these reduplicated imperfectives show irregularities. The ‘drink’ verb is the only verb to show a dorsal, instead of a palatal, nasal in the Past Imperfective (the /a/ vowel in this allomorph is regular).

Having established these categories for **pu* ‘to hit’ we will now proceed to reconstruct the forms for these categories for other verbs. Before doing so, however, we shall say something about the roles of analogy and system in reshaping verb paradigms.

2.4 System and analogy in the Gunwinyguan verbal paradigm

Although it is convenient, for expository purposes, to treat individual verbs in isolation, and to further isolate individual TAM categories within particular verbs, this has the unfortunate effect of backgrounding morphological similarities within and across conjugations, and hence of obscuring one of the main sources of morphological change. At several points in this paper we shall appeal to analogical reshaping, and it is therefore appropriate to outline in advance some of the main places where analogical changes tend to occur, since this gives the opportunity to view the impact on relevant categories of an overall system something like the BGW system discussed in §1.3 above.

Firstly, some TAM categories are more likely than others to serve as analogic bases. The single most common trend is for the non-past form to supplant the root as the base to which other suffixes are added. A second tendency, which we will not discuss further here since we are not reconstructing the irrealis form, is for there to be mutual influence between the past imperfective and irrealis forms; this may continue an old pattern of formal relatedness between these two categories.¹⁰

Secondly, not all conjugations are equally likely to serve as analogic bases: conjugations whose PP ends in *-m* or *-y* do not serve as analogic sources in any GN language — see Table 39 in §4.

Thirdly, certain verbs tend to cluster together on semantic grounds, and particular changes may be quarantined within these classes. The stance verbs ‘sit’, ‘lie’ and ‘stand’ are again and again the subject of analogical forces tending to produce language-specific innovations across the three members of the set: for example, all three develop peculiar IRR forms in BGW, and special left-reduplicated imperfective forms in W, all three shift PI forms into the PP in Ngai and M, and all three recruit an old augmented base as the NPST form in R. See Alpher (2000) with regard to changes limited to the stance verbs in PN.

Finally, we must note a logical caveat in our method: it cannot be guaranteed that the TAM system of the verb ‘hit’ will be identical to that with all other verbs; verbs in other semantic classes may lack or skew the aspectual distinction in the past. We shall see examples of aspectual flip-flops in the stance verbs of some GN languages.

3 Other pGN monosyllabic verb roots

We now extend our analysis to a number of other verbs. Where our discussion of *pu* revealed the lack of a given category in a particular language, or where a verb is not attested

¹⁰ Merlan (1981) discusses the system of verb augments in Mangarrayi in this light, pointing out that both the past negative (continuing the irrealis) and the habitual (continuing the past imperfective) have the same augments, and suggesting (1981:153) that ‘[i]n earlier stages the augment appears to have been part of a continuous aspect system opposed to a non-continuous (punctual) one, the historical antecedents of past negative and habitual having belonged to the former system’.

in a particular language, we simply leave a gap without comment; where a category exists but is not attested for an otherwise attested verb we write ‘-’.

3.1 **na* ‘to see’

Table 9 gives the forms of ‘see’ in all relevant languages in which it occurs.

Table 9: Forms relevant to the reconstruction of pGN **na*- ‘see’

pGN	Past Perfective <i>*na-y ~ *na-ng</i>	Past Imperfective <i>*na-n-iny</i>	Non-past <i>*na-n</i>
J	<i>rna-y</i>	<i>rna-nay</i>	<i>rna-n</i>
W	<i>rna-y</i>	<i>rna-n-iny</i>	<i>rna-n</i>
BGW	<i>na-ng</i>	<i>na-ni</i>	<i>na-n</i>
D	<i>na-ng</i>	<i>na-niny</i>	<i>na-n</i>
Ngal	<i>rnaq-na-∅</i>	<i>rna-niny</i>	<i>rna-n</i>
R	<i>na-∅</i>	<i>na-niny</i>	<i>na-n</i>
Ngan	<i>rna-y</i>	<i>rna-ni</i>	<i>rna-n</i> (Fut)
Nu	<i>na-ny</i>	<i>na-ni</i>	

Only the PP requires comment in this paradigm, as the other two forms follow from the discussion of **pu*, namely PI **na-n-iny* and NPST **na-n*. As with **pu*, the major division in the PP is the opposition of Ngal and R vs the other languages. The Ngal and R PP forms descend from a null-suffixed proto-form. The other languages all have non-zero PP forms: -y (J, Ngan, W), -ng (D, BGW), -ny (Nu). Since -ny is by far the most common PP inflection in Nu (Heath 1984:408–411), its presence here is likely to be an analogical intrusion.

The status of the D and BGW -ng forms is problematic. If only GN data are considered, the most probable explanation would be that D and BGW have analogically extended the -ng inflection, which is a common PP inflection in both these languages. However, outside GN there is the Kamu form *ne-ng* ‘see-PP’ to consider (Harvey this volume, Chapter 6). This form cannot be explained as reflecting the spread of -ng as a PP inflection there, since -ng is not a predominant PP inflection in Kamu (Harvey this volume, Chapter 6, Table 1). We may also note that Kamu has a -y PP inflection in *ma-y* ‘get-PP’ (§3.13). The Kamu evidence of a non-GN cognate form in -ng suggests that two variants should be reconstructed for the PP of this verb.

3.2 **wə* ‘to give’

The forms of **wə* ‘give’ are shown in Table 10.

Table 10: Data relating to the reconstruction of forms of **wo-* give

pGN	Past Perfective <i>*wo-y ~ ?*wo-ng</i>	Past Imperfective <i>*wo-n-iny</i>	Non-past <i>*wo-n</i>
J	<i>wo-y</i>	<i>wo-nay</i>	<i>wo-n</i>
W	<i>wo-y</i>	<i>wu-n-iny</i>	<i>wu-n</i>
BGW	<i>wo-ng</i>	<i>wo-ni</i>	<i>wo-n</i>
D	<i>wo-ng</i>	<i>wo-n-iny</i>	<i>wo-n</i>
Ngal	<i>woq-wo</i>	<i>wu-niny</i>	<i>wu-n</i>
Ngan	<i>wo-y</i>	<i>wo-ni</i>	<i>wo-nung</i> (Fut)
Nu	<i>ya-ny</i> (Ind); <i>-a-ny</i> (Aux)	<i>i-ni</i> (Ind); <i>-u-ni</i> (Aux)	
M	<i>wu-na</i>	<i>wu-ni</i>	<i>wu-n</i>

The weight of evidence favours the reconstruction of **o* as the root vowel in all three TAM values, and attributing the occasional appearance of **u* to various innovations.

In M, mid vowels appear only in forms belonging to the open lexical classes (Merlan 1981:181), which do not include directly inflecting verb roots. Even in the open lexical classes, there are a number of cases where a high vowel in a M form corresponds to a mid vowel in a number of other languages (Harvey this volume, Chapter 8). Consequently, the *u* vowel in the M forms may be analysed as having replaced an original **o* vowel, as a result of the restrictions on mid vowels in closed classes.

The *u* vowel in the W PI and NPST forms may be attributed to vowel raising, a process which is extensively attested across the lexicon in W (Harvey this volume, Chapter 8). The *u* vowel found in the Ngal PI and PRES forms is irregular. However, with regard to these forms and to other forms with *u*, the comparative likelihood of **wo > wu* vs **wu > wo* must be considered. While a change **wo > wu* is a standard assimilatory development, the converse **wu > wo* lacks any obvious motivation. As such, the most probable explanation for the Ngal *u* forms is that they result from an irregular assimilation.

The Ngal PP shows the standard pattern of having a reduplicated reflex of an original \emptyset suffixed form. The J, Ngan, and W forms all directly reflect **y*. The Nu PP suffix *-ny* shows the same analogical extension of *-ny* found with **na* 'to see' (§3.1). The Nu forms do however present further problems. According to Heath (1978a:40) loss of **w* is a fairly regular process, and as already mentioned *a* is the regular reflex of **o* in Nu, though occasionally **o* \rightarrow *u* occurs (Heath 1978a:44). These changes would explain the Nu auxiliary forms. The *i* root vowel in the independent PI form reflects the operation of vowel harmony from the suffix, as with the Nu reflex of **pu-n-iny* 'hit-PI' (§2.2). However the *y* which appears initially in the independent PP form is not presently explicable.

The situation with D and BGW PP suffix *-ng* is similar to that with the verb **na* 'to see'. The only difference is that there are no forms in other languages which would support the reconstruction of a **wo-ng* variant (Kamu does not have a 'give' verb). We therefore assume that *wo-ng* arose, as a shared innovation of BGW and D, by analogical extension from other verbs with PP *-ng*, including **na-ng*, **po-ng* and **ka-ng*. The PP suffix *-na* in M cannot be related to the PP suffixes in the other languages.

3.3 *ngu- 'to eat, consume'

The verb *ngu- (Table 11) is unattested in the eastern languages (W and J), and in M, though it has some nonGN cognates (e.g. Wardaman *ngu-n* 'eat-PRES' — Merlan 1994).

Table 11: Data relating to the reconstruction of inflected forms of *ngu- 'eat'

pGN	Past Perfective <i>*ngong</i>	Past Imperfective <i>*ngu-n-iny</i>	Non-past <i>*ngu-n</i>
BGW	<i>ngu-neng</i>	<i>ngu-ni</i>	<i>ngu-n</i>
D	<i>ngu-ny</i>	<i>ngu-niny</i>	<i>ngu-n</i>
Ngal	<i>ngo-winy</i>	<i>ngu-niny</i>	<i>ngu-n</i>
R	<i>ngu-ny</i>	<i>ngu-niny</i>	<i>ngu-n</i>
Ngan	<i>ngo-ng</i>	<i>ngu-ni</i>	<i>ngu-nung</i> (Fut)
Nu	<i>nga-ng</i>	<i>ngu-ni</i>	

The PP, as with other verbs, is the problematic form. The BGW form appears to be an innovation based on extending the PP ending *-eng*, common in BGW (found throughout conjugations 2 and 3, though the vowel there originates from the thematic rather than the suffix) and adding it to a NPST base. The Ngal form, with its augment *.wi* which is shared only with the verb 'cry' (see §3.7 below), is not found elsewhere in GN; if an innovation, it is an unmotivated one, so it may be an archaism. Both the *ngVny* and *ngVng* forms occur in adjacent pairs of languages, so one cannot use arguments about the distribution through the family to justify a preference for one of these forms. Finally, the *o* vocalism is attested in Ngal, Ngan, and Nu (via regular *o > a*) and we therefore attribute it to the proto-language, with analogic levelling to *u* in the remaining conjugations on the basis of the NPST and PI forms. The *nguny* form in R and D, which are adjacent and share some areal innovations, is likely to be an analogic intrusion from other verbs, such as *ru-* 'cry', whose PP in pGN is clearly reconstructable as **runy*.

The other TAM categories are straightforward, with the reconstructed forms surviving into a number of modern languages and the other changes being familiar ones.

3.4 *nga- 'to hear'

The verb *nga- (Table 12) is represented in fewer languages, though it is attested in both W and E branches.

Table 12: Data relating to the reconstruction of inflected forms of *nga- 'hear'

pGN	Past Perfective <i>*nga-m ~ nga-ng</i>	Past Imperfective <i>*nga-n-iny</i>	Non-past <i>*nga-n</i>
J	<i>nga-nay</i>	<i>nga-nay</i>	<i>nga-n</i>
W	<i>nga-m</i>	<i>nga-n-iny</i>	<i>nga-n</i>
R	<i>ngawa-∅</i>	<i>ngawa-niny</i>	<i>ngawa-n</i> (Pres)
Ngan	<i>nga-ng</i>	<i>nga-ni</i>	<i>nga-n</i> (Fut)
Nu	<i>yanga-ng</i>	<i>yanga-ni</i>	

According to Heath (1984:636) the Nu verb *yanga* is a fused compound of **yang* ‘language’ and **nga* ‘to hear’. (A D parallel to this is the incorporation of *yang* ‘language, speech’ into the verb *wonan* ‘hear’, giving *yang-wonan* ‘hear talk, hear (someone’s) words or story’.) The R paradigm reflects vowel breaking (Harvey this volume, Chapter 8), though the *ɔ* ending in the PP is problematic and unexplained.

The original form of the substantive PP suffix, found in the other languages, is uncertain, and as with ‘hit’ reveals competing *ng-* and *m-* final forms. In J, the PI has replaced whatever form was originally the PP form. It appears that J has extended the PI form to cover the PP as well.

3.5 **ra-* ‘to spear’

Though **ra* is attested in only three languages (Table 13), the great distance between Nu, on the one hand, and U and W, on the other, supports its reconstruction for pGN.

Table 13: Data relating to the reconstruction of forms of **ra-* ‘spear’

pGN	Past Perfective <i>*ra-m</i>	Past Imperfective <i>*re-n-iny</i>	Non-past <i>*re-n</i>
Nu	<i>ra-ng</i>	<i>ra-ni</i>	
Uwinymil	<i>ra-m</i>	<i>ye-ning</i>	<i>ye-n</i>
W	<i>la-m</i>	<i>le-n-iny</i>	<i>le-n</i>

Further support for the antiquity of this verb comes from cognates in the Eastern Daly languages (Table 14).

Table 14: Cognates of pGN **ra-* ‘spear’ in the Eastern Daly languages

	Past Perfective	Past Imperfective	Non-past
Kamu	<i>rda-m</i>		
Matngele			<i>rde-n-ek</i>

Harvey (this volume, Chapter 6) examines the relationship of the two forms in the Eastern Daly languages, Kamu and Matngele, to those found in the GN languages. For the purposes of this paper, two points need to be noted. One is that the Eastern Daly forms support the reconstruction of a difference in stem vocalism between the PP on the one hand, and the PI and NPST on the other. The distribution of this difference in root vocalism is the same as that found with **pu* ‘hit’ (§2).

The other point is that Kamu supports the reconstruction of **-m* as the PP suffix. In this connection, the Ngan compound verb *ram-dha* ‘to spear’ should also be considered. This may historically have taken the PP form of the old monosyllabic ‘spear’ verb as the base for the compound. The Nu suffix *-ng* appears to be an analogical intrusion based on the ‘hear’ and ‘hit’ forms.

3.6 **wa-* 'to follow'

Reflexes of **wa-* (Table 15) mean 'follow' in D, M, Ngal and R; in BGW **wa-* continues only as a thematic (and as a suppletive PP of 'go'; other TAM values of 'go' have a root \sqrt{re}). In D, the PP form varies, depending on whether the verb is an independent form *wawi-ny* or a thematic *-wa-ny*. The irregular free form is common to D and R. In J and W, it occurs only as a thematic. In languages in which it appears only as a thematic, its shape is *-wa*.

The PP form is reconstructable as **wa-m*, as this is the form attested in all the languages save D, Ngal, and R (besides the regularly denasalised M form *wa-p*). The D and R independent form *wawi-ny* is irregular, and its source is somewhat uncertain. This form is a semiregular development by vowel breaking in R from a monosyllabic form **wa-ny*. If this was the course of development, then the D form has been borrowed from R, as vowel breaking is not otherwise attested in D.

The *-ny* suffix found in D and R does not correspond with the *-m* suffix found in the other languages. The most likely source for the *-ny* suffix is analogic influence, as *-ny* is the dominant PP form in D and in R (McKay 1975:132). In Ngal the PI form has replaced the PP form.

Table 15: Data relating to the reconstruction of **wa-* 'follow'

pGN	Past Perfective <i>*wa-m</i>	Past Imperfective <i>*wa-n-iny</i>	Non-past <i>*wa-n</i>
J	<i>-wa-m</i>	<i>-wa-nay</i>	<i>-wa-n</i>
W	<i>-wa-m</i>	<i>-wa-n-iny</i>	<i>-wa-n</i>
BGW	<i>-wa-m</i> ; <i>wam</i> 'go:PP'	<i>-wa-ni</i>	<i>-wa-n</i>
D	<i>-wa-ny</i> ; <i>wawi-ny</i>	<i>wa-niny</i>	<i>-wa-n</i>
Ngal	<i>wa-niny</i>	<i>wa-niny</i>	<i>wa-n</i>
R	<i>wawi-ny</i>	<i>wa-niny</i>	<i>wa-n</i>
M	<i>wa-p</i>	<i>wa-ni</i>	<i>wa-n</i>

3.7 **ru-* 'to cry'

Another verb with a more restricted distribution is **ru-* (Table 16). Although it occurs in a contiguous bloc of languages only, there are enough cognates outside GN to attest its antiquity.

Table 16: Data relating to the reconstruction of pGN **ru-* 'cry'

pGN	Past Perfective <i>*ru-ny</i>	Past Imperfective <i>*ru-n-iny</i>	Non-past <i>*ru-n</i>
D	<i>ru-ny</i>	<i>ru-niny</i>	<i>ru-n</i>
Ngal	<i>ro-winy</i>	<i>ru-niny</i>	<i>ru-n</i>
R	<i>ru-ny</i>	<i>ru-niny</i>	<i>ru-n</i>
M	<i>rtu-ni</i>	<i>rtu-ni</i>	<i>rtu-n</i>

The initial consonant of the root can be reconstructed as **r*. M does not synchronically permit morpheme-initial *r* (Merlan 1981:186), and the initial *rt* in M can be inferred to have

replaced **r* to satisfy this requirement. The forms of the NPST and the PI do not present any problems. The PP is reconstructed as **runy* on the basis of the D and R forms; in M, the PI has extended its range to displace whatever the original PP form was.

3.8 **tho* ~ **thowi*- 'to die'

Initial **th* is reconstructed in **tho(wi)* on the basis of the correspondence of D and BGW *t* to *c* in other languages; see Harvey (this volume, Chapter 8) for details. This verb is unusual in having a reconstructable disyllabic alternant. Although within GN the disyllabic form is restricted to BGW and J, and on the basis of Guwinyguan evidence alone is not obviously archaic, once one looks to two other Arnhem Land families, Iwaidjan and Maningrida, the case for reconstructing a disyllable becomes persuasive. In both these families it has a disyllabic stem *thuwa* for all (Maningrida) or some (Iwaidjan) TAM values, suggesting that the disyllabic root *towe* in BGW is original rather than augmented. Examples of forms from outside GN are the Marrgu (Iwaidjan) past forms *thuwa* and *thun* (note the alternation between disyllabic and monosyllabic stem) the Ndjébbana (Maningrida) forms *ccúwa* (future, contemporaneous), *yawéla* (remote) and *cawéla* (infinitive), and the Burarra (Maningrida) past form *cuwuna*.

The forms in the GN languages are given in Table 17. Note that W has raised *o* to *u*, a regular development in that language (see Harvey this volume, Chapter 8).

Table 17: Data relating to the reconstruction of pGN **tho(wi)*- 'die'

pGN	Past Perfective	Past Imperfective	Non-past
	* <i>thowi-ng</i>	* <i>tho-n-iny</i> , * <i>thowi-niny</i>	* <i>tho-n</i> , * <i>thowi-n</i>
W	<i>cu-m</i>	<i>cu-n-iny</i>	<i>cu-n</i>
J	<i>coyi-ny</i>	<i>coyi-nay</i>	<i>coyi-n</i> ~ <i>coyi-ndi-n</i>
D	<i>to-ny</i>	<i>to-niny</i>	<i>to-n</i>
BGW	<i>towe-ng</i>	<i>towe-ni</i>	<i>towe-n</i>

Both W and D have eliminated the disyllabic forms; D retains the original *o* vowel attested in both J and BGW, whereas W has raised the *o* to *u* and in the process innovated a PP form with *m* by analogy with other verbs like *pum* and *ram*. The imperfective form agrees in W and D, vocalism aside; the NPST presents a similar situation. In both cases there is no compelling evidence for preferring a monosyllabic over a disyllabic stem in the reconstruction, and at this stage we give both as candidates. For the disyllabic stems we reconstruct **owi*, from which the J form can be derived by glide assimilation (to palatal preceding the *i*) and the BGW form by vowel lowering.

3.9 **ka*- 'to take, carry'

The verb **ka*- (Table 18) continues in BGW, R, and W in the meaning 'to take'. In Ngal, M, and Kunbarlang it continues with the additional sense 'to carry', and in Ngan it continues as 'to carry' rather than 'to take'. In J it continues as 'to go'; the semantic connection is obscure but the inflected forms clearly match.

Table 18: Data relating to the reconstruction of pGN *ka- 'carry'

pGN	Past Perfective *ka-ng, *ka-nginy	Past Imperfective *ka-n-iny	Non-past *ka-n
J	<i>ka-ngany, ka-ngay</i>	<i>ka-nay</i>	<i>ka-n</i>
W	<i>ka-ngi</i>	<i>ka-n-iny</i>	<i>ka-n</i>
BGW	<i>ka-ng</i>	<i>ka-ni</i>	<i>ka-n</i>
D	<i>ka-ng</i>	<i>ka-niny</i>	<i>ka-n</i>
Ngal	<i>ka-nginy</i>	<i>ka-n-iny</i>	<i>ka-n</i>
R	<i>ka-nginy</i>	<i>ka-n-iny</i>	<i>ka-n</i>
Ngan	<i>ka-ng</i>	<i>kanq-ka-nti</i>	<i>ka-n (Fut)</i>
M	<i>ka-nginy</i>	<i>ka-ni</i>	<i>ka-n</i>

The forms of this verb in Ngan, apart from the future *kan* (cognate with the nonpast in other languages), appear generally unrelated to those elsewhere and it seems that in Ngan this verb has been remodelled as a member of the 5th conjugation (Heath 1978b:96).

In BGW this verb inflects on the same pattern as *na 'to see' and *wo 'to give', resulting in an innovated PP form *ka-ng*; PP *ka-ng* is also found in D.

However the PP forms in the other languages appear to derive from a proto-form *ka-nginy, preserved exactly in R, Ngal and M. J shows harmonisation of the affix vowel to the root vowel. The J *ka-ngay* variant shows an irregular loss of the final nasal segment, as does the W form *ka-ngi*.

3.10 *yo- ~ *yu- 'to lie'

The root *yo- ~ *yu- (Table 19) continues in all GN languages, though in J it has been fused with *puru 'sleep' to give the compound form *purru(yu)* 'to lie'.

Table 19: Data relating to the reconstruction of pGN *yo- ~ *yu- 'lie'

pGN	Past Perfective *yong-iny, *yo-ny	Past Imperfective *yo-y	Non-past *yu, *yong-en
W	<i>yung</i>	<i>yuyiny</i>	<i>yu</i>
J	<i>purryonginy</i>	<i>purroy</i>	<i>purruyu</i>
BGW	<i>yonginy</i>	<i>yoy</i>	<i>yo, yongen</i>
D	<i>yonginy</i>	<i>yo</i>	<i>yu</i>
R	<i>yuwa</i>	<i>yinganiny</i>	<i>yangan; yuru</i>
Ngal	<i>yony</i>	<i>yongoniny</i>	<i>yongon</i>
Ngan	<i>yonginy</i>	<i>yoy</i>	<i>yurta</i>
Nu	<i>yingany</i>	<i>yay</i>	
M	<i>yuc</i>	<i>yunyi</i>	<i>yu</i>

The reconstructed PP form *yonginy descends unchanged to at least one western, one central, and one eastern language, as does the PI form *yoy (counting Ja *purroy* here). There have been a number of changes to the past forms, ranging through vowel assimilations, truncations in W, the D PI and the R PP (followed by regular vowel breaking of *o* to *uwa*).

Ngal and M seem to have used the roots *yo-* and *yu-* respectively as a new founding base for the PP suffix *-ny*; in M the *yuny* that results has gone on to become *yuc* by regular final denasalisation.

The two NPST and PP forms may have conveyed a contrast of the type discussed for BGW in §1.3, of the type ‘be lying’ vs ‘lie down’, with the *-ng-* augment associated with the second meaning. The R form *yuru* includes a distinctive sequence *urV* shared with the other stance verbs; this will be discussed further under ‘stand’ below; the same goes for Ngal *yurta*.

No NPST form can be reconstructed with certainty. The best candidate would appear to be the bare stem **yu* found in W, Ja, D, and M. As with the PI forms, the other NPST forms in the various languages appear to be largely independent.

3.11 **tha-* ‘to stand up’, **thi* ‘to be standing’

Initial **th* is reconstructed in **tha-* and **thi-* on the basis of the correspondence of Ng *th* : Nu *lh* : D, BGW, R *t*: other languages *c* (Harvey this volume, Chapter 8). The forms are given in Table 20a.

The presence in R and BGW of two forms, one with *a* vocalism and one with *i*, as well as slightly different paradigms, suggests there were in fact two verbs in pGN, whose paradigms have been merged in some daughter languages (e.g. W, Ja, and D) while others have generalised one verb or the other as their free ‘stand’ verb (*thi* in Ngal and *tha* in Nu, M, and Ngal). In addition, in Ngal, Ngal and Nu there are distinct free and bound forms with different paradigms.¹¹ Table 20b pulls out the forms from the five languages with two series.

Table 20a: Data relating to the reconstruction of pGN **tha-* and **thi-* ‘stand’

pGN	Past Perfective <i>*thanginy</i> <i>*thi</i>	Past Imperfective <i>*thany</i> ~ <i>*thiyi</i> <i>*thangi</i>	Non-past <i>*ihangen</i> <i>*tha</i>
Wa	<i>cang</i>	<i>ciciny</i>	<i>ci</i>
Ja	<i>canginy</i>	<i>ciyay</i>	<i>ciyi</i>
BGW ^b {	<i>tanginy</i> , <i>-tanginy</i> , <i>ti</i>	<i>tany</i> , <i>-tany</i> , <i>ti</i>	<i>tangen</i> , <i>-ta</i> , <i>ti</i>
D	<i>tanginy</i>	<i>tiny</i>	<i>ti</i>
R	<i>taya</i> , <i>tiyi</i>	<i>tinganiny</i> , (<i>tanginy</i>) ^c , <i>tany</i>	<i>ta</i> , <i>tangan</i> , <i>туру</i>
Ngal	<i>cany</i> <i>-ce</i>	<i>canganiny</i> <i>-cinginy</i>	<i>cangan</i> <i>-ca</i>
Ngan ^d	<i>thinginy</i> <i>-thi</i>	<i>thi</i> <i>-thangi</i>	<i>thurta</i> (Pres)
Nu	<i>lhangany</i> <i>(-thangi</i>	<i>lhay</i> <i>-thiny</i>	<i>-dhang)</i>
M	<i>cac</i>	<i>caykini</i>	<i>caykin</i>

^a thematic only; the verb ‘to stand’ is *kulu-c-ang*.

^b three rows represent, respectively, the paradigm for *tangen* ‘stand up’, *-ta* ‘verb formative’, e.g. *waytan* ‘be raised’, and for *ti* ‘stand, be standing’. See Table 2 for further details.

¹¹ On the Nu *-dha* auxiliary, see Heath (1984:408, 417).

- ^c only in one dialect; other dialect lacks distinct PI form (McKay 1975:134).
^d We are grateful to Brett Baker (email, 27/7/01) for supplying the extra Ngandi forms. The first set can function as a stative verb or an intransitive thematic; the second functions as a causativising thematic.

Table 20b: Languages with reflexes of both pGN 'stand' verbs

pGN	Past Perfective <i>*thanginy</i> <i>*thiyi</i>	Past Imperfective <i>*thiny~ *thiyi</i> <i>*thany</i>	Non-past <i>*thangen</i> <i>*tha</i>
BGW.1	<i>tanginy</i>	<i>tany</i>	<i>tangen</i>
BGW.2	<i>-tanginy</i> <i>ti</i>	<i>-tany</i> <i>ti</i>	<i>-ta</i> <i>ti</i>
R1	<i>taya</i>	<i>tanginy</i> <i>tinganiny</i>	<i>tangan</i> <i>ta</i>
R2	<i>tiyi</i>	<i>tany</i>	<i>туру</i>
Ngal (free)	<i>cany</i>	<i>canganiny</i>	<i>cangan</i>
Ngal (bound)	<i>-ce</i>	<i>-cinginy</i>	<i>-ca</i>
Ngan (stative; free/bound)	<i>thinginy</i>	<i>thi</i>	<i>thurta</i>
Ngan (bound)	<i>-thi</i>	<i>-thangi</i>	<i>-thang</i>
Nu (free)	<i>lhanganiny</i>	<i>lhay~ lhi</i>	<i>lhara</i>
Nu (bound)	<i>-thangi</i>	<i>-thiny</i>	<i>-thang</i>

The nature of the semantic opposition between the two is problematic: in R the distinction is between 'stand (CAUS), wear' and 'stand', while for BGW the distinction (in main verbs) is between *ta* 'stand up, adopt standing position, come to a halt' vs *ti* 'stand, be in a standing position'. This suggests a contrast between **thi-* 'stand (state)' and **tha-* 'stand (change of state)', with a causal sense developing, at least in R, with the change-of-state verb. In Ngan and Nu the bound form has a causative sense; the stative form in Ngan can be free or bound. Clearly the exact opposition to be reconstructed is problematic: the verb represented by PP **thanginy* descends variously with the meanings 'stand (change of state)', 'cause to stand', and 'cause (bound thematic)', while the verb represented by PP **thiyi* descends with the meanings 'stand, be standing' and 'be, become (bound thematic)'. As shorthand we will refer to them as the 'dynamic' and 'stative' stand verbs respectively.

We now turn back to the fuller set of forms in Table 20a and use these to consider the forms in the modern languages and pG.

M has developed a new stem *cayki-* for all categories but the PP and the IMP.

Most PP forms of the **tha-* root reflect *thanginy* straightforwardly, some with vowel assimilations; the parallel with the 'lie' and 'sit' PP forms is clear. The **thi-* root does not continue in the PP category in many of the daughter languages, presumably because the PP has a clear affinity with the change-of-state form and the *tha-* form would thus have been more likely to survive in a merger between the two verbs; as a result there is no attestation in the western languages. However, the BGW, R and Ngan forms suggest an original form **thiyi*.

The PI dynamic form **thany* continues in BGW, Nu, and R. It appears that the Ngal PP form *cany* is a reflex of the PI form, with a new PI form having been created on the base of

the NPST + *-iny*, as with **yu* 'to lie'. The R stance verb has also innovated a new PI form by the same method, alongside the regularly descended PI form *tany*. M has reanalysed the PI form **thany* as a PP, with the form becoming *cac* by regular sound changes to the initial and final.

The PI stative form is reconstructed as **thiny* on the basis of the forms in D and (with left-reduplication) in W; the BGW form exhibits the same loss of *-ny* after *i* found with other PI forms. The Nu dynamic PI form *-thiny* corresponds formally to this, but with the opposite semantic value.

We reconstruct **thangen* as a NPST change-of-state form on the basis of attestation in the central and eastern branches (BGW — a central language — and two eastern languages, namely R and Ngan), and **thi* as a NPST stance verb from attestation in the central (BGW) and western (W, Ja) branches. However, the great variety of forms here weakens the certainty of this reconstruction.

Finally, the presence of cognates of R *-turu* outside GN makes it possible that this form is the sole survivor of a pGN form **-thuru*. Presented with Maningrida-family forms like the Ndjébbana 'contemporary series' *yora* and *nora* (there is no comparable 'stand' form) or Burarra *cirra* 'stand', *yurra* 'lie', and *nirra* 'sit', and observing that R is contiguous with Burarra at least, one might suspect borrowing. However, apart from the unlikelihood of borrowing inflected verbs in a tightly organised paradigm, this explanation has two problems: firstly the formally most similar forms are those in Ndjébbana, which is furthest from R, and secondly the formal match is not perfect: if borrowed from Burarra we would expect *cirra* rather than *turu*, for example. Descent of **th* as *t* in R clearly suggests an inherited form that has undergone apicalisation. We should also expect *nora* rather than *nura* for 'sit', for example, if the source was Ndjébbana, and *rr* rather than *r* throughout if the source was Burarra. For these reasons we consider the borrowing explanation unlikely. A second explanation, which would account for the striking similarities between the R and Maningrida forms, would be to see these forms as archaic, but their function as innovative. This second explanation receives support from the existence of related forms in the irrealis of other GN languages: the Nu 'non-past 2' forms *lhara* 'stand' and *yira* 'lie', and the M irrealis forms *yu:ra-b* 'lie' and *rnura-b* 'sit', as well as the Ngan present forms *yurta* 'lie', *caka-thurta* 'stand', and *nurta* 'sit'. Taken together, these suggest that pGN possessed a series of forms from which the above were derived, although the semantics is currently unclear, and that these have survived in the M irrealis, the Nu 'non-past 2', and the R non-past. Further study of cognates outside GN may help focus our understanding of these forms — see R. Green (this volume) for more widely-based discussion of this series.

3.12 **ni-* 'to sit'

The third stance verb, **ni-* (Table 21), resembles 'lie' and 'stand' but is unlike 'stand' in that it shows no evidence of a double set of stems in the PP and NPST.

Table 21: Data relating to the reconstruction of pGN **ni*- 'sit'

pGN	Past Perfective <i>*ninginy</i>	Past Imperfective <i>*niny</i>	Non-past <i>*ni</i>
W	<i>niwiny</i>	<i>nininy</i>	<i>ni</i>
Ja	<i>niyay</i>	<i>niyay</i>	<i>ni, nini</i>
D	<i>ninginy</i>	<i>niny</i>	<i>ni</i>
BGW	<i>ni</i>	<i>ni</i>	<i>ni</i>
R	<i>niyi</i>	<i>ninganiny</i>	<i>nura</i>
Ngal	<i>rnany</i>	<i>rnanganiny</i>	<i>rnangan</i>
Ngan	<i>rnınginy</i>	<i>rni:</i>	NPST <i>nurta</i>
M	<i>rniny</i>	<i>rni</i>	<i>rni</i>

In the PP, reconstruction of **ninginy* is fairly straightforward, this form being attested in D (central) and Ngan (eastern). It is possible there was a pGN variant **ningany*, given the occurrence of a second *a* vowel in so many modern forms: Kunbarlang *rnıngany*, Ja *niyay*, and Ngal *rnany* if this arises from syncope.

The reconstructed PI form **niny* is a little less clear, being only clearly attested in the central branch (D), though W **nininy* may be a left-reduplicated reflex; the M PP form *rniny* is possibly a third attestation if it derives from an aspectual shift rather than syncope.¹² The confusion surrounding this TAM value may be related to the probable etymological and formal connection between the verb root **ni*- 'sit' and the past imperfective suffix **-ni*, which may have blocked the expected past imperfective form *nini* by some sort of haplology rule.

The NPST has widespread reflexes in *ni*, supporting straightforward reconstruction of **ni*. As with the other stance verbs, R has an aberrant NPST form (here *nura*) which is likely to be a semantic specialisation of an archaic form with some sort of marked non-past semantics (see discussion at end of previous section).

3.13 **ma* 'to get', **-me-* 'inchoative', and **(-)ma-* 'thematic; do, say'

The three verbs **ma-*, **-me-*, and **(-)ma-* will be considered together (Tables 22–27) because their paradigms have been conflated and/or their meanings have shifted in various ways in some of the GN languages. These confluations and shifts of meaning have arisen partly because of the phonological similarities between the three roots, and partly because of the commonalities in meanings between 'do, say', 'get', and 'become/inchoative' (see Merlan 1993).

Of the three verbs, the inchoative is always bound in all GN languages (i.e. it is a thematic functioning as a derivational suffix, predominantly attached to adjective roots), the 'do, say; thematic' form *ma* is always bound in most GN languages but can occur independently in M and in some non-GN languages with a cognate verb, while 'get' is free in all languages except for some complications in Ja to be discussed below.

¹² This form is also problematic in failing to undergo final denasalisation, perhaps conditioned here by the preceding nasal.

First, consider BGW and Ngal (Table 22), both of which keep all three verbs distinct.¹³ Because of the complications that arise when the three verbs are collapsed to two, we will offer a first-pass reconstruction at this stage and then adjust it where necessary in the light of forms from further languages, to be considered below.

Table 22: Conjugation of the three three **mV-* verbs in BGW and Ngal

	Past Perfective	Past Imperfective	Non-past
<i>ma-</i> 'get'	<i>*mey</i> (but see below)	<i>*manginy</i>	<i>*mang</i>
BGW	<i>mey</i>	<i>manginy</i>	<i>mang</i>
Ngal	<i>meq-me</i>	<i>manginy</i>	<i>maq-ma</i> (Pres), <i>mangi</i> (Fut)
<i>-me-</i> 'inchoative'	<i>*-miny ~*-meny</i>	<i>*-meniny</i>	<i>*-men</i>
BGW	<i>-miny</i>	<i>-meni</i>	<i>-men</i>
Ngal	<i>-meny</i>	<i>-meniny</i>	<i>-men</i>
<i>-me-</i> 'thematic'	<i>*-mVny</i>	<i>*?</i> (see below)	<i>*-me</i> (but see below)
BGW	<i>-meng</i>	<i>-mi</i>	<i>-me</i>
Ngal	<i>-miny</i>	<i>-miyiny ~ -meriny</i>	\emptyset

The cognacy of most forms here is clear; the PI of 'get' and the inchoative and the NPST of the inchoative require no comment. The PI of thematic **-me-* is impossible to reconstruct just from these two languages and will be discussed below.

Ngal, along with R and (optionally) D, has dropped the thematic in the non-past, allowing the prepond to appear alone — compare Ngal PP *wulupminy* '(s)he bathed' with PRES *wulup* '(s)he bathes'. This appears to be an innovation in these three contiguous languages. Though NPST **-me* is the obvious candidate from these data, we will revise it below in favour of **-ma-r* (see Table 27).

The PP of 'get' appears from the evidence of these two languages to have been **mey*, with monophthongisation to *me* to Ngal and subsequent reduplication, but the evidence from other languages will lead us to revise this slightly, to **ma-y*.

We shall see below that the BGW PP form of the thematic, *-meng*, is anomalous, and it is likely to be an analogic intrusion from other *e*-final thematics such as *-keng*, with which it is paired in many intransitive vs transitive oppositions such as *pakmeng* 'broke (intr.)', *pakkeng* 'broke (tr.)'. This suggests *-miny* as the proto-form, though further evidence shows the vowel to be problematic.

Finally, the PP of the inchoative is clearly *-mVny*, but the vowel quality is not straightforward: is the *i* original (perhaps with analogic regularisation in Ngal from the other TAM values, which all have *e*), or is the *e* original, with fronting before the palatal in BGW?

In fact some non-GN languages have both vowel forms: in Tyemeri the perfective is *meny* in the 3sg perfective and *miny* for other person-number values of the perfective, but it is unclear whether this continues an original vowel alternation or represents the falling together of two original *mV* verbs.

Although the form of some of the TAM values of these verbs is unclear, it should be clear from the foregoing that three distinct verbs can be reconstructed. However, several GN languages have lost one or more of these, sometimes resulting in conflation of paradigms.

¹³ In fact BGW has a fourth form, *-qme*, which derives a few deadjectival causatives, e.g. $\sqrt{\text{kele}}$ 'afraid' > *keleqme* 'scare'. Apart from its initial *q* this is formally identical to the thematic *-me*.

Consider the case of Ja, in which the 'get' verb shows alternate forms in the PP, PI, and NPST (Table 23).

Table 23: Alternate forms of the 'get' verb in Ja

Past Perfective	Past Imperfective	Non-past
<i>mi</i>	<i>ma-ng-ay</i>	<i>ma-ng</i>
<i>-ma-ny</i>	<i>m-ay</i>	<i>-ma-r</i>

This verb is the most common thematic in Ja, and some of these forms occur only in thematic functions. There is an important contrast in the use of the two PP forms: *-mi* is used only with transitive verbs, and *-ma-ny* is used mainly with intransitive verbs.

This 'get' verb conjugation of Ja, with its distinct forms reflecting transitivity, actually conflates two pGN verbs: the first row above reflects **ma-* 'get', and the second reflects the **-me-* thematic.

We now fine-tune our reconstructions of the three verbs, bringing in the full set of GN attestations one verb at a time, but with an eye out for analogic leakages from one verb paradigm to another.

The full set of forms for the 'get' verb (excluding the second set of Ja forms in Table 23, for the reasons just mentioned) is given in Table 24.

The PI has the least complicated set of correspondences. The W PI form *mayim* is irregular and unrelatable, either to any other PI form in W or to the forms in the other languages. The M PI form *mi-nyi* is not a regular reflex of **ma-ng-iny*. However, we may note that M shows a similar reflex with the verb **thu-* 'to tell off' which has the same paradigm as **ma* 'to get': **thu-ng-iny* > *cu-nyi* (§3.16). The other languages show standard reflexes. The M NPST form is also unrelated and appears to result from analogical reformation. The 'get' root in M is *mi* in forms other than the PP, and many verbs in M take a \emptyset in the Present.

The D, Ja and BGW NPST forms reflect **ma-ng* directly. In Ngal and R, the Present takes a \emptyset suffix. As with M, this is common for the Present. However, the Future and Potential forms, which were historically based on the Present, preserve the **-ng* inflection. W shows an irregular, but nonetheless attested (Harvey this volume, Chapter 8), **ng* > *ny* change. W also shows this change in the paradigm of **thu-* 'to tell off' (§3.16).

Table 24: Full set of forms for **ma-* 'get'

<i>*ma</i> 'to get' pGN	Past Perfective	Past Imperfective	Non-past
Ja	<i>mi</i>	<i>ma-ngay</i>	<i>ma-ng</i>
W	<i>mi</i>	<i>ma-yim</i>	<i>ma-ny</i>
BGW	<i>me-y</i>	<i>ma-ngi</i>	<i>ma-ng</i>
D	<i>me-(y)</i>	<i>ma-nginy</i>	<i>ma-ng</i>
Ngal	<i>meq-me-\emptyset</i>	<i>ma-nginy</i>	<i>maq-ma</i> (Pres), <i>ma-ng-i</i> (Fut), <i>ma-ng-a</i> (Pot)
Ngan	<i>ma-y</i>	<i>ma-ngi</i>	
Nu	<i>mi-ny</i>	<i>ma-ngi</i>	
R	<i>mi-ya</i>	<i>ma-nginy</i>	<i>ma</i> (Pres), <i>ma-ng-a-ra</i> (Fut)
M	<i>ma-y</i>	<i>mi-nyi</i>	<i>mi</i> (Pres)

For the PP, recall that we reconstructed **mey* on the basis of the BGW and Ngal forms (with monophthongisation to *me* in Ngal). The Ngal and M forms, however, both *may*, suggest that **may-* was the original form; there is also the Kamu cognate *ma-y* ‘get-PP’, which provides further evidence that the root vowel in the PP was **a*. From **may*, assimilatory raising would have yielded *mey* (preserved in the BGW form and one D variant) and monophthongisation to *mi* in Ja and W (and *me* in another D variant). The R form results from vowel breaking, **me* > *miya*. As with **po* > *puwa* ‘hit-PP’ (§2.2), the resulting disyllabic form has been reanalysed as root+suffix.

The status of the Nu PP form is uncertain. Most likely it is an intrusion of the form *-miny* or *-meny* from the inchoative paradigm (see below).

We now pass to the second root, the inchoative. Note that this is always bound in all GN languages in which it occurs, and will never bear stress since it coheres into a foot with the preceding noun or adjective root it is suffixed to. With regard to its semantics, note that in Ja this verb functions simply as an intransitive thematic and does not have an inchoative meaning; and in other languages, such as BGW, there is also a range of intransitive uses besides the commonest, inchoative, use, so ‘inchoative’ is at best its proto-typical meaning diachronically. The relevant TAM-forms of this root are shown in Table 25; we omit the Nu inchoative, which formally groups with the thematic *-me* to be discussed below.

Table 25: Forms containing reflexes of $*]_{\text{adj}}\text{-me-}]_{\text{v}}$ ‘inchoative’

	Past Perfective <i>*-me-ny</i> ~ <i>*-miny</i>	Past Imperfective <i>*-me-n-iny</i>	Non-past <i>*-me-n</i>
Ja	<i>-me-ny</i>	<i>-me-nay</i>	<i>-me-n</i>
BGW	<i>-mi-ny</i>	<i>-me-ni</i>	<i>-me-n</i>
D	<i>-mi-ny</i>	<i>-me-niny</i>	<i>-mû-n</i>
Ngal	<i>-me-ny</i>	<i>-me-niny</i>	<i>-me-n</i>
R	<i>-mi-ny</i>	<i>-miya-n-iny</i>	<i>-ma-n</i> (Pres), <i>-miya-n-a</i> (Fut)

Recall that in our first pass through this reconstruction there was no decisive evidence favouring the *-meny* variant over *-miny* or vice versa. Our expanded data set does not solve this problem, and interestingly both variants occur in representatives of two GN subgroups — *-miny* in Central and Eastern, and *-meny* in Central and Western. Recall also that the non-GN language Tyemerri has both forms, conditioned by person-number. At this stage it seems safest to maintain both variants in our reconstruction.

The PI and NPST forms are straightforward in most cases, with the regular Ja development of **-iny* > *-ay*, regular loss of final **-ny* in BGW, vowel breaking from **e* to *iya* in the R PI form. The R NPST form *-ma-n* is irregular and may reflect a pathway **-men* > **-miyan* > *-man*, with the last step an irregular syncope affecting what would always be an unstressed syllable in a ternary foot.

Although this verb is bound in all GN languages, there are languages outside GN in which **me* is an independent verb meaning ‘to do, to say’. There is a cognate independent ‘do/say’ verb in Kamu with a closely corresponding root and the requisite suffixal allomorphy: PP *miny*, PI *mini*, and PR *min*; cf. also Maung ‘do; say’, with PP *miny*, present *min* and past continuous *minang*.

We may also note the paradigm of the Tyemerri ‘do/say’ verb in Table 26.

Table 26: Paradigm of the Tyemmeri 'do/say' verb *me-~mi-~mu-*

	Perfective	Past Imperfective	Irrealis	Present
3sgS	<i>me-ny</i>	<i>me-yi</i>	<i>mu</i>	<i>me-m</i>
Other S	<i>mi-ny</i>	<i>me</i>	<i>mu</i>	<i>mu-m</i>

These forms provide evidence for an independent **me/i* 'do/say' verb at a deeper level than pGN and suggest that it grammaticalised to a bound form at or before the pGN stage.

Finally, let us consider the third verb in the series, for which the full set of forms is given in Table 27. Note that the Nu form actually functions as an inchoative, but is included here because it formally matches this verb rather than the inchoative in the other GN languages.

Table 27: Gunwinyguan reflexes of the verb **(-)ma-* 'do; say; thematic'

pGN	Past Perfective <i>*-ma-ny</i>	Past Imperfective <i>*-marany ~ *-mariny</i>	Non-past <i>*-ma-r</i>
Ja	<i>-ma-ny</i>	<i>-may</i>	<i>-ma-r</i>
BGW	<i>-me-ng</i>	<i>-mi</i>	<i>-me-∅</i>
D	<i>-mi-ny</i>	<i>-mi-ny</i>	<i>-mû ~ -∅</i>
Ngal	<i>-mi-ny</i>	<i>-mi-yiny ~ -me-riny</i>	<i>-∅</i>
R	<i>-mi-ny</i>	<i>-mv-rn</i>	<i>-∅</i>
Ngan	<i>-mu-ng</i>	<i>-mi-ri</i>	<i>-ma-rang</i>
Nu	<i>-ma-ny</i>	<i>-maa</i>	
W	<i>-mi-ny</i>	<i>-ma-rl-any</i>	<i>-ma-rl</i>
M {	<i>(-)ma-ny</i>	<i>(-)ma-ri</i>	<i>(-)ma-∅</i>
	<i>-mi-ny</i>	<i>-mi-ri</i>	<i>-mi-∅</i>

This third verb is bound in all the GN languages except M, and in these languages it usually has no evident root-level semantic content, functioning purely as a verbaliser. In BGW, the glottal-stop initial variant *-qme-* does have specific semantic content, with the two meanings 'cause to be [adj]', e.g. *keleqme* 'scare' (< *kele* 'afraid'), 'call [KIN]', e.g. *ngalkurrnghme* 'call mother-in-law' (*ngal-kurrng* 'mother-in-law'), and 'say/go X' (e.g. *nganghme* 'bellow, go *ngang*'). Derivations of the last two types suggest it may once have meant 'say, do' but lost this meaning in most of the languages and underwent semantic bleaching to a mere thematic. In M, however, in addition to being the predominant thematic conjugation, it can appear as an independent verb with the meaning 'do, say'; note that verbal compounding is not productive in M and that new verbal predicates are constructed through coverb + aux constructions (Merlan 1981:129). M also has a form *-mi-*, showing the same paradigm as *ma*, which appears only as a thematic. The M data suggests that, for pGN, we should reconstruct this verb as occurring both free (meaning 'do; say') and bound (as thematic).

In Ngal, R, and W, new verbal predicates are formed with this conjugation as the verbaliser. In these three languages, this conjugation is the numerically predominant conjugation. The same is true of Ja, allowing for the merger with the 'get' verb conjugation. In D and BGW, this conjugation is productive though not completely open and is numerically predominant.

There are a number of complexities in the reconstruction of this conjugation. We may begin with the NPST; this stands out as the only reconstructed TAM inflection on a widely attested GN verb ending in something other than a vowel or a nasal. This reconstruction is based on the Ja and W forms, respectively *-ma-r* and *-ma-rl*, plus the evidence for an original retroflex continuant contained in the Ngal form *-marang* (recall that the Ngal forms regularly add *-Vng* to the NPST form reconstructable from the other GN languages), and possibly the D form *-mv* (since retroflex environments are a common conditioning factor for the development of the high central vowel *v* in Dalabon).

M and BGW have a *-∅* suffix. In this case, the root vowel is reconstructable as **a*, found in the NPST forms in five of the eight languages. The BGW form with *e* reflects an irregular, but old, raising of **a* > *e* in word-final syllables (Harvey this volume, Chapter 8). As discussed above, Ngal and R simply drop the thematic in the NPST, and this is an option in D as well. The *i* vowel in the M thematic form *-mi-∅* appears to reflect analogic influence from the thematic forms of the PP and PI; the sources of the *i* vowel in these two forms are considered in the ensuing discussion.

Loss of the final **-r* in the remaining languages would have been motivated both phonologically and analogically. In the cases of BGW and W, there has been a general diachronic trend to delete or replace *r* in coda positions (Harvey this volume, Chapter 8). BGW deletes *r* in coda positions (though with remnants in some words in some dialects). W shows both deletion and replacement with *y*, *l*, or *rl*. Therefore both the BGW *-me-∅* and W *-ma-rl* forms are standard, if not completely regular, reflexes of a proto-form **ma-r*. In other languages, such as D and M, there is no evidence for deletion or replacement of codal *r*, so that the loss of final **-r* cannot be viewed as phonologically motivated, even irregularly. In such cases the most likely source for the *-∅* suffix is analogical reformation, based on the many verbs that take a *-∅* present suffix in D and M. In D the motivation for this analogic reshaping would have been strengthened by the fact that the inflected form of all other verbs ended in either a vowel or a nasal, and comparison with its nearest relative, BGW, where the same condition holds, suggests that this is a pattern going back at least to Proto D-BGW.

The PI shows considerably more variation than the NPST but also preserves the reconstructed **r* in a larger number of languages, probably because it was protected by following material from syllabification as a coda and subsequent loss. We reconstruct alternant vowels for pGN because neither *a* nor *i* unproblematically generates all the modern vowel attestations. The *i* variant motivates assimilation of the first vowel to *i* in a number of modern languages, but the *a* variant better accounts for the W and Nu forms. From these two reconstructed variants we derive the modern forms as follows (in most cases we give one of the two variants only as the source):

- (a) W: **-ma-r-any* > *-ma-rl-any*
 - (i) Replacement of intervocalic **r* by *rl* by analogy with the NPST form.
- (b) M: **-ma-r-iny* > **ma-ri* > ~ *-mi-ri*
 - (i) Replacement of the **-iny/-any* PI allomorph by a predominant *-i* allomorph
 - (ii) Regressive vowel harmony
- (c) Ngal: **-ma-r-iny* > **-me-r-iny* ~ *-mi-y-iny*
 - (i) Root vowel partially (to *e*) or completely (to *i*) harmonised to the *i* suffix vowel
 - (ii) Replacement of **r* by *y* in the *-mi-y-iny* variant

- (d) Ngan: **-ma-r-iny* > *-mi-ri*
- (i) Replacement of the **-iny* PI allomorph by a predominant *-i* allomorph
 - (ii) Root vowel harmonised to suffix vowel
- (e) R: **-ma-r-any* > **-ma-r-ny* > *-mvrn*
- (i) Final unstressed vowel deleted: **ma-r-any* > *-ma-r-ny*
 - (ii) Resulting final **r+ny* cluster is reduced to single segment *rn* preserving the place of articulation of the continuant and the manner of articulation of the nasal. We may note that retroflex nasals do not otherwise occur in the PI in R, or any other GN language.
 - (iii) Vowel reduced to *v*.
- (f) Ja: **ma-r-any* > **-mar-ay* > *-ma-y*
- (i) Lenition of final nasal element **-ma-r-any* > *-ma-r-ay*
 - (ii) Deletion of **r*.
 - (iii) The resulting [*maai*] form is a highly marked trimoraic syllable and is reduced to [*mai*] *-ma-y* by shortening the *a* vowel. Given that this conjugation was and is the predominant open conjugation in Ja, the PI forms in other conjugations have been remodelled to *-ay* on the basis of this conjugation.
- (g) Nu: **ma-r-any* > *-maa*
- (i) Loss of final nasal element **ma-r-any* > *-ma-r-ay*. Nu otherwise deletes the final nasal element in the PI.
 - (ii) Deletion of **r*. As previously mentioned, loss of intervocalic **w* is a fairly regular process in Nu (Heath 1978a:40), so the deletion of intervocalic **r* may be a regular pattern. However, this cannot be tested as there are no widespread reconstructable forms with intervocalic **r*, for which Nu has reflexes.
 - (iii) The resulting [*maai*] form is a highly marked trimoraic syllable and is reduced to [*maa*] *-maa* by deletion of the final vowel.
- (h) D: **-ma-r-iny* > **-mi-r-iny* > *-mi-ny*
- (i) Root vowel harmonised to new *i* suffix vowel.
 - (ii) Deletion of **r* (possibly in stages: **miriny* > **miyiny* > *miiny*)
 - (iii) Reduction of impossible sequence **ii* to *i*.
- (i) BGW: **ma-r-iny* > **-mari* > **-miri* > **-miyi* > *-mi*
- (i) Replacement of the **-iny* PI allomorph by a predominant *-i* allomorph, giving **mari*
 - (ii) Root vowel harmonised to new *i* suffix vowel, giving **miri*
 - (iii) Assimilation of **r*, giving **miyi*
 - (iv) Reduction of *i(y)i* to *i*

Not all of these changes are regularly attested, but the fact that the source form would have involved the unstressed second and third syllables of a ternary foot may have licensed a number of reductive and assimilatory changes.

The reconstruction of the PP for the **ma* 'do/say' verb presents fewer complications than the reconstruction for the PI. The root vowel, as in the other tenses, is reconstructable as **a*; it continues unchanged in Ja, Nu and one M variant. The *-mi-ny* form found with the other

M variant, and in D, Ngal, R, and W reflects a partial collapse of this paradigm with that for inchoative **-me*. The analogic source of the BGW form *-meng* from the transitive thematic *-keng*, with which it is often paired, was discussed above and is supported by the many other verbs whose PP ends in *-ng*. The *-ng* suffix in Ngal is also not a regular reflex of **-ny* and is most probably also an analogic reformation on the basis of other *-ng* Past Perfective forms.

3.14 *patca- ‘to punch’

This is one of the few reconstructable disyllabic pGN verbs. Some sources inside and outside GN treat this as a derived reciprocal/reflexive stem — thus Merlan (1983:189) calls it an ‘infrequent suppletive stem of *bu-yji-* [the reflexive/reciprocal of ‘hit’ — AEH] following compounding element’ and Glasgow (1994:63–64) derives the Burarra form *bacha* (*pac:a*) ‘fight one another’ from *pay* ‘eat, bite, hurt’ plus *-ci-* ‘reciprocal’ plus *-ya* ‘reflexive’. Even if this verb is ultimately a lexicalised form of an old derived stem, its reflexes in GN suggest it should be reconstructed as a primary stem in pGN. For example, the BGW PP form *pacci* and the R PP form *patciya* do not correspond to the reflexive/reciprocal forms of either ‘hit’ or ‘bite’, which in BGW would be, respectively, *purriny* and *payerriny*. The attested forms are given in Table 28.

Table 28: Forms attesting **patca-* ‘punch’

pGN	Past Perfective	Past Imperfective	Non-past
BGW	<i>*patci</i>	<i>*patca-ng-iny</i>	<i>*patca-ng</i>
Ngal	<i>pacci</i>	<i>pacce-ngi</i>	<i>pacce-ng</i>
R	<i>pacci</i>	<i>pacci-ny</i>	<i>pacca-∅</i> (Pres), <i>pacca-ng-a</i> (Fut), <i>pacca-ng-i</i> (Pot)
Ngn	<i>patci-ya</i>	<i>patci-ny</i>	<i>patca-∅</i> , <i>patca-ng-a-ra</i> (Fut)
Nu	<i>pacci</i>	<i>pacca-ngi</i>	<i>pacca-ng</i> (Fut)
	<i>patci-ny</i> /C _[-cont] →	<i>patca-ngi</i> /C _[-cont] →	
	<i>watci-ny</i> /C _[+cont] →	<i>watca-ngi</i> /C _[+cont] →	

The semantics and combinatorics of this verb vary somewhat:

- BGW ‘to punch’
- Ngal suppletive stem for *pu-yci-* ‘to hit-reflex/recip’ found chiefly in compounds.
- R ‘to hit’
- Ngn ‘to hit’ — chiefly occurs in compound, where it appears instead of *pu* ‘to hit’
- Nu suppletive stem for *pu* ‘to hit’ found only in compounds.

Given that **pu* can be reconstructed with the meaning ‘to hit’, this verb is presumably to be reconstructed with the more specific ‘punch’ meaning found in BGW. Its meaning has become more general in the other languages. In Ngal, Ngn, and Nu, it functions chiefly as a suppletive compound stem of ‘to hit’.

The medial cluster is to be reconstructed as **tc*, with BGW, Ngal, and Ngn showing assimilation to a geminate. The NPST shows a regular set of reflexes of **-ng*. BGW shows the raising of **a > e* in final syllables, which is found sporadically elsewhere (Harvey this

volume, Chapter 8). Allowing for this raising, the BGW, Ngn and Nu PI forms are all regular reflexes of **patca-ng-iny*, which is based on the NPST in the standard way. The PI forms of Ngal and R are not regular reflexes of **patca-ng-iny*, but appear to reflect an irregular reduction of a trisyllabic form to a disyllabic form.

The PP forms of BGW, Ngal, Ngn, and Nu reflect **patci*. Nu shows nasal epenthesis, as it does in a number of other paradigms. The R PP form *patci-ya* does not regularly derive from **patci*. Rather, it appears to reflect analogic reformation, as the other verbs belonging to this conjugation in R take *-ya* in the PP. The marking of the PP in pGN by the change of final vowel is comparatively unusual. The other verbs which take **-ng* in the NPST and **-ng-iny* in the PI take **-y* in the PP (**ma* ‘to get’, **tho* ‘to chop, to crush’, **thu* ‘to tell off’). This suggests that **patci* may derive from **patca-y*, at an earlier stage.

3.15 **tho-* ‘to chop, to crush’

The reflexes of **tho-* are shown in Table 29.

Table 29: Forms containing reflexes of **tho-* ‘chop, crush’

pGN	‘to chop, to crush’	Past Perfective <i>*tho-y</i>	Past Imperfective <i>*tho-ng-iny</i>	Non-past <i>*tho-ng</i>
Ja	‘to crush’	<i>co-kki</i>	<i>co-ngay</i>	<i>co(yo)-ng</i>
BGW	‘to strike, crush’	<i>to-y</i>	<i>to-ngi</i>	<i>to-ng</i>
Ngal	‘to chop’	<i>ce</i>	<i>co-nginy</i>	<i>co-∅</i> (Pres), <i>co-ng-a</i> (Fut), <i>co-ng-i</i> (Pot)
Ngn	‘to chop’	<i>tho-ng</i>	<i>tho-ngi</i>	<i>tho-ng</i> (Fut)
Nu	‘to chop’	<i>lhi-ny</i>	<i>lha-ngi</i>	

As can be seen, this verb has the same paradigm as **ma-* ‘to get’. The PI and NPST forms follow regular patterns. The PP shows a number of complexities. The BGW, Ngal, and Nu forms can all be related as reflexes of **tho-y*. Ngal shows a reduction of the diphthong **oy* > *e*. Nu has, again, analogically extended the predominant *-ny* final into this conjugation. The source of the *-ng* PP inflection in Ngn is unknown, unless it stems from analogy with a number of other verbs whose past perfective continues **-ng*. The source of the *-kki* PP inflection in Ja is likewise unknown.

3.16 **thu-* ‘to tell off’

Reflexes of **thu-* have a rather wide semantic range (Table 30). (A further apparent indirect cognate is Nu *-lhunyma-* ‘to curse someone, to apply black magic to someone’; *lh* is the regular Nu reflex of pGN initial **th*, and it appears this root is a compound of the PP *lhuny* with a further thematic *ma-*). The various meanings, nonetheless, are relatable to one another. The connection between the ‘tell off’ meaning in D, M, and BGW, and the ‘say/do’ meaning in Ja and W becomes more evident when the following pair of cognates is considered.

Wagiman	W
<i>warle</i> 'to tell off'	<i>warli</i> 'to cry/yell (out)'

The sequence of semantic connections appears to be 'tell off/yell at' > 'yell out/cry out/exclaim' > 'say' > 'say/do'.

Table 30: Forms containing reflexes of **thu-*

pGN		Past Perfective <i>*thu-ny</i> ~ <i>*thu-y</i>	Past Imperfective <i>*thu-ng-iny</i>	Non-past <i>*thu-ng</i>
Ja	'to do, to say'	<i>cu-y</i>	<i>cu-ngay</i>	<i>cu(yu)-ng</i>
W	'to do, to say'	<i>ci-yi</i>	<i>cunguc-iny</i>	<i>ci-ny</i>
BGW	'to scold, to tell off'	<i>tu-y</i>	<i>tu-ngi</i>	<i>tu-ng</i>
D	'to tell off'	<i>tu-ny</i>	<i>tu-nginy</i>	<i>tu-ng</i>
Ngn	'verbaliser'	<i>-thi</i>	<i>-thu-ngi</i>	<i>-thu-ng</i> (Fut)
M	'to swear at'	<i>cu-c</i>	<i>cu-nyi</i>	<i>cu-k</i>

The verbaliser meaning found in Ngn is a further development from the 'say/do' meaning, paralleling the synthetic use of the 'say/do' verb in verb-plus-satellite constructions in BGW (where the relevant verb is *yime*, e.g. *blockim...-yime* 'block (in sport)'), and in auxiliary-plus-preverb constructions in M.

There are two reasons for reconstructing the original meaning as the more specific 'to tell off, swear at' meaning found in M and BGW. Firstly, there are other verbs reconstructable with the 'say' meaning for various stages of pGN: **yi-* (§3.17), possibly **ma-r*, and the compound **ya-ma-r*. It is therefore unlikely that 'say; do' is the original meaning of this verb. Secondly, cognates of this verb in other languages mean 'to tell off, to swear at', or similar. Examples are Kayardild *thuu-* 'swear, swear at, tell off' and Ndjébbana *có-* 'berate, be angry with'.

The root vowel is reconstructable as **u*. The *i* vowel found in the Ngn and W PP forms reflects assimilation: Ngn **[cui]* > **[thii]* > *[thi]*, W **[cui]* > *[ci\$]* > *[ciyi]*, where \$ marks a syllable boundary. The *i* vowel in the W NPST form results from fronting between two palatals: **thu-ny* > *ci-ny*. This change presumably occurred after the NPST suffix had undergone the irregular **ng* > *ny* change in W. This change is also found with the NPST form of 'get' in W (§3.13), and elsewhere (Harvey this volume, Chapter 8). The other languages reflect **-ng* as the NPST suffix. M shows a stop reflex, as with a number of other forms.

An irregular **-ny* suffix also appears in the W PI form *cunguc-iny*. This highly irregular form probably derives from a PI form with a reduplicated stem, **thungu-cu-ng-iny*, which was irregularly reduced from a quadrisyllabic form to a trisyllabic form. The M PI form *cu-nyi* is also irregular, though it parallels the M reflex of **ma-ng-iny* 'get-PI': *mi-nyi*.

The PP form is reconstructed with two variant endings — one with a palatal nasal, retained in D and denasalised to *c* in M, and another with final **y*, continued in the other languages. The **y*-final form may reflect irregular lenition of final **-ny*.

Heath (1978a:93–96) proposes that this verb is a borrowing into Ngn from the Yolngu language variety Ritharrngu, where a verb *-dhu* is the principal verbaliser. However, Heath reconstructs the paradigm of this verb in Proto Yolngu as **-dhu-na* 'Past', **-dhu-n* 'Present', **-dhu-rru* 'Future'. The Yolngu suffixal paradigm is unrelated to the Ngn suffixal paradigm, and in comparison with the paradigms given here, the Yolngu paradigm is not a

plausible source for the Ngn verbaliser. This is thus an interesting case of claimed diffusion turning out to be a case of shared (deep-level) inheritance once comparative work is done in more detail. We shall see a further case when we discuss the inchoative below.

This verb also has reflexes in Nu, though no longer with any separable synchronic function (Heath 1978a:95): *-thi-ny* PP, *-tha-ngi* PI. The PP form involves epenthesis of a final nasal element, as do the Nu reflexes of other PP forms with **-y* ('to give', 'to see', 'to get'). It also involves the vowel fronting found in Ngn and W. The *a* vowel which is found in the PI form is not a regular reflex, but appears instead to reflect analogic reformation. The other verbs in this conjugation have /a/ as their root vowel in the PI, including **ma* 'to get'.

3.17 **yini* 'to do, to say' and **ya-ma-* 'to tell off'

In most GN languages the 'say/do' verb involves an element *ya ~ yi*. These *ya ~ yi* elements appear to derive from two distinct sources. One source is a verb **yini* (Table 31), which continues only in an areally contiguous bloc containing D, R, and Ngal among the GN languages, though in D the form is only found in the PP of 'say', suppletive with forms based on a root *yenycung* in the other TAM values. This monosyllabic verb also appears to underlie the independent form of the Kamu detransitiviser (Harvey this volume, Chapter 6).

Table 31: Forms containing reflexes of **yini-* 'say, do'

pGN	Past Perfective	Past Imperfective	Non-past
pGN	<i>*yininy</i>	<i>*?</i>	<i>*yini(q)</i>
D	<i>yininy</i>	---	---
Ngal	<i>yini-ny</i>	<i>yini-ng-iny</i>	<i>yini-Ø</i> (Pres), <i>yini-ng-a</i> (Fut), <i>yini-ng-i</i> (Pot)
R	<i>yini-ny</i>	<i>yinv-mvrn</i>	<i>yinvq-Ø</i> (Pres), <i>yinq-na</i> (Fut)

While the PP is straightforward, and the NPST is likely to have been **yini(q)*, with vowel centralisation in the R present form, the PI forms are insufficient to allow a reconstruction.

A second source of *ya ~ yi* 'do/say' verbs is a compound of a prepond root **ya(ng)* and the thematic verb **ma-r* as an auxiliary (note that in D the root *yang* means 'speech, language')(Table 32).

Table 32: Forms containing reflexes of **yama-* 'say, do'

pGN	Past Perfective	Past Imperfective	Non-past
pGN	<i>*ya-ma-ny</i>	<i>*ya-ma-rany ~ *ya-ma-riny</i>	<i>*ya-ma-r</i>
W	<i>ya-mi-ny</i>	<i>ya-ma-rl-any</i>	<i>ya-ma-rl</i>
BGW	<i>yime-ng</i>	<i>yimi</i>	<i>yime-Ø</i>
Ngn	<i>yimi-ny-q(-thi)</i>	<i>yimq-yimi-ri-q</i>	<i>yima-r-ang-q(thu-ng)</i> (Fut)
Nu	<i>yama-ny</i>	<i>yamaa</i>	

In W, this verb means 'to tell off', but in the other languages it means 'to do, to say'. The same relationship of meanings is found with **thu* 'to tell off' (§3.16). In BGW this verb has

exactly the same paradigm as thematic *-me-* discussed above; the change in the first vowel from *a* to *i* may reflect earlier influence from a verb **yini* ‘say, do’, now lost. The Ngn paradigm has an unusual structure: the standard inflectional suffixes are followed by glottal stops, which are characteristically final in prebound roots. This combination may then optionally be compounded with the productive verbalising auxiliary *-thu* of Ngn (§3.16).

3.18 Some verbs that are less well-attested

A large number of other verbs appear reconstructable for pGN, but space prevents us from tackling that challenge here. We merely list a number of the more important ones for the sake of future research; for brevity’s sake we normally cite only the PP and NPST form. Note that two of them, **pa(ya)-* and **ca(ra)-*, have a second syllable augment appearing in some TAM values only, typically the PP.

**kinye-* ‘cook, burn’: BGW PP *kinyeng*, NPST *kinye*; D PP *kinying*, NPST *kiny*. Cognates outside GN include Maung ‘cook’ PRES *wunya*, PP *wunyan*.

**nganka-* ‘talk’: Ja PP *ngankany*, NPST *ngankar*; Uwinymil NPST *nganke*. Cognates outside GN include Kungarakany PP *ngenkiny*, NPST *ngenkem*; Larrakiya PP *anking*, NPST *ankam*; Maung ‘talk; argue’ PP *nginkang*, NPST *nginka*.

**wonga-* ‘leave’: Ja PP *wongany*, NPST *wongar*; Wa PP *wungany*, NPST *wungarl*. Cognate outside GN: Jaminjung PP *wungany*, Pres *wungam*.

**pa(ya)-* ‘bite’: BGW PP *payeng*, NPST *paye*; D PP *panginy*, NPST *pang*; Kunp *peyang*, NPST *peye*, Nu PP *pang*, NPST *pang*, Ngal PP *peny*, Pr *pe*; Ngn PP *pang*, PR *pangana*, W PP *piny*, NPST *pe(rr)*. Cognates outside GN are numerous, e.g. Kungarakany PP *peyang*, NPST *payam*, Bur *pay* etc.

**na(ya)-* ‘burn (tr.)’: Ngal PP *ne-ny*, Ngan PP *na-ng*, R PP *ne-ny*, NPST *niya*; Nu PP *nang*. Non-GN cognates are often intransitive rather than transitive; they include Kayardild *na:-ca* ‘burn (intr.)’, Wambaya *nacpi* ‘burn (intr.; tr.)’ and Ngaliwurru *na-* ‘burn’.

**ca(ra)-* ‘eat’: Ja PP *ca-y*, NPST *ca-r*, *ca-ra*; Wa *cany*, NPST *carl*; Kunp PP *carrang*, NPST *cin*; M PP *cirak*, NPST *ca*. Among the many non-GN cognates are Kung PP *carang*, NPST *cur*; Ndjébbana *ci*, Alawa PP *ci*.

**we-* ‘throw’: BGW PP *weng*, NPST *wen*. Non-GN cognates include Lardil *were* ‘throw’.

**yu-* ‘put down’: D PP *yuny*, NPST *yung*; Ngan PP *yung*, POT *yongini*. This may be related to the root *yu-* ‘give’ that is widely attested in PN.

In addition to these monomorphemic verb lexemes, there are many morphologically complex verbs, particularly those based on thematic **ma-*, which can be reconstructed for pGN and sometimes beyond. Again we confine ourselves here to a couple of examples with **ma-*. The GN verbs listed here conjugate like the **ma-* thematic.

**noma-* ‘smell (tr.), sniff’: Ja *noma*, BGW *nome*, Mng *numa* ‘smell (tr.)’; outside GN note Gup *nhuman* ‘smell, sniff around’.

**kutma-* ‘put down’: BGW *kurrme* ‘put (down)’, Ja *kotmar*, Wa *kutmarl*.

**katma-* ‘grasp, pick up, have’: BGW *karrme* ‘grasp, have’. Outside GN note Kayardild *karrma-* ‘grab, wrestle, have’.

**ngokma-* ‘howl; bark’: BGW *ngokme* ‘howl’, Wa *ngokmarl* ‘howl’, Ngal PI *ngokngokmeriny*.

3.19 Verb derivational suffixes: reciprocal, reflexive, inchoative

Most GN languages have a set of derivational suffixes, falling into two classes; each then feeds regular TAM inflection.

(a) $V \rightarrow V$, especially those deriving reflexive and/or reciprocal verbs from transitive stems. There are also suffixes deriving causative from intransitive verbs but these show great variation across languages and do not have obviously reconstructable forms.

An example of a language with distinct reflexive and reciprocal derivations is Ngn: cf. *rtak-thu* 'cut'; *rtak-th-i* 'cut oneself, become cut'; *pu-* 'hit', *pu-ythi-* 'hit each other, fight'. Reflexive **-yi-* and reciprocal **-nci-* have widespread cognates in other non-Pama-Nyungan languages, as well as some Pama-Nyungan, although many languages have generalised one form or the other to become a combined reflexive/reciprocal marker. Sample cognates are given in Table 33.

In all of these languages the relevant suffix is positioned between root and TAM suffix, as in GN. The ubiquity and formal and combinatoric similarity of these forms make it clear they go back beyond pGN.

(b) $N/Adj \rightarrow V$, typically with meaning 'become X'; unlike the $V \rightarrow V$ suffixes, these typically attach to a noun/adjective, or sometimes to a prebound, rather than a verb stem. Two pGN suffixal alternants are **-th:i-* and **-ci-*, 'become Adj', attested in W and Ngn, as well as the inchoative thematic **-me-* discussed in §3.13 above.

3.19.1 The reflexive and the reciprocal

Table 33: Some cognate reflexive and reciprocal forms in selected nonPN and PN languages

Language Family	Language	Form	Function
<i>non-Pama-Nyungan</i>			
Worrorran	Ungarinyin	<i>V-yi</i>	reflexive/reciprocal
	Worrorra	<i>V-ye</i>	middle
Nyulnyulan	Warrwa	<i>V-nyci-</i>	reflexive/reciprocal
	Bardi	<i>V-inyci-</i>	
	Yawurru	<i>ma-V-nyci-;</i> <i>TR-V-nyci</i>	reflexive reciprocal
	Nyigina	<i>-V-nyci-</i>	reflexive/reciprocal
Maran	Alawa	<i>-nyci-</i>	reflexive/reciprocal
	Warndarang	<i>ci- ~ -yi-;</i> <i>-i-</i>	reciprocal reflexive
Tiwian	Tiwi	<i>V-athirri-</i>	reciprocal
Tangkic	Kayardild	<i>V-yi-;</i> <i>V-nycu-</i>	reflexive/passive reciprocal
	Lardil	<i>V-yi-;</i> <i>V-nyci-</i>	reflexive/passive reciprocal

<i>Pama-Nyungan</i>			
	Kulin	<i>V-therra</i>	reciprocal
	Warrgamay	<i>V-ncipa</i> ¹⁴	reciprocal
	Djabugay	<i>V-yi-</i> ; <i>V-(l)nycirri-</i>	non-volitional/intransitivising reciprocal

There are only three GN languages in which the reflexive suffix has a distinctive form: Ngn, Nu, and W (Table 34).

Table 34: Inflection of pGN reflexive *]_v-yi-

pGN	Past Perfective *]-yi-ny	Past Imperfective *]-yi-n-iny	Non-past *]-yi-n
W	-yi-ny	-yi-n-iny	-yi-n
Ngn	-(y)i-ny	-(y)i-ni	
Nu	-i-ny	-ii-ni	

In all the other GN languages, reflexive meanings are conveyed by the same suffix as for the reciprocal. The reciprocal suffixes in Ngn, Nu, and W are set out in Table 35, together with the cognate reflexive/reciprocal suffixes in the other GN languages.

Table 35: Inflection of pGN reciprocal *]_v-nyci- ~ -nhthi-

pGN	Past Perfective *]-nyci-ny~ *]-nhthi-ny	Past Imperfective *]-nyci-niny ~ *]-nhthi-niny	Non-past *]-nyci-n ~ *]-nhthi-n
Ja	-ci-ny, -yi-ny	-ci-nay, -yi-nay	-ci-n, -yi-n
W	-ci-ny	-ci-n-iny	-ci-n
BGW	-rri-ny	-rre-ni	-rre-n
D	-rri-ny	-rrû-niny	-rrû-n
Ngal	-cci-ny	-cci-niny	-cci-n
R	-tti-ny	-ttv-niny	-ttv-n
Ngn	-ythi-ny	-ythi-ni	
Nu	-nyci-ny	-nycii-ni	
M	-(ny)(ci)yak	-(ny)(ci)yi-ni	-(ny)(ci)yi-n

Note that (a) in Ja -c is found following stops and nasals, and -y is found elsewhere; (b) the M reflexive/reciprocal has three allomorphs, -yi, -ciyi, and -nyciyi, whose distribution is lexically conditioned (Merlan 1981:154–155); (c) in Ngal *pu* ‘to hit’ takes a reflexive/reciprocal allomorph -yci, and *wo* ‘to give’ takes -ycci; (d) the Ngn reciprocal has three allomorphs: -waythi after consonants, and -ythi and -ywoythi, whose distribution is lexically conditioned, after vowels (Heath 1978b:93)

In addition to the non-GN cognates which, as mentioned above, support the reconstruction of a very old contrast between reflexive *]-yi- and reciprocal *]-nyci-, there are good reasons from within the GN family to reconstruct distinct reciprocal and reflexive suffixes with these forms for pGN itself. The great distance between W on the one hand, and Ngn and Nu on

¹⁴ This is one among several allomorphs; the others are not clearly cognate: -pa-, -kaba-, -nyaba-.

the other hand, means that the distinctive reflexive forms cannot be analysed as an innovation. The distinctive reciprocal forms in Ngn and Nu appear to be cognate with each other and with the combined reciprocal/reflexive forms in BGW, D, M, Ngal, and R, suggesting that, in these languages, the original reciprocal suffix has extended its range to replace the original reflexive. This is a quite plausible development cross-linguistically. The status of the Ja reciprocal/reflexive and W reciprocal forms is uncertain, as these require consideration of another suffix, the inchoative (§3.19.2).

Reconstruction of the forms of the TAM endings found with these two suffixes is generally straightforward. The only form requiring comment is the M PP form *-(ny)(ci)yak*. This form is not a reflex of the pGN form but rather appears to involve a *-Cak* PP suffix, found elsewhere in the M verbal paradigms (Merlan 1981:155). The form of the proto-reflexive is also comparatively straightforward: **-yi*. Nu shows complete loss of the initial approximant, and Ngn shows variable loss.

Table 36 summarises the steps by which the modern forms can be derived from pGN **-nyci- ~ -nhthi-*. It does not attempt to account for the M increments *-yak* and *-yini* and the Nu long vowel in the PI, for which we have no explanation, but since there are no cognates of these increments inside or outside GN we assume they are language-specific innovations. We omit TAM suffixes to the reciprocal morpheme except where there are TAM-specific vowel alternations in the reciprocal morpheme itself; such alternations arise in BGW, D, and R, apparently conditioned by the nature of the following nasal in the TAM inflection, with *-ny* preserving the original *i* vowel, but *n* (in PI *-ni(ny)* and NPST *-n*) conditioning a centralisation to *v* in D and R and conditioning raising to *e* in BGW. Changes that have applied in some environments only are shown by \sim .

Overall, the pattern reflects the accumulation of several spatially overlapping changes — for example, BGW, D, and R share the change apicalisation, while with regard to the development of the nasal element, BGW and D resemble Ja and W in simply losing it, whereas R now groups with Ngal in denasalising it to a stop, yielding a geminate. The changes are organised into groups, temporally ordered from left to right; a language can undergo at most one change from within the same group, since mostly these refer to logically incompatible alternatives (e.g. the nasal element can be lost entirely, lenited or denasalised, or remain unaltered). Non-empty cells represent the result of changes in the relevant column.

Table 36: Steps yielding modern GN reflexes of $*[v]_v\text{-nyci-} \sim \text{-nhthi-} [v]$ 'reciprocal'

	Initial nasal (a) lost (b) lenited to y (c) denasalised	Selection of (d) dental (e) palatal	Vowel centralisation <i>/th_n</i> (f)	Apicalisation (g)	Lenition: (h) <i>j > y</i> Flapping: (i) <i>t > rr</i>
Ja	(a) <i>-thi- ~ -ci-</i>	(e) <i>-ci-</i>			(-h) <i>-ci- ~ -yi-</i>
W	(a) <i>-thi- ~ -ci-</i>	(e) <i>-ci-</i>			
BGW	(a) <i>-thi- ~ -ci-</i>	(d) <i>-thi-</i>	(f) <i>-the- / _n,</i> <i>-thi- / _ny</i>	(g) <i>-te- / _n,</i> <i>-ti- / _ny</i>	(i) <i>-rre- / _n,</i> <i>-rri- / _ny</i>
D	(a) <i>-thi- ~ ci-</i>	(d) <i>-thi-</i>	(f) <i>-thû- / _n,</i> <i>-thi- / _ny</i>	(g) <i>-tû- / _n,</i> <i>-ti- / _ny</i>	(i) <i>-rrû- / _n,</i> <i>-rri- / _ny</i>
R	(c) <i>-ththi-</i>	(d) <i>-ththi-</i>	(f) <i>-ththv- / _n,</i> <i>-ththi- / _ny</i>	(g) <i>-ttv- / _n,</i> <i>-tti- / _ny</i>	
Ngal	(c) <i>-ththi- ~ cci-</i>	(e) <i>-cci-</i>			
Ngn	(b) <i>-ythi- ~ -y-ci-</i>	(d) <i>-ythi-</i>			
Nu		(e) <i>-nyci-</i>			
M	(~a) <i>-(nh)thii- ~ -(ny)ci-</i>	(e) <i>-(ny)ci-</i>			

3.19.2 The inchoative

Two inchoative morphemes are reconstructable for pGN. One is **-me-*, which derives ultimately from an independent verb meaning ‘to do, to say’ (§3.13). The other is **-thi-*, with reflexes in five languages, given in Table 37.

Table 37: GN reflexes of inchoative **-thi-*

pGN	Past Perfective <i>*-THi-ny</i>	Past Imperfective <i>*-THi-n-iny</i>	Non-past <i>*-THi-n</i>
Ja	<i>-ci-ny, -yi-ny</i>	<i>-ci-nay, -yi-nay</i>	<i>-ci-n, -yi-n</i>
W	<i>-ci-ny</i>	<i>-ci-n-iny</i>	<i>-ci-n</i>
Ngn	<i>-ththi-ny</i>	<i>-ththi-ni</i>	
Nu	<i>-thi-ny</i>	<i>-thii-ni</i>	
M	<i>-cak, -yak</i>	<i>-ci-ni, -yi-ni</i>	<i>-ci-n, -yi-n</i>

The allomorphy is as follows: (a) in Ja *-c* is found following stops and nasals, and *-y* is found elsewhere; (b) in M *-c* is found following consonants, and *-y* is found following vowels; (c) the Nu form is extremely limited in productivity.

The forms of the TAM suffixes attaching to this inchoative are unproblematic. The M PP is not cognate and involves the *-Cak* PP suffix found elsewhere in the M verbal paradigms (Merlan 1981:155).

The relationships between the forms of the inchoative suffix itself are also comparatively uncomplicated. Ngn shows gemination, a common process at suffix boundaries in Ngn, Ngal, and R (Baker 1999). The Nu form presumably also contained a long stop historically, as **th:* > *th* is a regular shift in Nu (Heath 1978a:38). This inchoative is only marginal in Nu (Heath 1984:398), in which the principal inchoative is a reflex of **-ma*.

The Ja, M, and W forms are regular reflexes of the reconstructed form. The Ja form is identical to the Ja reciprocal/reflexive suffix, and the W form is identical to the W reciprocal suffix (§3.19.1). However, neither of these forms is a regular reflex of the reconstructed reciprocal **-nyci*. Neither Ja nor W otherwise reduces nasal–stop clusters. Consequently the loss of the initial nasal does not result from phonological processes. As such it appears that the Ja reciprocal/reflexive and the W reciprocal derive from the inchoative ultimately, and not from the reciprocal. The semantic paths underlying this extension in the range of the inchoative require further investigation.

Heath (1978a:92–93) proposes that Ngn has borrowed its inchoative from the Yolngu languages. An inchoative morpheme **-thi* can be reconstructed for Proto Yolngu. Its reflex *-thi* is present in Ritharrngu and Dhay’yi, the Yolngu languages bordering on Ngn and Nu. However, Heath (1978a:92–93) reconstructs the paradigm of this verb in Proto Yolngu as **-ththi-na, -ththi-nya* ‘Past’, **-ththi-rrri* ‘Present’, **-ththi-Ø* ‘Future’. The Yolngu suffixal paradigm is unrelated to the Ngn suffixal paradigm, and in comparison to the paradigms shown in Table 32, the Yolngu paradigm is not a plausible source for the Ngn inchoative. As with the ‘tell off’ verb discussed in §3.16, this is a case where a claimed case of diffusion turns out, on consideration of a wider range of languages, to be a matter of parallel inheritance. (This is not to say that areal factors, in particular Ngandi-Ritharrngu bilingualism, may not have played a part in keeping the same form alive in these neighbouring but not closely related languages).

4 The pGN conjugational system

We have now reconstructed the verbs and derivational verbal suffixes which are summarised in Table 38.

It will help us see the patterning more clearly if we abstract the main patterns of desinence from the above verbs. This is done in Table 39, which arranges verbs by conjugational pattern (note that this conjugation numbering is for pGN, and hence does not correspond to the BGW conjugations given in Table 2). Verbs with a 'pure' conjugation are listed in the third column, while verbs whose reconstructions show variation are shown in the fourth. Since much of this variation is explicable in terms of analogical spread of particular patterns (particularly in the PP), possible analogical sources for variant forms are listed in the rightmost column.

Table 38: Summary of reconstructed pGN verb forms

*Root	Meaning	*Past Perfective	*Past Imperfective	*Non-past	§
<i>po-/pu-</i>	'hit'	<i>pom ~ pong</i>	<i>puniny</i>	<i>pun</i>	2.1–3
<i>nga-</i>	'hear'	<i>ngam ~ ngang</i>	<i>nganiny</i>	<i>ngan</i>	3.4
<i>na-</i>	'see'	<i>nay ~ nang</i>	<i>naniny</i>	<i>nan</i>	3.1
<i>tho(wi)-</i>	'die'	<i>thowi-ng</i>	<i>tho(wi)niny</i>	<i>thon, thowin</i>	3.8
<i>wo-</i>	'give'	<i>woy (? ~wong)</i>	<i>woniny</i>	<i>won</i>	3.2
<i>ngu-</i>	'eat'	<i>ngong</i>	<i>nguniny</i>	<i>ngun</i>	3.3
<i>ru-</i>	'cry'	<i>runy</i>	<i>runiny</i>	<i>run</i>	3.7
<i>J_{adj}-me-</i>	'inchoative'	<i>-meny ~ -miny</i>	<i>-meniny</i>	<i>-men</i>	3.13
<i>ra-</i>	'spear'	<i>ram</i>	<i>reniny</i>	<i>ren</i>	3.5
<i>wa-</i>	'follow'	<i>wam</i>	<i>waniny</i>	<i>wan</i>	3.6
<i>ka-</i>	'take, carry'	<i>kang ~ kanginy</i>	<i>kaniny</i>	<i>kan</i>	3.9
<i>tha-</i>	'stand up'	<i>thanginy</i>	<i>thany</i>	<i>thangen</i>	3.11
<i>yo-/yu-</i>	'lie, sleep'	<i>yonginy ~ yony</i>	<i>yoy</i>	<i>yu ~ yongen</i>	3.10
<i>ni-</i>	'sit'	<i>ninginy</i>	<i>niny</i>	<i>ni</i>	3.12
<i>thi-</i>	'be standing'	<i>thi</i>	<i>thiny</i>	<i>thi</i>	3.11
<i>ma-</i>	'get'	<i>may</i>	<i>manginy</i>	<i>mang</i>	3.13
<i>(J_{pre}-)ma-</i>	'thematic; do; say'	<i>-many</i>	<i>-marany ~ -mariny</i>	<i>-mar</i>	3.13
<i>patca-</i>	'punch'	<i>patci</i>	<i>patcanginy</i>	<i>patcang</i>	3.14
<i>tho-</i>	'chop, crush'	<i>thoy</i>	<i>thonginy</i>	<i>thong</i>	3.15
<i>thu-</i>	'tell off'	<i>thuny ~ thuy</i>	<i>thunginy</i>	<i>thung</i>	3.16
<i>yini-</i>	'say, do'	<i>yininy</i>	?	<i>yini</i>	3.17
<i>J_v-yi-_v</i>	'reflexive'	<i>-yiny</i>	<i>-yininy</i>	<i>-yin</i>	3.19.1
<i>J_v-nhthi- ~ nyci-_v</i>	'reciprocal'	<i>nhthinny ~ nyciny</i>	<i>nhthininy ~ nycininy</i>	<i>nhthin ~ nycin</i>	3.19.1
<i>J_{adj}-thi-_v</i>	'inchoative'	<i>-thiny</i>	<i>-thininy</i>	<i>-thin</i>	3.19.2

Several general points may be made about the paradigm of reconstructed verbs.

First, in most cases the PI is based on the NPST plus **-iny*; this holds for conjugations 1–4 and 6, and for 7 with the addition of a vowel-harmonised variant **-any*. Only in the stance verbs is the PI ending added straight to the root.

Second, in most patterns the PP form is the most differentiated — for example, the NPST ending **-n* corresponds to four PP endings (**-m*, **-y*, **-ng* and **-ny*). Only in conjugations 5–7 do the NPST forms depart from the form **-n*. Note also that, leaving aside the ‘variants’, only for the PP forms in **-y* and **-ny* are the NPST forms not predictable, i.e. PP **-ny* can have NPST **-n* or **-r* according to the verb, and PP **-y* can have **-n* or **-ng*.

Third, most of the patterns listed in the ‘variant’ column can be assigned an analogic source in another pGN conjugation. This means that in fact some of these variants may be parallel analogical developments in several modern languages, rather than being attributable to pGN. Reconstructions from other language families will be particularly useful in checking how far back some of these variant reconstructions go.

Table 39: Paradigmatic patterning of reconstructed pGN verb inflections.

pGN conj. no.	Pattern summary (PP : PI : NPST)	Verbs following this pattern	Verbs following this pattern with variation	Possible analogic source for variations
1	<i>-m : -niny : -n</i>	<i>wa-</i> <i>ra- (-re-)</i>	<i>pu- (-po-; PP ~-ng)</i> <i>nga- (PP ~-ng)</i>	
2	<i>-y : -niny : -n</i>	none	<i>na (PP ~-ng),</i> <i>wo- (PP ~-ng)</i>	Pattern 3 (and variant of 1) may be an analogic source for variant PP
3	<i>-ng : -niny : -n</i>	<i>tho(wi)-</i> <i>ngu- (-ngo-)</i>	<i>ka- (PP ~-nginy)</i>	Pattern 5 as source for variant PP
4	<i>-ny : -niny : -n</i>	<i>ru-</i> <i>-me (inch)</i> reflexive <i>-yi-</i> reciprocal <i>-nhthi-</i> inchoative <i>-thi-</i>	<i>yini (NPST: ~-q)</i>	Thematic <i>ma-</i> in Ngal and R
5	<i>-nginy : -ny : -ngen</i>	<i>tha-</i>	<i>yo/u</i> (PI <i>-y</i> ; NPST <i>~-∅</i>); <i>ni (NPST ∅)</i>	No obvious source
6	<i>-y : -nginy : -ng</i>	<i>ma- ‘get’</i> <i>patca (PP ay >i)</i> <i>tho-</i> <i>thu- (PP ~-ny)</i>	<i>thu- (PP ~-ny)</i>	Pattern 4 (<i>ru-</i> also ends in <i>u</i>)
7	<i>-ny : -rany ~ -riny : -r</i>	<i>ma- ‘thematic; do; say’</i>		

Fourth, a number of verbs have reconstructed vowel alternations in addition to the suffix: **pu- ~ *po-* ‘hit’, **ra- ~ *re-* ‘spear’, **ngu- ~ *ngo-* ‘eat’, and **me- ~ *mi-* ‘inchoative’. These always involve alternations between a high or low and a mid vowel. Again, as reconstructions of other Australian families appear it will be interesting to see whether parallel vowel alternations are found and, if not, what reconstructable environments engendered these alternations.

Fifth, the stance verbs are at the same time the most distinctive and the most internally differentiated of the group. Even though they all share alternations between **CV-* and **CVng-* across the three TAM, the degree to which the **CVng-* forms appear in the NPST, and the specific form of all three values, varies across the three verbs.

Sixth, endings right across the paradigm are highly constrained phonotactically. Except for the aberrant conjugation 7, which has **-r* in the NPST, all inflected forms must end either in a vowel, in the semivowel **-y*, or in one of four nasals (**-m*, **-n*, **-ng* or **-ny*). Of the modern languages, only M has departed significantly from this pattern (by denasalising nasals to stops), though R has introduced a further point of articulation for nasals (*rn*).

Overall one is struck by how conservative all the GN languages have been in preserving the overall characteristics of the paradigm. Even though the differential expansion, restriction, and reassigning of conjugational variants has proceeded to remodel each language's paradigm at the micro-level, the basic characteristics of the patterning have remained in all daughter languages.

5 Proto Gunwinyguan and Pama-Nyungan

Many of the verbs reconstructed for pGN have cognates in the PN languages; these are set out below. The cognacy between the verb roots in GN and PN is generally unproblematic, once one takes into account the absence of phonemic vowel length in GN, the presumed absence of mid vowels in pPN, and the initial laminals in PN corresponding with apicals in GN (Evans 1988) as in the 'see' and 'sit' sets. Table 40 compares the reconstructed PP and NPST forms of pGN verbs with two other forms from 'outside' Gunwinyguan: (a) the conjugation classes of what Dixon (1980:404–405) calls 'Proto Australian' and what we take to be Proto Pama-Nyungan¹⁵ (b) Alpher's (1990) reconstructions of pPN verbs, where relevant, and (c) relevant contemporary forms from particular PN languages.

The table is divided into three groups on the basis of the type of correspondence in final inflection. In many cases the pGN PP form resembles the conjugation marker in the Pama-Nyungan languages; an interesting case is 'hit', where both alternate PP forms in pGN (i.e. final *m* and final *ng*) occur in Pama-Nyungan, in one case in the same language (Djapu, but reassigned to different TAM values). For a couple of verbs it is the pGN non-past that resembles Dixon's putative Pama-Nyungan consonant-final root: these are the GN thematic *-ma-r*, resembling Dixon's 'say, do' **mal*, GN *re-n* 'spear', resembling the base form *lan* in Walmatjarri (Richards & Hudson 1990), and possibly GN *thangen* 'stand', which may correspond to pPN **thana-* (with allowance for irregular loss of medial **ng*; and bear in mind that this element is, exceptionally, not present in the past imperfective, so the loss may have been analogically motivated). Note for *-ma-r*, though, that there are three languages which appear to have reflections of both the PP and NPST forms from pGN: cf. pGN PP **many*, Djabugay 'make' past *many*, GY inchoative past *-ma-y*, and W1 'speak' (past irrealis) *manyjarla* (with augment), and pGN NPST **-mar*, Djabugay 'make' present *ma*, GY inchoative non-past *-ma-l*, and W1FUT *malku* (with future augment).¹⁶ In the case of this

¹⁵ Compare Heath's (1990:403) observation that '[f]rom a methodologically conservative point of view, we should really take Dixon's 'Proto-Australian' reconstructions as Proto Pama-Nyungan, since the descriptive materials used are from Pama-Nyungan languages'.

¹⁶ We acknowledge there are some semantic discrepancies here, but believe each can be related plausibly to some meaning of pGN *-ma* — the inchoative in GY to its role as a general intransitive thematic, the 'speak' meaning in W1 to its meaning 'say, do' when used as a main verb, and the 'make' meaning in Djab to its meaning 'do'. In any case, the meaning attributed to this root by Dixon (1980) spans a comparable range.

verb, then, there are some PN languages preserving a situation more like that found in Gunwinyguan, in which the ‘conjugation marker’ has a less ubiquitous role in the paradigm, and moreover in which there appears to be direct cognacy between unrelated past and non-past suffixes.

For yet other verbs, we have been unable to find any resemblance between the putative conjugation marker in PN and the pGN suffixal form, though of course subsequent research on historical phonology may end up relating some of the final consonants involved, such as pGN *m# and Walmatjarri *ng#.

Table 40: Comparison of pGN forms with regard to putative final consonant and conjugation membership in other Australian languages

pGN *root	*PP	*NPST	‘pA’ root (Dixon 1980)	pPN (Alpher 1990)	Nearest match in contemporary PN (meanings only given if they differ from those in pGN)
Putative pA root-final consonant (Dixon 1980) corresponds most closely to PP in pGN					
<i>po- ~ pu-</i> ‘hit’	<i>pom ~pong</i>	<i>pun</i>	<i>pum</i> ‘hit’	* <i>puma</i> (Imp)	Nya PERF <i>pumayi</i> , Banj √ <i>pum</i> , Djap <i>puma</i> (unmarked), PST <i>pungu</i> ; Gmb IMP <i>puma</i> , PURP <i>pumku</i> ; Wlp PST <i>pungu</i> , FUT <i>pungku</i> ; Yank PST <i>pungu</i> , FUT <i>pungkuku</i>
<i>na-</i> ‘see’	<i>nay ~ nang</i>	<i>nan</i>	<i>NHaang</i> ‘see’	* <i>nyaangu</i> (Past)	Gmb PST <i>nyaawang</i> , IMP <i>nyayaga</i> , GY PST <i>nhaathi</i> ; Wlp PST <i>nyangu</i> , FUT <i>nyangu</i> ; Yank PST <i>nyangu</i> , FUT <i>nyangkuku</i> ; Djap POT <i>nhaangu</i> .
<i>wo-</i> ‘give’	<i>woy</i> (?~ <i>wong</i>)	<i>won</i>	<i>wung</i> ‘give’		GY PST <i>wuthi</i> .
<i>nga-</i> ‘hear’	<i>ngam ~</i> <i>ngang</i>	<i>ngan</i>			Gmb √ <i>ngarraang</i> PST <i>ngarraawang</i> , FUT <i>ngarraangu</i> ; Djap UNM <i>ngaama</i> .
<i>ka-</i> ‘take, carry’	<i>kang ~</i> <i>kanginy</i>	<i>kan</i>	<i>kaang</i> ‘carry, bring, take’		Banj √ <i>kaang</i> ; Wlp PST <i>kangu</i> , fut <i>kangku</i> ; Djap POT <i>kaangu</i> , PERF <i>kaangal</i> , WI NPST.IRR <i>kangka</i> , customary realis <i>kangany</i> .
Putative pA root-final consonant (Dixon 1980) corresponds most closely to NPST in pGN					
(-) <i>ma-</i> ‘thematic; do; say’	<i>-many</i>	<i>-mar</i>	<i>mal</i> ‘speak to, tell, do, make’	* <i>-marra</i>	Banj causative <i>-ma</i> ; GY INCHO NPST <i>-mal</i> , PST <i>-may</i> ; Djab ‘make’ PST <i>many</i> , PRES <i>mal</i> ; WI ‘speak’ IRR <i>manyjarla</i> , PST REAL <i>marni(ny)</i> , CUSTOMARY PST <i>malany</i> , FUT <i>malku</i> .
<i>ra-</i> ‘spear’	<i>ram</i>	<i>ren</i>			WI √ <i>lan</i> ‘to spear’, e.g. <i>lanu</i> .
<i>tha-</i> ‘stand up’	<i>thanginy</i>	<i>thangen</i>	<i>THa(?a)-n</i>	(* <i>cana-</i> [root])	

Putative pA root-final consonant (Dixon 1980) corresponds to no suffixal consonant in pGN					
<i>ni-</i> 'sit'	<i>ninginy</i>	<i>ni</i>	<i>NYii-n</i>	(* <i>nyiina-</i> [root])	Djap <i>nhina-ø</i>
<i>ma-</i> 'get; take'	<i>may</i>	<i>mang</i>	<i>maan</i> 'hold in hand'	* <i>man(V)</i> (Past), * <i>marra</i> (Imp)	GY <i>maa-naa</i> 'take, get IMP', Gmb PST <i>maaning</i> , PURP <i>maangu</i> , Wlp PST <i>manu</i> , FUT <i>manku</i> , Yank PST <i>manu</i> , FUT <i>mankuku</i> .
<i>ru-</i> 'cry'	<i>runy</i>	<i>run</i>	<i>lung ~ tung</i> ~ <i>yung</i>		Gmb PP <i>tuuwang</i> , PURP/FUT <i>duungu</i> , √ <i>duung</i> , Banj √ <i>tung</i> , Uradhi PST <i>rungkan</i> , PRES <i>rungka</i> .
<i>thu-</i> 'tell off'	<i>thuny ~</i> <i>thuy</i>	<i>thung</i>	<i>ju(u)n</i> 'say to; scold'		Gmb √ <i>cuun</i> 'tell', Dja √ <i>cun</i> 'scold'
<i>wa-</i> 'follow'	<i>wam</i>	<i>wan</i>			W1 √ <i>waang</i> : PST REAL <i>waanya</i> , CUSTOMARY <i>waangany</i> .

In the cases where there is a correspondence, the status to be attributed to the proto-forms of these inflections is the subject of some debate. Dixon (1980:414) argues that the distinctive consonants listed above were probably originally part of the verb root and were later reanalysed as conjugation markers. This hypothesis is criticised by Alpher (1990). He argues that positing a situation where the 'conjugation markers' were once found with all verb forms in PN requires too many irregular sound changes. As an alternative, he proposes that the 'conjugation markers' should be viewed as having originally been desinences marking particular verbal categories, which over time have been reanalysed as conjugation markers in some languages.

pPN on Alpher's view would appear to be closer to the situation found in the GN languages. While it is possible, in most of the GN languages, to describe the verb **pu* 'to hit' for example as belonging to the *-*m* conjugation, this clearly cannot be taken to imply that the conjugation of **pu-* 'to hit' can be reconstructed with a marker *-*m*, which is found throughout the conjugation. Rather describing **pu-* as belonging to the *-*m* conjugation merely indicates the least predictable desinence from which the others may be predicted (i.e. *-*m* verbs have a NPST in *-*n* and a PI in *-*niny*, as do *-*ny* verbs). Moreover as it appears that in pGN the PI consisted of the NPST + *-*i/any*, it is not difficult to conceive of changes that would cause the NPST inflections *-*n*, *-*ng* and *-*r* to be reanalysed as conjugation markers.

Therefore the pGN conjugational system appears to provide support for an analysis of the 'conjugation markers' in PN as having been markers of verbal categories. As we have already stated, while PN verbs with **m* and **ng* in their inflectional endings show correspondences with the PP forms of pGN verbs, PN verbs marked by *-*r* (and in one case *-*n*) show correspondences with the NPST forms of pGN verbs. This would suggest that the PN 'conjugation markers' have origins in the markers of a variety of different verbal categories, which have then been analogically generalised and detached from any association with a particular TAM category. Further support for this model comes from the case of 'thematic; do; say' (-)*ma-*, mentioned above, for which the unrelated PP and NPST suffixes of pGN each have cognates, with matching semantics, in several PN languages.

6 Conclusion

This article is preliminary in many ways. It needs to be expanded by looking at more verbs (see §3.18), more prebound + thematic combinations, and more TAM categories (in particular, by looking at the cognates of the irrealis category discussed in §1.3); by more consideration of the evidence of external cognates; and by a more rigorous understanding of GN historical phonology. It would also be helpful to have reconstructions of other subgroups, rather than just modern forms, as a reference point for comparisons. These advances will give us a more detailed picture, identify some archaisms we may have overlooked, and correct some of our reconstructions, and may make it possible to eliminate some of the variants which it has been impossible to decide between at this level of knowledge. Nonetheless, our morphological reconstructions, like all such, will never attain total precision, owing to the many degrees of freedom given by the interaction of regular sound change, irregular sound changes affecting prosodically weakened final elements, and the operation of analogy.

Despite the many doubtful points in our reconstruction, we have shown that it is possible to reconstruct the complex proto-system of the GN family in some detail. It is reassuring how much irregularity this reconstructed system contains, since it is paradigmatic irregularities that provide the most distinctive signatures in morphological comparison.

Although there are many similarities to how the pPN system would have looked, there are important differences. In the GN languages it is difficult to talk of ‘conjugation markers’ in the sense the Dixon uses the term, and this raises the question of how they emerged in PN. The view advanced here is that they emerged, probably concurrently with the emergence of PN as a subgroup, by a process of analogical extension of unpredictable consonant endings which originally would have been, as in the GN languages, scattered across the various TAM inflections (sometimes in the PP, sometimes in the NPST) rather than regularly present before the TAM exponent as in the putative pA consonant-final roots of Dixon. A second important difference is that the PP vs PI contrast that pervades the GN languages, while widespread in Pama-Nyungan languages, is not necessarily to be reconstructed for PN, and conversely various PN categories, such as the imperative and purposive, are not a normal feature of GN. The historical relationship between these two types of system, the determination of which categories are innovative in each family, and their diachronic source, now emerges as an important question for future research. Until it is resolved it is premature to talk of ‘Proto Australian’ verbal endings, since it is by no means clear at this stage which system is more representative, and indeed comparable work with other nonPN families seems bound to throw up further systems which must eventually be integrated into a unified diachronic account.

In the meantime, an important side-effect of the current article is to cast doubt on some prior claims about diffusion of morphology across the PN-nonPN boundary in Arnhem Land. Two morphemes — thematic *-thu* and inchoative *-thi* — which Heath (1978a) claimed had been diffused into Ngn from Ritharrngu — turn out to be cases of parallel inheritance.

Apart from further work on GN verb inflections, then, the next step of research that we need is comparably detailed reconstructions for other subgroups (including PN!). Only when this has been undertaken will we be able to get much further in determining the relationships of higher-level groupings in Australia, let alone say anything about ‘Proto Australian’.

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