

5 *The genetic status of Murrinh-patha*

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1 Introduction¹

Murrinh-patha (Mp) is a non-Pama-Nyungan prefixing language of the Wadeye region, in the south-western section of the Northern Territory's Top End. The language was once claimed to be closely genetically linked to a southern neighbour known as 'Garama'. Thus O'Grady, Voegelin and Voegelin (1966:76) present Mp and Garama as together making up the 'Garaman' family. The same claim appears in Oates and Oates (1970:21). This claim, however, is built on an entirely fictional construct of a Garama language as distinct from Mp. There is no evidence that there ever was such a separate language, 'Garama' (more correctly /garrama/) simply being an alternative term, Jaminjung in origin, for Mp itself (Tindale 1974:140, 232; Walsh 1976:9–11). This phantom congener disposed of, subsequent investigators (Walsh 1976; Voegelin & Voegelin 1977; Street 1987) have found no reason to entertain the possibility of the language having close genetic links with any of its neighbours, and there have otherwise been no suggestions that Mp should be subgrouped with any language further afield. In particular note that despite its typological affinities with languages of the Daly region, located to the immediate north and east of Mp, Tryon (1974) excluded Mp from membership of his purported Daly language family. Mp has thus been regarded as an isolate, taken to be a member of the Australian language family, but sharing no common parent more recent than Proto Australian with any other language in the continent.

¹ The language data in this paper is taken from the following sources: Jaminjung: Cleverly (1968), supplemented by Chadwick (1984) and Schultze-Berndt (2000); Marringarr: Green (field notes 1990–94); Murrinh-patha: Street (1987), Street and Street (1989), Walsh (1976); Ngan'gityemerri: Reid (1990, 1993 e-MS); Wagiman: Cook (1987), supplemented by Tryon (1968).

Language abbreviations are given at the beginning of this volume. Other abbreviations used here are as follows: 1,2,3 - first, second, third person; AV - auxiliary verb; AVR - auxiliary verb root; DS - different subsection; E - (first) exclusive; Exc - (first) exclusive; F - future; Inc - (first) inclusive; Irr - irrealis; MVS - main verb stem; nsnInc - non-singular non-inclusive; PI - past imperfective; PP - past perfective; Pr - present; PRO - pronoun; pX - proto X; R - realis; RE - remote-existential; REFL - reflexive; SS - same subsection; sS - singular subject; TAM - tense-aspect-mood.

Table 1: Shared vocabulary rates between Mp and its neighbours

| <i>Murrinh-patha (Mp)</i> | | | | |
|---------------------------|-------------------------------------------------------------|----------------------------------------------|----------------------|----------------------|
| 8% | <i>Ngan'gityemeri (NgTy) – Ngan'giwumirri dialect (NgW)</i> | | | |
| 10% | 33% | <i>Marringarr (Mng) – Marringarr dialect</i> | | |
| 9% | 8% | 3% | <i>Wagiman (Wag)</i> | |
| 9% | <10% | <8% | <10% | <i>Jaminjung (J)</i> |

The foundation stone for Mp's claim to such isolate status is undoubtedly its low cognate densities with surrounding languages. Mp borders on the north with Marringarr (the Marringarr and Matige dialects), on the east with Ngan'gityemeri (the Ngan'giwumirri dialect), and on the south and south-east with Jaminjung. It has been recently suggested (by Kim Barber, pers. comm.), somewhat controversially, since it runs counter to all previous mappings, that Mp also shares part of its eastern border with Wagiman; this remains to be verified, and the supporting evidence is not yet publicly available. With these neighbours, with scores derived from lists of basic (non-grammatical) words, Mp shares at most 11% vocabulary. Figures of this order are significantly below the bottom line of 15% taken by lexicostatisticians such as O'Grady, Voegelin and Voegelin (1966:24), Wurm (1972:110), and in his footsteps, Tryon (1974:x) for the Daly group, as delimiting members of the one 'phylic family'. The indicative individual figures are given in Table 1. Note that as no attempt has been made to eliminate borrowed items these are shared vocabulary rates rather than strict cognate densities; the weeding out of borrowed items from the comparative lists could well reduce even further the figures given here.

Adding to the strong case for the isolate status presented by the shared vocabulary rates is a paucity of formal correspondences in most areas of the grammar. Mp's free-form pronouns and case markers, for example, when set against the paradigms of the surrounding languages throw up occasional potential cognates, but produce no compelling evidence for close genetic linkages. Table 2 illustrates with partial paradigms of the free-form pronouns of Mp and its neighbours, and Table 3 gives comparative data on the nominal case markers:

Table 2: Partial paradigms of pronoun free forms in Mp and its neighbours²

| | Mp | Mng | Ngty (Ngw) | Wag | J |
|---------|---------------|--------------------|--------------------|-----------------|---------------|
| 1sg | <i>ngay</i> | <i>yin</i> | <i>ngayi</i> | <i>ngagun</i> | <i>ngayug</i> |
| 2sg | <i>nhinhi</i> | <i>ninh</i> | <i>njinji</i> | <i>ngigun</i> | <i>nami</i> |
| 3fem sg | <i>nigunu</i> | <i>nga</i> | <i>ngayim</i> | <i>ga'an</i> | <i>dji</i> |
| 3mas sg | <i>nukunu</i> | <i>nang</i> | <i>nem</i> | <i>ga'an</i> | <i>dji</i> |
| 1I dl | <i>neki</i> | <i>ganggi</i> | <i>nayin</i> | <i>nginjang</i> | <i>mind</i> |
| 1I pl | <i>neki</i> | <i>ganggi -nim</i> | <i>nayin -nime</i> | <i>ngego</i> | <i>yurri</i> |
| 1E pl | <i>nganki</i> | <i>sjerr</i> | <i>ngagurr</i> | <i>ngego</i> | <i>yirri</i> |
| 2pl | <i>nanki</i> | <i>nerr</i> | <i>nagurr</i> | <i>ngogo</i> | <i>gurri</i> |
| 3pl | <i>pigunu</i> | <i>niwirr</i> | <i>wurrum</i> | <i>ga'godin</i> | <i>burri</i> |

² Mp, Mng and Ngw each have just the one set of free pronouns. The Wag free pronouns listed are the absolute forms; for J cardinal pronouns have been tabled. Both Wag and J also have oblique and possessive free forms, their paradigms no closer to Mp than the set tabled here.

Table 3: Case marking in Mp and neighbours³

| | Mp | Mng | Ngty (Ngw) | Wag | J |
|---------------------------|----------------------|------------------|-------------------|---------------|----------------------|
| Ergative/ Instrumental | <i>te ~ re</i> | <i>ngarrin</i> | <i>ninggi</i> | <i>yi</i> | <i>ni, gi, di, i</i> |
| Purposive | <i>nu</i> | <i>ni</i> | <i>ne</i> | <i>gu</i> | <i>gu ~ wu</i> |
| Locative | <u><i>ngarra</i></u> | <u><i>na</i></u> | <i>nide</i> | <i>laying</i> | <i>ni, gi, di, i</i> |
| Allative | <u><i>ngarra</i></u> | <i>sra</i> | <i>nide</i> | <i>ga</i> | <i>bina</i> |
| | <i>katu, wangu</i> | | <i>pagu, pefi</i> | | |
| Ablative | <i>wangu</i> | <i>nganan</i> | <i>nimbe</i> | <i>gunda</i> | <i>ngunji</i> |

Examining Tables 2 and 3 we can observe that only the Ngty free pronouns bear sufficient likeness to the Mp forms to raise any suspicion that they derive from a common ancestor more recent than Proto Australian. But any such suspicion is, on the strength of this data, difficult to confirm. In these free pronouns the two languages have putatively cognate whole first and second singular forms, and third masculine singular as well as first and second non-singular initial CVs (arguably stems). Of these, the first singular, third masculine singular /nV/ and second non-singular /nV/ cannot be considered as Mp-Ngty innovations, since Blake (1988:7) has argued that these three are all reconstructable for the non-Pama-Nyungan languages in general.⁴ Equally, potential cognates for the second singular /NHinHi/ and the /nga/ exclusive plural stem crop up in a sufficient number of other places to raise the possibility that they too are either relics or the results of parallel development, rather than innovations. The form /njinju/, for example, is found in Warndarang (Heath 1980:35), and /njinja/ in Kungarakany (Evans n.d.); /nga/ exclusive plural appears in Alawa, and /ngi/ in Na-kara, Mangarrayi, Jingulu and Kungarakany (Blake 1988:64). The /nV/ inclusive stem is a better candidate for a Proto Mp-Ngty innovation. /nV/ inclusives are otherwise found only in Marra, Nungubuyu and Karrwa/Wanyi, but in these languages, unlike Mp and Ngty, some exclusive stems also have /nV/ shapes (Blake 1988:64, 67). However, the vowels of the /nV/ inclusive differ in Mp and Ngty, and the segments following the /nV/ in the two languages cannot be related in any independently motivated fashion. The free-form pronoun data, then, can at best be seen as *consistent* with a theory of a relatively remote relationship between Mp and Ngty, but provides us with nothing in the way of *proof* for any Mp-Ngty subgrouping.

³ Underlined forms are prepositions, all other forms are suffixes or enclitics. Mp and Ngw have no single allative, the function being expressed by the locative and/or directional markers; all relevant forms are listed here. Note also that Mng /ngarrin/ has instrumental function only; no ergative has yet been identified in the language.

⁴ Since Blake reconstructs /*nu/ as a second non-singular stem, the /a/ vowel shape, rather than the whole /nV/ stem, could be argued to be the Mp-Ngty innovation. This remains to be determined. Note in this respect, however, that /na/ second non-singular stems are found elsewhere, for example in free forms in the Western Daly and Anson Bay languages (Green 1995), and in bound forms in Dalabon (Evans, Brown & Corbett 2001), Ngandi, and Miriwung (Blake 1988:53).

We can also note that Mp is phonologically distinctive. Mp has an apical contrast, and a voicing opposition at at least five points of articulation.⁵ J has an apical contrast⁶ but no voicing opposition. Wag has a voicing opposition, but only a single apical series; further, its voicing contrast is restricted to word-medial position, unlike Mp, which additionally has voicing distinctions for its bilabials, apicals and laminals in word-initial position. And Ngty patterns phonologically with Mng rather than Mp. Ngty and Mng both lack an apical contrast, and both have a three- rather than two-way obstruent system, with voiceless stops and fricatives at up to four points of articulation, but voiced stops maximally at three (Reid 1990; Green MS).

Despite this array of dissimilarities, however, it is now clear that Mp, far from being an isolate, is in fact closely related to its eastern neighbour Ngty; indeed I propose that the two languages together make up the ‘Southern Daly’ subgroup. Such a subgrouping goes against that of Tryon (1974), who had Ngan’gityemeri as a branch of his Daly family, and flies in the face of the shared vocabulary scores, which would be more consistent with a close genetic link between Ngty and the Western Daly⁷ subgroup. These scores are given in Table 4 (an expanded version of Table 1 above). Note in passing that the low scores in this table, particularly those like 8% between Murrinh-Patha and Ngan’gityemeri, constitute a clear counterexample to Dixon’s oft-repeated claim that neighbouring languages in Australia tend to a 50% ‘equilibrium level’ of shared vocabulary as a result of borrowing (see e.g. Dixon 1972, 1997, 2002).

Table 4: Shared vocabulary rates between Mp, Ngty and their neighbours

| | | | | | | | |
|----------------------|-------------------------------------|----------------------------------------|------------------------------------------------|-----------------------------|-------------|----------------|----------------------|
| <i>Murrinh-patha</i> | | | | | | | |
| 8% | <i>Ngan’gityemeri (NgW dialect)</i> | | | | | | |
| 10% | 33% | <i>Marringarr (Marringarr dialect)</i> | | | | | |
| 7% | 30% | 60% | <i>Marrithiyel (Mth) (Marrithiyel dialect)</i> | | | | |
| 8% | 29% | 52% | 58% | <i>Marramaninjsji (Mma)</i> | | | |
| 5% | 18% | <10% | 15% | 17% | <i>Gamu</i> | | |
| 9% | 8% | 3% | <8% | <8% | <7% | <i>Wagiman</i> | |
| 9% | <10% | <8% | <8% | <8% | <7% | <10% | <i>Jaminjung (J)</i> |

Proof of the close genetic link between Mp and Ngty comes not from any reanalysis of the lexicostatistics, but rather from the morphological heart of the languages: their verbal auxiliary systems. I shall show below that the correspondences that the two languages exhibit between paradigm after paradigm of verbal auxiliaries can only be explained genetically, as

⁵ Walsh (1976) has six points of articulation, recognising a laminal opposition, while Street and Mollinjin (1981) have a single laminal, with conditioned dental and palatal allophones; these differing analyses are reviewed in Butcher (forthcoming) and Green (1995).

⁶ Cleverly’s (1968) analysis of Jaminjung has only the one apical phoneme, but an alveolar–postalveolar contrast is recorded in more recent work by Chadwick (1984) and Schultze-Berndt (2000).

⁷ The Western Daly subgroup consists of Marringarr (dialects Marringarr, Matige), Marrithiyel (dialects Marrithiyel, Marrisjefin, Marri Ammu, Marridan), Marramaninjsji and Marranj (dialects Marranunggu, Emmi, Menhthe). See Green (1995 MS) for reconstruction of Proto Western-Daly and arguments for the subgrouping.

the result of a shared legacy from Proto Southern Daly (pSD); such likenesses cannot be accounted for by either form diffusion, structural convergence or drift.

But before proceeding I want to clarify the nature of my claim for a Southern Daly subgroup. There has been a tendency in Australian comparative practice to treat subgrouping somewhat less than rigorously, and it has often been assumed in Australia that sets of contiguous languages with over 40% shared vocabulary (see Dixon 1980:255), largely identical free pronominal paradigms and relatable nominal suffixes constitute a 'subgroup'. Whether or not many of these assumptions ultimately prove to be correct, the point should be made that subgroups must be defined via sets of shared innovations. Australian languages bearing particular lexical and grammatical resemblances are not properly viewed as subgroups until an intermediate parent language can be reconstructed and distinguished, through its innovations, from Proto Australian. Otherwise it might be that such languages are simply conservative, their likenesses resulting from their retention of original Proto Australian features. A case in point here may be the Maric languages of central and southern Queensland. Maric is commonly regarded as a 'subgroup' (Dixon 1980:240), but as Terrill (1993:140) has pointed out, there has never been any reconstruction in print of Proto Maric, nor is there in the literature any attempt to document the innovations that might distinguish Proto Maric from an earlier ancestor, be it Proto Australian or Proto Pama-Nyungan. Until this is done we cannot properly talk of a Maric 'subgroup'.

One major obstacle to rigorous subgrouping of non-Pama-Nyungan languages is that the general neglect of non-Pama-Nyungan data in published reconstructions of Australian proto-languages makes it hard to determine whether a locally shared feature is indeed an innovation or a retention. The most detailed outline to date of a possible Proto Australian, Dixon's 1980 *Languages of Australia*, is, as a number of reviewers have noted (Black 1982; Heath 1982), not well informed by data from the non-Pama-Nyungan languages. Blake's (1988) 'Redefining Pama-Nyungan', in proposing a set of ancestral non-Pama-Nyungan free pronouns, goes some way towards redressing the Pama-Nyungan weighting of Dixon's Proto Australian, but is still skeletal in many respects, the reconstructions needing to be verified by detailed tracing and systematising of the changes required to arrive at the modern languages. And in any event, neither Dixon (1980) nor Blake (1988) are of particular use when we examine the noun class markers, pronominal prefixes and other verbal morphology of the non-Pama-Nyungan languages and seek to determine what has changed, and what has been retained, in the process of evolution from their ultimate progenitor.

For these reasons, and given the sheer mass and complexity of the morphology that we have to deal with, a rigorous and comprehensive demonstration that Mp and Ngty constitute a subgroup is beyond the scope of this paper. The best that we can do here is to lay some solid foundations on which an exhaustive and much lengthier proof of the claim can later be built. We shall do this by considering detailed comparative data for a few illustrative auxiliaries; we shall discuss how the data argues for a close genetic connection between Mp and Ngty, reconstructing aspects of the parent morphology and beginning to assemble a systematic view of the way in which the contemporary languages could have plausibly evolved from their proposed parent. This detailed reconstruction work is undertaken below in §3. And while the full demonstration that Mp and Ngty constitute a subgroup must remain for later work, the implicit claim here is that it is this set of reconstructed auxiliary paradigms which constitute the major recoverable innovations which define Proto Southern

Daly. That is, both the inventory of Proto Southern Daly auxiliary verbs, and their overall morphological form and structure, are distinctive, neither matched in the modern non-Pama-Nyungan languages, nor plausibly attributable to earlier stages of their development.

A detailed reassessment of the genetic status of the two southern Daly languages has become possible only in recent years, with the availability of Reid's (1990) doctorate on Ngty, which contains a full account of the verbal morphology for both extant dialects, Ngw and Ngan'gikurunggurr (Ngk).⁸ There is no attempt at systematic reconstruction in Reid, so we will below examine data from both Ngw and Ngk rather than work from any pre-established pNgty construct.

For Mp there are two major grammatical sources: Walsh's (1976) doctorate and Street's (1987) *An introduction to the language and culture of the Murrinh-patha*, written as a learner's guide rather than a technical grammar. Mp data cited here comes primarily from Street, who was able to revise many of Walsh's earlier transcriptions, but the actual analysis of verbal structure and auxiliary patterning is more indebted to Walsh. Walsh (1976:4) identifies three dialects of Mp: Murrinh-kura, Murrinh-rdiminin and Murrinh-patha itself. Data presented here comes exclusively from the Murrinh-patha dialect; all three dialects are close, and there is no suggestion that they diverge grammatically in any significant way.

The Ngty palatals are represented herein as /Cj/ rather than /Cy/, but otherwise the orthography of the sources has been retained. Note in particular that the Street analysis of Mp as having a single laminal, which he represents as /Ch/, has been preserved. Street analyses Mp laminals as realised as dentals prior to back vowels, and as palatals elsewhere. This is in fact an underdifferentiation, Mp having a restricted opposition between dental and palatal stops (Walsh 1976:49–53; Butcher forthcoming); for comparative purposes this becomes an issue only in investigation of the nominal lexicon, and it does not prove a problem for the verbal reconstruction that we focus on here. The Mp and Ngty phonemic inventories are given in the Appendix.

2 Typology of Southern Daly auxiliaries

Like the Western Daly languages to their north, Mp and Ngty typically construct their verbs with a main verb stem prefixed with an 'auxiliary' and suffixed or encliticised with various person, number, tense, direction etc. markers. The auxiliary has three major functions:

- (a) to index certain person, number, gender and, in Mp, kinship-status categories of particular core participants;
- (b) to establish major TAM categories;
- (c) to classify verbs.

The auxiliary can be viewed as having essentially a four-part structure, consisting of an initial bound pronominal, followed by an auxiliary verb root (AVR), which is in turn followed by a TAM marker and a final pronominal slot. The initial pronominal indexes the subject (i.e.

⁸ The only other major study of Ngty is Hoddinott and Kofod's (1988) *The Ngankikurungkurr language*. Reid's description largely makes obsolete the Hoddinott and Kofod account, and it is Reid's data that will be cited below. Prior to the Hoddinott and Kofod volume Tryon's (1974) sketch grammar, containing half a dozen or so auxiliary paradigms, was the only publicly available material on Ngty.

S or A) with basically a single set of stems, there being no morphological distinction within the auxiliary for transitive, intransitive or middle subjects. The final pronominal slot indexes, if there is one in the clause, the most salient non-subject participant; this will typically be the object in transitive clauses and the indirect object in ditransitives, but may alternatively be a non-subcategorised theme, benefactive, locative etc. Both Mp and Ngty have two sets of pronominals here, the first set employed for those roles we can group together as direct objects, the second for all other indexable roles. Where there is no salient non-subject, the auxiliary-final slot may be filled by a morpheme which marks subject number. The subject number category encoded here is dual/trial in Ngty and dual/paucal in Mp; this applies to all non-singular subjects except for the first inclusive. In both languages the unmarked interpretation of the morphemes employed for this number function is dual; that is, an auxiliary affixed in this way is read as dual unless a subsequent verbal suffix or enclitic is attached to specify the trial or paucal reading. For convenience, then, I will refer to these subject number markers as 'dual' morphemes. For other subject categories, that is singular, first inclusive and plural, there is no overt auxiliary-final cross-referencing.

The auxiliary verb (AV) is the element responsible for verbal classification. AVs are of three types: low transitive, high transitive and reflexive. Low transitive AVs classify the 'stance' of the subject of the verb, specifying, among other things, whether the action is performed while sitting, standing, lying or in motion, as well as providing aspectual information. High transitive AVs generally classify verbs according to the nature of the contact or interface between the agent/instrument and undergoer; high transitive classifications include, for example, 'hands as instrument', 'mouth as instrument' and 'seeing', 'poking' and 'bashing' type actions. Reflexive AVs are semantically related to the high-transitives; they effect the same classifications of the agent-undergoer interface, but additionally mark the action, as Reid (1990:278) comments for Ngty, as 'directed towards a part/whole of [the subject's] self'. Street (1987) represents Mp as having a total of 35 classificatory auxiliaries;⁹ Reid (1990) gives 31 for each of the Ngw dialects.

The TAM markers establish the major tense-aspect-mood oppositions of the verb, encoding categories such as (general) irrealis, realis past imperfective, realis future etc. The TAM coding in the auxiliary may be supplemented by subsequent verbal suffixes/enclitics which may either simply reinforce the auxiliary's categorial marking, or combine with it to more finely specify the TAM of the overall verb.

This conception of the auxiliary is summarised in the formula in (1a).

$$(1) a. \quad \text{AUX} = \text{Subject PRO} + \text{AVR} + \text{TAM} + \left\{ \begin{array}{c} \text{IO - Ben - Loc etc.} \\ \text{O} \\ \text{Dual Subject} \end{array} \right\}$$

This formula is illustrated in (1b) with a Ngty (Ngw) auxiliary form (Reid 1990:398), while (1c) exemplifies the auxiliary within a complex verb:

$$(1) b. \quad \text{NGW DIALECT (Reid 1990:398)}$$

| | | | |
|--------------|-------------|-------------|--------------|
| <i>Wi rr</i> | <i>-tji</i> | <i>-bem</i> | <i>-gu</i> |
| 3non-sg Sub | 'hang' AVR | PERFECT | Dual Subject |

⁹ Though comparison with Walsh's (1976) inventory suggests that there could be as many as 40.

- (1) c. *Ti wir -tj -bem -gu -kuduk*
 tea 3non-sg.Subj 'hang' AVR PERFECT Dual Subject drink.REDUP
 'They (2) drank tea' (e.g. while sitting up in a tree).

Note that (1a) represents a slightly idealised view of the auxiliary. As we shall see below, there is a certain amount of fusion, and it is not always possible in practice to segment the auxiliary as neatly as the formula suggests. In addition, even where segmentation is motivated, it is not practical to deal separately with the isolated subject pronouns, AVRs and TAMs, since their forms have a certain degree of interdependence. For example, the vowel shapes of the subject pronominals in Ngw play as much of a role in differentiating auxiliaries as do the AVRs, as illustrated below, where the contrast between 'do/say' and 'do/say REFLEXIVE' classification is achieved through the form of the AVR, but that between 'do/say REFLEXIVE' and 'hands REFLEXIVE' is brought about via the subject vowel.

- (2) NGAN'GIWUMIRRI (Reid 1990:397, 403)
- | | | | |
|------------|-------------|-----------|------------------------------------------------|
| <i>ngu</i> | <i>-mu</i> | <i>-m</i> | 1sg subject, Present, 'do/say'classifier |
| PRO | AVR | TAM | |
| 1sS | do/say | PRES | |
| | | | |
| <i>ngu</i> | <i>-me</i> | <i>-m</i> | 1sg subject, Present, 'do/say REFL' classifier |
| PRO | AVR | TAM | |
| 1sS | do/say REFL | PRES | |
| | | | |
| <i>nge</i> | <i>-me</i> | <i>-m</i> | 1sg subject, Present, 'hands REFL' classifier |
| PRO | AVR | TAM | |
| 1sS | hands REFL | PRES | |

Similarly, TAM forms to a considerable degree are determined lexically, according to the classificatory function of the auxiliary in which they appear.

In the final slot of the auxiliary the non-subject pronominals are fully independent in form and are always readily segmentable; the duals, however, are less so, there being some non-predictable fusion of the TAM, or (where there is zero TAM marking) the AVR, with the dual slot, and dual marking being affected through the shape of the final TAM or AVR vowel. For the purposes of paradigmatic auxiliary differentiation, then, the minimal unit of contrast could be said to be the whole Subject + AVR + TAM (+ Dual) sequence. It is the prehistory of this sequence that we shall focus on in this paper. While this interdependence of the components of the auxiliary sequence is a thorny issue for the synchronic analyst, as both Reid's (1990:105–106) and Walsh's (1976:218–227) discussions attest, it is something of a rose-garden for the historical linguist, providing us with incontrovertible evidence for subgrouping: not just individual cognate morphemes, but cognate morphemes in cognate sequences, complete with cognate irregularities, and unmatched in their detail in other Australian languages.

But there are significant differences between the Mp and Ngty auxiliary that we need to review before proceeding with the reconstructions. The Ngty auxiliary, for example, has fewer inflectional categories. For its subject pronominals four persons are distinguished: first exclusive, first inclusive, second and third. For first exclusive, second and third persons three numbers are encoded in the auxiliary: singular, dual/trial and plural. For these persons the plural auxiliary is generally formed by augmenting the singular subject stem with

(underlying) /rr(V)/; the dual/trial is then derived from the plural by the affixation of /gu/ in the auxiliary-final slot. For first inclusive, however, no number distinction is made in the auxiliary; a dual vs plural contrast is instead effected by suffixes to the main verb stem.¹⁰ This person-number system is illustrated in Table 5, with the Past Imperfective form of the Ngty 'see' auxiliary (Ngk dialect).

Table 5: Ngty, Ngk dialect: 'see' Auxiliary, Past Imperfective
(based on Reid 1990:411)

| | Singular and Inclusive | Plural | Dual/Trial |
|---------|---------------------------|----------------------------|--------------------------------|
| 1st Inc | <i>ngimbi -njirri -ni</i> | | |
| 1st Exc | <i>ngi -njirri -ni</i> | <i>ngi -rr -njirri -ni</i> | <i>ngi -rr -njirri -ni -gu</i> |
| 2nd | <i>yi -njirri -ni</i> | <i>yi -rr -njirri -ni</i> | <i>yi -rr -njirri -ni -gu</i> |
| 3rd | <i>di -njirri -ni</i> | <i>di -rr -njirri -ni</i> | <i>di -rr -njirri -ni -gu</i> |

Mp auxiliaries mark the same four subject persons as Ngty. But Mp has further inflections, for kinship status and gender, which cause some additional complications. Now the Mp pronominal number system in general distinguishes singular, dual, paucal and plural. The kinship status category which is overlaid on this number system applies only to the duals and paucals, and is concerned with subsection membership, differentiating pronouns whose referents all belong to the same subsection (SS) from those whose referents do not (DS).¹¹ The gender inflection then applies only to DS (i.e. mixed subsection) pronominals; those whose referents are all males take the masculine gender, those whose referents include one or more females take the feminine gender. Fortunately, as far as the auxiliary is concerned, this does not result in any major proliferation of morphology. For a start the first inclusive auxiliary, which in Ngty shows no variation for number, in Mp has just a minor number-kinship status skewing. This is in the paucal SS category; here the inclusive-exclusive distinction is collapsed, and the single first person paucal SS is expressed using the expected exclusive form.¹² Thus in Table 6 the first inclusive paucal SS is conveyed by the same auxiliary as the first exclusive 'plural'. Apart from this category we have a single invariant first inclusive auxiliary, uninflected for number, gender or kin status. Note further that the Mp first inclusive auxiliary is frequently identical to the second or third singular auxiliary; we shall examine this relationship in the course of our reconstructions in §3.

¹⁰ There is no distinct trial category for the Ngty inclusive.

¹¹ See Stanner (1936) and Falkenberg (1962) for discussion of Mp subsections. See Street (1987:49) for the full Murrinh-patha free pronominal paradigm.

¹² This is according to Street's (1987:49; 80) data. Walsh (1976:153, 219) differs on this point; he has a simpler system in which the inclusive — exclusive distinction collapses throughout the paucal SS — plural category, this undifferentiated first person 'plural' being expressed with what is otherwise the exclusive stem. As Street's representation is the product of a much larger data base than was available to Walsh in 1976 it is adopted here.

Table 6: Mp: 'feet' auxiliary, present and past perfective
(based on Street 1987:84)

| | Singular and inclusive | Dual different subsection |
|---------|------------------------|--------------------------------|
| 1st Inc | <i>thu -nu -ngam</i> | <i>thu -nu -ngam</i> |
| 1st Exc | <i>ngu -nu -ngam</i> | <i>ngu -nu -ngam -Ninhtha</i> |
| 2nd | <i>thu -nu -ngam</i> | <i>thu -nu -ngam -Ninhtha</i> |
| 3rd | \emptyset -nu -ngam | \emptyset -nu -ngam -Ninhtha |

* N= /ng/ feminine, /n/ masculine

| | Paucal same subsection and plural | Dual same subsection and paucal different subsection |
|---------|----------------------------------------------------------------|---------------------------------------------------------|
| 1st Inc | <i>ngun -nu -ngam</i> paucal SS <i>thu -nu -ngam</i> plural | <i>thu -nu -ngam</i> |
| 1st Exc | <i>ngun -nu -ngam</i> | <i>ngun -nu -ngam -ka</i> |
| 2nd | <i>nun -nu -ngam</i> | <i>nun -nu -ngam -ka</i> |
| 3rd | <i>pun -nu -ngam</i> | <i>pun -nu -ngam -ka</i> |

For the other subject persons Mp auxiliaries fall into at most three number categories, basically singular, dual and plural. The 'singular' auxiliary has both singular and DS dual functions;¹³ the singular reading is the unmarked one, and the DS dual reading is achieved by affixing a /nginhtha/ 'feminine' or /ninhtha/ 'masculine' morpheme in the auxiliary-final slot. The 'dual' auxiliary covers both the dual same subsection (SS) and the paucal mixed-subsection (DS), these categories being differentiated not within the auxiliary but by verb-final suffixes. The 'plural' then has both paucal SS and plural functions; these categories are differentiated neither in the auxiliary nor in the verb as a whole. In fact for all Mp non-inclusive pronominals the paucal SS – plural is a single undifferentiated category. Table 6, above, illustrates this in the Present-Past Perfective of the 'feet' auxiliary.¹⁴

The marking of subject stems for number is not as regular in Mp as it is in Ngty. In many Mp auxiliaries there are cognates for Ngty's regular process of deriving its (non-inclusive) non-singulars from the singular stem by the suffixation of what is synchronically underlying /rr(V)/; the final /n/ of the non-singular subject stems given in the lower half of Table 6, for example, is one such cognate. Such subject number marking, however, is not found universally in Mp auxiliaries. I argue below that this is a result of Mp dropping particular reflexes of the regular pSD /*rr(V)/ non-singular in a general process of auxiliary rationalisation and contraction. One consequence of this process is that a number of subject

¹³ Another language in which a non-singular kin-based category patterns like a singular is Dalabon (Evans et al. 2001).

¹⁴ Walsh (1976:339) calls this the 'feet' classifier while Street (1987:84) labels it the 'fast movement' auxiliary. I have opted for Walsh's label, but an examination of the relevant entries in the Mp dictionary (Street & Street 1989) shows that Street's label has a degree of appropriateness. The semantics of verb classifiers in these languages is so complex that any single-word label is bound to have certain inadequacies. What the Street–Walsh difference underlines here is an urgent need for a detailed study of Mp classifier semantics.

stems remain unmarked for the 'singular' (i.e. singular and dual DS) vs 'non-singular' (i.e. dual SS, paucal and plural) opposition. Further, the regular formation of the dual in Ngty by affixation of /gu/ is paralleled in Mp only in the Present-Past Perfective, where cognate /ka/ is attached. In the other TAM categories Mp dual formation is achieved instead through variation in the shape of the final vowel of the plural auxiliary. But this is a restricted and not highly predictable process, applying only to high vowels, and among them primarily to /i/. Again, this means that in these TAM categories the dual vs plural opposition is not regularly encoded in the auxiliary.

In the reconstructions below we shall exclude from consideration the Mp /Ninhtha/ dual DS gender morpheme. This has no cognate in Ngty, and its prehistory is not to be uncovered within the range of evidence that we focus on here.¹⁵ This leaves us with four Mp categories, the unaffixed singular, the inclusive, the 'dual' (i.e. dual SS plus paucal DS) and 'plural', to be lined up against the singular, inclusive, dual/trial and plural of Ngty.

Mp and Ngty also differ in their number of TAM oppositions encoded in the auxiliary. The Ngw dialect of Ngty has four categories: Realis Past Perfective (PP), Realis Past Imperfective (PI), Realis Present (Pr), and Irrealis (Irr). The Irrealis includes the future, imperatives, all negatives and past-counterfactuals. In the Irrealis there is one subcategory, for 'undesirable' (as opposed to neutral) irrealis events. 'Undesirable' events are 'those propositions that the speaker would not wish to reach fruition' (Reid 1990:112). 'Undesirable' marking applies only to second and third person subjects, and is effected through change in form of the subject pronominal rather than via a discrete TAM morpheme. The PP and Pr of the intransitive (and one or two other) auxiliaries also have a subcategory, one that Reid (1990:110) says marks out events that are 'remote', either spatially or conceptually, from the speaker. The remote category is also restricted, applying only to third person subjects, and is also marked by a change in form of the subject pronominal.

The Ngk dialect has the same system, except that the PP and Pr categories are not distinguished. In Ngw the Pr vs PP opposition is encoded in a fairly regular fashion, the two auxiliary modes typically differing only in the form of their TAM morpheme, the Pr marked with /m/ or /n/, and the PP with /nj/. Corresponding to this opposition in Ngk is a single nasal, represented herein as /M/, which assimilates to the point of articulation of a following consonant, and is otherwise (i.e. prevocally and word-finally) realised as /m/. Reid (1990:164–168) has argued that a Ngk phonological development has eroded the original pNgty Pr vs PP contrast, viz. by making homorganic the nasal–consonant clusters across the auxiliary–verb stem boundary via assimilation of the nasal.

Formally corresponding to the single Ngty PI are up to two Mp categories: a Realis Past Imperfective (PIR) and an Irrealis Past Imperfective (PIrr). The PIR is employed for the positive past continuous, and the PIrr for the negative past-continuous and past counterfactuals. The distinction between the Realis and Irrealis Past Imperfectives is not consistently maintained in Mp, and in many auxiliary paradigms there is just the one undifferentiated Past Imperfective category. Further, where it is maintained, there is no consistency of morphological marking for the opposition. Such irregularity argues for the relative age of the distinction; that is, the Realis/Irrealis opposition in the Mp PI has certainly not developed in the one step from pSD, through the attachment of a single morpheme to the

¹⁵ But let us not assume that it is a Mp innovation. Emmi, a Marranj (Western Daly) dialect, to the north of Mp, and separated from it by Matige and Marrisjefin (a Marrithiyel dialect), has non-singular gender morphemes /nginja/ 'feminine' and /nanja/ 'masculine', which are possible cognates (Ford 1998).

auxiliary. More importantly, the correspondences between the Ngty and the Mp PIs are erratic, in the sense that, while the majority of of the Ngty PIs correspond to the Mp PI Irrealis, there are some (e.g. in the 'go' auxiliary) for which the formal relationship is with the Mp PI Realis. The most economical explanation here is to propose that pSD did have the PI Realis/Irrealis split, as preserved in Mp. Ngty has maintained a PI Realis category, but it is usually formally encoded with the reflexes of the original PI Irrealis. And the functions of the pSD PI Irrealis have been taken over in Ngty by its general Irrealis category, cognate with the Mp Future. I will assume, then, in the reconstructions that follow, that pSD did have, at least for some auxiliaries, a Realis vs Irrealis contrast in the PI. The elimination of this formal opposition, however, in Ngty, together with the likelihood of innovations in Mp, means that paradigms for *both* the proto-Realis and proto-Irrealis for any one auxiliary cannot confidently be reconstructed.

Formally corresponding to the Ngty Irrealis neutral and Irrealis undesirable are the Mp Future Realis (FR) and Future Irrealis (Firr) respectively. The Future Irrealis covers future negatives and hypotheticals. Like the Ngty 'undesirable' it is subject restricted, applying in Mp only to third person subjects. There are clear semantic links between the Ngty undesirable and the Mp F Irr, the Ngty category representing a narrowing down or specialisation of the Mp one. Again here it is likely that the Mp system is more conservative, with the changes in Ngty amounting to a generalisation of Irrealis, based on the original Future Realis forms, as more of a unified category, and subsuming all the functions of the original Future Realis, the original PI Irrealis as well as some of the functions of the original Future Irrealis.

Finally, Mp has, like Ngw, a combined Realis Present + Realis Past Perfective category. And like both Ngty dialects it has a subcategory of this that is restricted to third person subjects. This auxiliary mode is employed for making statements about the existence of entities in particular locations, and is available only to intransitive auxiliaries. As with the Ngty 'remote', this existential marking is effected via a change in form of the subject pronominal, the form of this marking being effectively identical with that in Ngty. A semantic link between the Ngty 'remote' and the Mp 'existential' is clearly plausible,¹⁶ though not transparent, but given their striking similarities in respect of form and restriction to third subjects and mainly intransitive auxiliaries we can safely allow the two subcategories to be considered potential cognates. The semantics of their parent form in pSD remains to be determined.

These correspondences between Mp and Ngty auxiliary encoded TAM categories are summarised below. Unfortunately, the evidence that we are able to examine in this paper is inconclusive about the existence of distinct Past Perfective and Present categories in the immediate proto-language. The Mp Pr/PP marking corresponds to that of the Ngw Pr. For the relatively regular /nj/ of the Ngw PP there appears to be no Mp cognate. What we can reconstruct, then, is a pSD category that certainly had Present tense functions, and may have also have encoded Past Perfective. Without recourse to wider comparative data we cannot tell whether the marking of the PP with /nj/ in the auxiliary was a Ngw innovation, or whether pSD had a /*nj/ PP morpheme which was somehow lost without trace in Mp, and in Ngk was made homorganic, collapsing it with the Pr marker. We shall not investigate this complex issue here. Rather we shall allow the clear, uncontroversial features of pSD to emerge by proceeding immediately to some auxiliary reconstructions.

¹⁶ Reid (pers. comm.) has suggested that verb-based place names in Ngty indicate at least an historic, if not synchronic, 'existential' function to the 'remote' category in that language.

Table 7: Corresponding TAM categories in Ngty and Mp auxiliaries

| <i>Ngan'gityemeri</i> | <i>Murrinh-patha</i> |
|----------------------------|-------------------------------------------|
| Irrealis (neutral) | Future Realis |
| Irrealis (undesirable) | Future Irrealis |
| Present (neutral) | Present/Past Perf (neutral) |
| Past Perf | <i>no cognate in Mp</i> |
| Present/Past Perf (remote) | Present/Past Perf (existential) |
| Past Imperf | Past Imperf Realis – Past Imperf Irrealis |

3 Proto Southern Daly auxiliary reconstructions

From the total set of SD verbal classifiers, the 31 in Ngty and the 35 or more in Mp, we can establish correspondences enabling us to readily reconstruct at least partial paradigms for a set of 18 auxiliaries in pSD.¹⁷ Some of the Ngty and Mp auxiliaries, including those for which comparative data has been available for almost two decades, are in fact so strikingly alike, and their reconstruction at the pSD level so uncomplicated, that one must wonder why the true genetic status of these two languages has remained undocumented for so long. Such, one supposes, is the power of crudely interpreted lexicostatistics to block the path of historical linguistics. In the space available here we cannot of course exhaustively discuss even all of the straightforward reconstructions. What I shall do in this section, then, is present a selection of the comparative data that, while unequivocally consistent with a close genetic linkage between Mp and Ngty, both exemplifies general trends in the development of the two SD branches and illustrates some of the difficulties in, and constraints on, the reconstruction process. Note that we shall be engaged here in a 'bottom-up' reconstruction of pSD, that is, employing SD-internal evidence to reconstruct the immediate ancestor of Mp and Ngty, and not drawing on data from other languages — with all the *presumptions* of subgrouping that that might carry — to shape our picture of pSD.

3.1 'sit' auxiliary, past imperfective

Both Mp and Ngty have a low-transitive 'sit' auxiliary which classifies the subject of the verb as being in a sitting-type posture. The Past Imperfective paradigms of this auxiliary are given in Table 8. Observe that the Ngw and Ngk forms are identical, while Mp has just the one paradigm, covering both irrealis and realis PI functions. Atypically, no AVR is systematically identifiable for this auxiliary in either Mp or Ngty,¹⁸ both languages attesting to a historical structure as given simply in (3):

- (3) [Stem + (Number_{ns-nInc})]Subject Pro + TAM.

¹⁷ A further 10 pSD classifiers can be inferred from the comparative Ngty-Mp data, though their reconstructions are somewhat more problematic (Green 1995).

¹⁸ The form /ni/, of course, is found widely in northern Australia as the stem for 'sit', but synchronically, as even a brief inspection of the Mp and Ngty auxiliary paradigm inventories will reveal, the /ni/ here has to be analysed as the TAM marker; it cannot be plausibly segmented as the AVR. Historically also the /ni/ here is most certainly a reflex of a TAM marker rather than the 'sit' AVR, with the /*ni/ 'sit' stem having been eliminated from the paradigm prior to pSD.

The reconstruction of a single proto-PI for this auxiliary is for the most part unproblematic:

Table 8: SD and pSD: 'sit' Auxiliary, Past Imperfective¹⁹

| | Ngw | Ngk | Mp | pSD PI |
|------|-------------------|-------------------|---------------------|-----------------------|
| 1sg | <i>ngi -ni</i> | <i>ngi -ni</i> | <i>ngi -ni</i> | * <i>ngi -ni</i> |
| 2sg | <i>yi -ni</i> | <i>yi -ni</i> | <i>thi -ni</i> | * <i>THi -ni</i> |
| 3sg | <i>di -ni</i> | <i>di -ni</i> | <i>di -ni</i> | * <i>di -ni</i> |
| 1Inc | <i>ngindi -ni</i> | <i>ngindi -ni</i> | <i>thi -ni</i> | *? |
| 1Edl | <i>ngi -n -ne</i> | <i>ngi -n -ne</i> | <i>nga -rri -ne</i> | * <i>nga -rri -ne</i> |
| 2dl | <i>yi -n -ne</i> | <i>yi -n -ne</i> | <i>ni -rri -ne</i> | * <i>ni -rri -ne</i> |
| 3dl | <i>wi -n -ne</i> | <i>wi -n -ne</i> | <i>pi -rri -ne</i> | * <i>Pi -rri -ne</i> |
| 1Epl | <i>ngi -n -ni</i> | <i>ngi -n -ni</i> | <i>nga -rri -ni</i> | * <i>nga -rri -ni</i> |
| 2pl | <i>yi -n -ni</i> | <i>yi -n -ni</i> | <i>ni -rri -ni</i> | * <i>ni -rri -ni</i> |
| 3pl | <i>wi -n -ni</i> | <i>wi -n -ni</i> | <i>pi -rri -ni</i> | * <i>Pi -rri -ni</i> |

SUBJECT STEMS. First exclusive is reconstructed as /*ngi/ in the singular, and /*nga/ in the non-singular. (The form /*ngi/ is implausible in the non-singular, since there would be no motivation, either phonological or analogical, for the change to /nga/ in Mp.) The /*nga/ form is preserved in Mp, but has become regularised to /ngi/ in Ngty. The Ngty pattern, violated only in two auxiliaries ('lie' and 'go along', where partial paradigm replacement has occurred), is for the subject stem vowels in all but the third person neutral to be identical in any given TAM category of an auxiliary. Thus /a/ here, the odd vowel out, has been regularised to /i/.²⁰

First inclusive, however, cannot be reconstructed from this data. In fact, on the basis of SD internal evidence, first inclusive is not reconstructable for either the PI, PP or Pr of any auxiliary. In these TAM categories the Mp first inclusive is regularly based on, and in most cases is identical to, the second singular, while Ngty has a distinctive non-relatable form of general shape /ngVmbV/.²¹ For the remaining TAM correspondence, the Mp Future <—> Ngty Irrealis, however, a first inclusive reconstruction is systematically possible. We will look at this in §3.5 below, where a speculative pSD PI and Pr-PP inclusive is also proposed.

The Ngty second person stem is /yi/; this corresponds to the Mp second singular /thi/ (phonetically [tji]). The two forms plausibly derive from the one ancestor, presumably a laminal obstruent which has lenited to an approximant in Ngty. But precisely what type of obstruent we should reconstruct is not clear, since pSD is likely to have had two manner

¹⁹ In this, as in the following comparative paradigms, (1) the Mp 1Inc paucal SS, which is the same as the 1Exc plural, is not tabled in the Inclusive row, (2) 'dl' is an abbreviation for the Mp dual SS/paucal DS <—> Ngty dual/trial correspondence and will be referred to as the 'dual' category, and (3) 'pl' is an abbreviation for the Mp paucal SS/plural <—> Ngty plural correspondence and will be referred to as the 'plural'.

²⁰ Just looking at this paradigm one might suggest that assimilation, of the vowel of the 1Exc non-singular subject stem to the following vowel, has played a part in this regularisation process. But such assimilation cannot be proposed generally for the development of the Ngty paradigms.

²¹ Note that the inclusive /ngindi-ni/ here is putatively synchronically derivable from a more regular underlying /ngimbi-ni/ via assimilation of the /mb/ to the apical of the following syllable (Reid 1990:116–118).

series for the laminal obstruents (either voiceless stop vs voiced stop, or, like modern Ngty, voiceless stop vs fricative) in word-initial position. This contrast has been largely merged in Mp, which, except for a few odd items with an initial voiced laminal stop, has only the voiceless laminal word-initially. Either laminal obstruent of the proto-language could have been the source for the lenited Ngty form. I indicate this indeterminacy in the reconstruction by writing the consonant of the proto second singular subject stem with capital letters as /*TH/.²²

In the second non-singular Ngty again has /yi/ while Mp has /ni/. There are two simple ways of accounting for this: either Ngty extended the original second singular stem to the non-singular, eradicating a /*ni/, or Mp innovated a non-singular /ni/, replacing an original /*THi/ stem invariant for number. While both accounts are plausible, the former is more likely. Only the bound subject pronominals of Ngty have this identity of second singular and non-singular stems. In all other pronominal paradigms these stems are different, and in all but the Ngk non-subject bound pronouns, which nonetheless have an apical-initial /dV/, the second non-singular stem is /nV/. (This is illustrated in the free-form pronouns in Table 2 above.) Considering the array of second singular marking, then, the innovator in the subject pronouns would appear to be Ngty rather than Mp. Consequently /*ni/ is reconstructed as the second non-singular stem here.

The third singular stems here are identical, and /*di/ is the only candidate for the proto-form. As we shall see below in §3.4, third singular subjects in the PI and Pr-PP do not always match up so neatly in individual auxiliaries, but auxiliary-wide comparison enables us to match the overall set of third singular stems in Ngty with the overall set of third singular stems in Mp; this is suggestive of some free variation in options for this marking in the proto-language.

For the third non-singular we have a correspondence between Mp /p/ and Ngty /w/, both presumably deriving from a pSD bilabial obstruent. The problem here is similar to that with the second singular subject stem. That is, pSD could well have had a word-initial bilabial voiceless stop vs fricative contrast which has been lost in Mp, where /*f/ and /*p/ have merged to /p/. If this is the case, then either /*f/ or /*p/ could be the source of the initial /w/ in the Ngty third non-singular stem. There appears to be no data in the SD languages, either in grammatical morphemes or among the lexical cognates, which conclusively determines which of /*p/ and /*f/ is the better reconstruction here. Consequently, analogously with the second person, I use a capital letter, /*P/, to indicate the indeterminacy in the reconstruction.

SUBJECT NUMBER. This is one of only four auxiliaries²³ in Mp in which there is an /rrV/ syllable corresponding to the Ngty (non-inclusive) non-singular marker. As remarked in §2.1, the general form of the Ngty number marker is /rr(V)/. Here it appears as a single

²² I shall represent the laminals of pSD with dental symbols, consistent with Street's (1987) practice for contemporary Murrinh-patha. Note that there is no evidence at all within the data surveyed here for reconstructing a pSD dental vs palatal opposition. It should also be observed that my proposal of lenition of the /*TH/ is not supported by the scraps of evidence we have from the SD lexical cognate set. Though this contains only a few instances of laminals these are more consistent with /*th/ and its contrasting laminal, fricative /*sh/ or perhaps stop /*dh/, being maintained as obstruents in Ngty. It appears, then, that the second-subject stem lenition is peculiar to the auxiliary, possibly arising through localised phonological processes, or through analogy, for example with the third person (as discussed below).

²³ The four are: the low-transitive 'sit' and 'lie', and two high-transitives which Street refers to as verb classes '19' and '20'.

consonant, assimilating in manner to the following nasal. This assimilation of the number marker /rr/ to a following apical stop or nasal is a synchronically regular process (Reid 1990:119–122). Whether the number marker appears in Ngty, however, as /rr/ or /rrV/ is not synchronically fully predictable; this has to be considered from an historical perspective in each individual paradigm, since the general evidence suggests that the Ngty data reflects some inconsistency in this respect in the proto-language. In the case of the ‘sit’ PI the Mp forms lead us unequivocally to a reconstruction of /*rri/ for the number marker, with both vowel reduction and manner assimilation taking place in the evolution of the Ngty forms.

TAM/‘DUAL’. The languages have identical TAM/Number morphemes in this paradigm. Clearly /*ne/ is the proto-PI for the ‘dual’ here, and /*ni/ the proto-PI for all other subject numbers. Note that this method of marking the ‘dual’ by variation of the TAM vowel is common, though by no means fully predictable, in the Mp PI. But it is quite irregular in Ngty, where it is found in only six auxiliaries (‘sit’, ‘lie’, ‘go’, ‘go*’, ‘poke’ and ‘slash’).

3.2 ‘raised’ auxiliary, past imperfective

Ngty has a low-transitive auxiliary which classifies the subject of the verb as being in a type of raised, perched position; Reid refers to this as the ‘hang’ auxiliary (Reid 1990:238). Formally corresponding to Ngty ‘hang’ is a Mp auxiliary referred to by Street (1987:83) as the ‘being aloft’ auxiliary, which classifies its subjects as being raised in the air (Walsh pers. comm.). The Ngty ‘hang’ and Mp ‘being aloft’ classifiers thus share the feature of describing their subjects as in some way raised up, and we can, given their close formal resemblance, reconstruct for them a single pSD progenitor. The relevant PI paradigms are given in Table 9.

Table 9: SD and pSD: ‘raised’ auxiliary, past imperfective

| | Ngw PI | Mp PI Irr | Mp PI Realis | pSD pPI Irr |
|------|------------------------------|------------------------|------------------------|-----------------------------|
| 1sg | <i>ngi -njtji -nge</i> | <i>ngi -nhtha -ngi</i> | <i>ngi -nhtha -nhi</i> | <i>*ngi -nhtha -ngi</i> |
| 2sg | <i>yi -njtji -nge</i> | <i>thi -ntha -ngi</i> | <i>thi -ntha -nhi</i> | <i>*THi -nhtha -ngi</i> |
| 3sg | <i>wi -njtji -nge</i> | <i>pi -nhtha -ngi</i> | <i>pi -nhtha -nhi</i> | <i>*Pi -nhtha -ngi</i> |
| 1I | <i>ngimbi -njtji -nge</i> | <i>thi -nhtha -ngi</i> | <i>thi -nhtha -nhi</i> | <i>?</i> |
| 1Edl | <i>ngi -rr -tji -nge -gu</i> | <i>ngi -nhtha -nge</i> | <i>ngi -nhtha -nhe</i> | <i>*ngi -rr -nhtha -nge</i> |
| 2dl | <i>yi -rr -tji -nge -gu</i> | <i>ni -nhtha -nge</i> | <i>ni -nhtha -nhe</i> | <i>*ni -rr -nhtha -nge</i> |
| 3dl | <i>wi -rr -tji -nge -gu</i> | <i>pi -nhtha -nge</i> | <i>pi -nhtha -nhe</i> | <i>*Pi -rr -nhtha -nge</i> |
| 1Epl | <i>ngi -rr -tji -nge</i> | <i>ngi -nhtha -ngi</i> | <i>ngi -nhtha -nhi</i> | <i>*ngi -rr -nhtha -ngi</i> |
| 2pl | <i>yi -rr -tji -nge</i> | <i>ni -nhtha -ngi</i> | <i>ni -nhtha -nhi</i> | <i>*ni -rr -nhtha -ngi</i> |
| 3pl | <i>wi -rr -tji -nge</i> | <i>pi -nhtha -ngi</i> | <i>pi -nhtha -nhi</i> | <i>*Pi -rr -nhtha -ngi</i> |

Mp has both a realis and irrealis PI, formally distinguished only through the nasal of the TAM marker. For Ngty we have data only from the Ngw dialect; Reid provides no forms for Ngk. The sole Ngw paradigm corresponds to the Mp irrealis. The pPI Irrealis is then reconstructed as follows:

SUBJECT STEMS generally conform to the pattern of the 'sit' PI above, with the third singular showing the same correspondence as we saw in the third non-singulars above, and being reconstructed as */*Pi/*.²⁴ The IExc non-singular here, however, must be reconstructed as */*ngi/*, in contrast to the */*nga/* posited for the 'sit' PI.

SUBJECT NUMBER. Ngw has its regular */rr/*, but no trace whatsoever of the morpheme is to be found in Mp, where the first singular and IExc 'plural', as well as the third singular and third 'plural', have identical forms. So what we have to determine here is whether the number marker has been innovated in Ngty or dropped in Mp. We know, of course, from the 'sit' PI above, and from data such as that in the 'stand' PI that follows below, that */rr(V)/* cannot be entirely a Ngty innovation; an */rr(V)/* with non-inclusive non-singular number function was clearly present in the pre-history of Mp. In auxiliaries such as 'sit' that lack overt AVRs it has been preserved intact, at least when prior to particular TAM morphemes. And, as we shall see, it has left its fingerprints in auxiliaries with apical-initial AVRs, having triggered phonological change in those segments. But if the number marker was not entirely a Ngty innovation it could still have been regularised in Ngty; that is, the question still remains as to whether we can reconstruct the number marker for all pSD auxiliaries, or whether we posit it as irregular in pSD, confining it just to those proto-auxiliaries for which it is reflexed in Mp. The weight of evidence here is overwhelmingly in favour of the hypothesis of a regular distribution of the proto-number morpheme. For example, the auxiliaries with reflexes of */*rr(V)/* in Mp make up no coherent semantic subset(s); equally there appear to be no formal or phonological factors that would make sense of a limited distribution for the number morpheme in pSD auxiliaries. Further, we can identify factors in Mp that could conceivably work together to reduce the regularity of number marking. Such factors include: the operation of phonological processes which effectively blend the */rr/* with a following apical, and the general drive in Mp to a morphologically more compact and less agglutinating auxiliary structure.

Consequently, I reconstruct regularly distributed number marking for pSD. And I suggest that a major plank in Mp's rationalisation of auxiliary structure was a rule that deleted */rr/* number markers prior to AVRs. This rule arose at a relatively late stage, so that the */rr/s* that it applied to were just those reflexes of the number marker that survived the */rr/* + apical blending processes unaffected. I will illustrate this further in the discussion of the 'stand' PI in §3.3 below.

Note that there is no assumption that the number marker was uniformly syllabic in the proto-language. The procedure I've adopted for reconstructing its form is to posit a syllabic */*rrV/* only where it is preserved as such in at least one of the pSD daughters; otherwise a monosegmental number marker has been assigned to the proto-paradigm. This procedure is designed to establish what degree of uniformity is in fact properly motivated by the data, and to determine the minimal set of */*rrV > rr/* reduction rules necessary to account for the development of Ngty and Mp from pSD. Thus for this paradigm I propose */*rr/*, as opposed to the */*rri/* of the 'sit' PI.

²⁴ I argue in Green (1995) that the NgTj */wV/* <-> Mp */pV/* correspondence in third singular PI and Pr-PP subject stems could in fact be the reflex of either just */*PV/* or a */*PV ~ *wV/* variation. Since the data that supports this claim cannot be canvassed within the limitations of this paper I will ignore this additional complication here.

AVR. The Mp AVR is /nhtha/ throughout. Ngty has /njtji/ in the singular and inclusive. By virtue of a synchronically active rule of triconsonant cluster reduction (Reid 1990:80), which eliminates the central member of impermissible CCC sequences, this is reduced to /tji/ following /rr/ in the remainder of the paradigm. I reconstruct the pAVR as /*nhtha/. The Ngty AVR is then not derived phonologically, but through regularisation of AVR shape. That is, considering the Pr-PP and Future/Irrealis correspondences for this auxiliary we find that Ngty consistently has /i/ as its AVR vowel, while Mp has /i/ in the Pr.PP but /a/ in the Future. The difference in vowel shape in Mp between the Pr.PP and the other TAM categories is not explicable; it is not part of a systematic innovation in Mp, and there appear to be no local phonological or other factors that would account for a one-off vowel change in this auxiliary. The only conclusion is that Mp reflects the proto-system, preserving the vowel-marked AVR allomorphy of pSD. Ngty, however, has opted for a single AVR shape across all TAM categories, selecting the pSD high-vowel-final allomorph for its sole form. This is not an ad-hoc proposal; it can be postulated as a regular development across the Ngty auxiliary system.

TAM/'DUAL'. Mp has /ngi/ in the singular and 'plural', and /nge/ in the 'dual'. Ngty, however, has /nge/ throughout, the Ngty dual instead being marked by the synchronically more regular strategy of suffixing /gu/ to the auxiliary. The simplest reconstruction here has Mp as preserving the proto-system. 'Dual' marking through final-vowel change is not predictable in Mp, and occurs in less than half of the auxiliaries. And it is restricted to the PI and Future; in the Pr-PP 'dual' marking is regularly effected by suffixation of /ka/. We know from the evidence of the Ngty 'sit' auxiliary above that the 'dual' vowel inflection is not in itself a Mp innovation; further, we have no basis for supposing it has spread in any ordered fashion in Mp from just a few auxiliaries in pSD. The distribution of 'dual' strategies in Mp rather appears to be a direct reflection of the situation in pSD. Ngty then has preserved the 'dual' vowel inflection in the PI and Irrealis of just a few auxiliaries. Note that these Ngty conservative auxiliaries constitute a phonologically constrained set, with the vowel inflection preserved only following an apical consonant. Following other consonants the vowel inflection has been eradicated, and 'dual' marking achieved instead by suffixation of /gu/. This form is cognate with Mp /ka/; their parent morpheme, /*gu/, is attributable to pSD only in the pPr. In making its 'dual' marking more regular Ngty has extended the suffix into the other TAM categories. In the case of the PI form of Ngty 'hang', eradication of the original vowel inflection has apparently been facilitated by independent phonological processes, since pSD auxiliary-final /*ngi/ is elsewhere realised in Ngty as /nge/. (Auxiliary-final pSD /*ngi/ > Ngty /nge/, for example, is evident in the 'stand' PI, where the reconstruction is not complicated by considerations of 'dual' vowel inflection.)

3.3 'stand' auxiliary, past imperfective

Mp and Ngty each have a low-transitive auxiliary which classifies the subject as 'standing'. In the PI, Mp has both Realis and Irrealis paradigms. Again it is the Irrealis that corresponds formally to the Ngty PI, enabling us to reconstruct the pSD 'stand' PI Irrealis.

SUBJECT STEMS are reconstructed as per §3.1 and §3.2 above.

SUBJECT NUMBER and AVR. Confining ourselves for the moment to the singular we see that the Mp paradigm gives /rra/ as the candidate for the historic AVR, while the Ngty PI offers /rri/. Now, as with its 'be aloft' auxiliary, Mp has for its 'stand' classifier two AVR

allomorphs which differ only in their final vowel; /rra/ is found in the Future and PI irrealis modes, while /rri/ appears in the Pr.PP and the PI realis. Ngty, on the other hand, has /rri/ throughout the singular in all TAM categories. Applying the same arguments employed in the discussion of the ‘hang’ PI AVR, I therefore propose /*rra/ as the AVR for the singular pPI Irrealis. The proto-AVR allomorphy has been eliminated in favour of the high vowel variant in Ngty.

Table 9: SD and pSD: ‘stand’ auxiliary, past imperfective

| | Ngw PI | Ngk PI | Mp PI Irr | Mp PI R | pSD PI Irrealis |
|-------|------------------------|---------------------------|--------------------|----------------|------------------------------|
| 1sg | <i>ngi-rri-nge</i> | <i>ngi-rri-nge</i> | <i>ngi-rra-ngi</i> | <i>ngi-rri</i> | * <i>ngi-rra-ngi</i> |
| 2sg | <i>yi-rri-nge</i> | <i>yi-rri-nge</i> | <i>thi-rra-ngi</i> | <i>thi-rri</i> | * <i>THi-rra-ngi</i> |
| 3sg | <i>wi-rri-nge</i> | <i>wi-rri-nge</i> | <i>pi-rra-ngi</i> | <i>pi-rri</i> | * <i>Pi-rra-ngi</i> |
| 1 Inc | <i>ngimbi-di-nge</i> | <i>ngimbi-rri-nge</i> | <i>thi-rra-ngi</i> | <i>thi-rri</i> | *? |
| 1Edl | <i>ngi-d-di-nge-gu</i> | <i>ngi-rr-si-nge-rrki</i> | <i>ngi-ra-ngi</i> | <i>nge</i> | * <i>ngi-rr-rra-ngi-rrki</i> |
| 2dl | <i>yi-d-di-nge-gu</i> | <i>yi-rr-si-nge-rrki</i> | <i>ni-ra-ngi</i> | <i>ne</i> | * <i>ni-rr-rra-ngi-rrki</i> |
| 3dl | <i>wi-d-di-nge-gu</i> | <i>wi-rr-si-nge-rrki</i> | <i>pi-ra-ngi</i> | <i>pe</i> | * <i>Pi-rr-rra-ngi-rrki</i> |
| 1Epl | <i>ngi-d-di-nge</i> | <i>ngi-rr-si-nge</i> | <i>ngi-ra-ngi</i> | <i>ngi</i> | * <i>ngi-rr-rra-ngi</i> |
| 2pl | <i>yi-d-di-nge</i> | <i>yi-rr-si-nge</i> | <i>ni-ra-ngi</i> | <i>ni</i> | * <i>ni-rr-rra-ngi</i> |
| 3pl | <i>wi-d-di-nge</i> | <i>wi-rr-si-nge</i> | <i>pi-ra-ngi</i> | <i>pi</i> | * <i>Pi-rr-rra-ngi</i> |

The non-singulars in Ngty also attest to an historic /*rrV/ AVR shape, the initial consonant of the AVR having been affected differently in each dialect by the preceding /rr/ number marker. In Ngk the /*rr-rrV/ has become /rr-s/, while in the Ngw dialect it is reflexed as /d-d/. The Ngw /d-d/ most likely comes about via an intermediate stage of /rr-d/. An /rr-d/ → /d-d/ step in Ngw is in keeping with a general diachronic rule for the evolution of pNgty from pSD. This rule assimilates number morpheme /rr/ to the manner of a following apical stop or nasal (as in the ‘sit’ PI in §3.1). We can propose, then, that the /*rr-rrV/ sequence of the pSD ‘stand’ PI became /*rr-sV/ in Proto Ngty. In Ngk this has been preserved, while in Ngw the /s/ has hardened to a stop /d/, triggering assimilation in the preceding /rr/.²⁵ ‘Stand’ is the only auxiliary in Ngty that evidences an ancestral /*rr-rr/ sequence; except for the assimilation these are then ad-hoc Ngty developments.

The positing of an historic /*rr-rrV/ sequence also accounts neatly, and systematically, for the change in shape of the AVR in the Mp non-singular non-inclusive, if we allow that diachronically /*rr-rra/ has been reduced in Mp to /ra/. Such reduction could be effected via an intermediate stage of /rr-ra/. This proposed reduction is a regular process in the development of Mp. All three Mp auxiliaries with /rrV/ AVRs in the singular and inclusive have, where they are not deleted by other processes, /rV/ AVRs in the non-singular non-inclusive. Thus we have:

²⁵ An alternative proposal would be to suggest /*rr-d/ for pNgty. This would then lenite to /rr-s/ in Ngk, but assimilate to /d-d/ in Ngw. We need not canvass the pros and cons of this quite plausible alternative, since it does not impact critically on our reconstruction of pSD. Note that Ngw has, in an apparently ad-hoc move, extended the /di/ AVR allomorph formed by the assimilation to its inclusive, replacing the earlier /rri/. While this takes place in all TAM categories of ‘stand’, such extensions are not a regular feature of either Ngw or Ngk auxiliary development, where the inclusive more typically remains patterned with the singulars in respect of AVR shape.

Table 10: Mp /rrV/ and /rV/ AVR allomorphy

| | 2nd singular | 2nd 'dual' | 2nd 'plural' |
|---------------------------------|-----------------|---------------|---------------|
| 'stand' Future | <i>thi -rra</i> | <i>ni -ra</i> | <i>ni -ra</i> |
| 'slow movement' Future | <i>thu -rru</i> | <i>na</i> | <i>nu -ru</i> |
| 'see' (Verb Class#28) PI Realis | <i>thi -rra</i> | <i>ni -ra</i> | <i>ni -ra</i> |

Further, this reduction of /**rr-rrV/* in Mp is consistent with the fate of the /**rr-nV/* sequences that we reconstruct for the pSD auxiliary. These /**rr-nV/* clusters are reflexed in Mp as /*rnV/*. That is, the nasal becomes postalveolar and the /*rr/* is dropped.²⁶ This is illustrated in Table 11, where the /*nV/* of the 'be' auxiliary is the AVR, and the /*nV/* of the 'strike' auxiliary is the TAM:

Table 11: pSD /**rr-nV/* > Mp /*rnV/*

| | 2nd singular < *Subj - <i>ni</i> | 2nd 'dual' < *Subj - <i>rr -ne</i> | 2nd 'plural' < *Subj - <i>rr -ni</i> |
|------------------------------------|-------------------------------------|---------------------------------------|-----------------------------------------|
| 'be' Future | <i>tha -ni</i> | <i>na -rne</i> | <i>na -rni</i> |
| 'strike' (Verb Class#23) PI Realis | <i>thu -ni</i> | <i>nu -rne</i> | <i>nu -rni</i> |

These /**rr-rr/* and /**rr-n/* sequences are the only /**rr-[+Alveolar]/* clusters that we are obliged to reconstruct for the proto-auxiliary. Presuming that the rhotics constitute a phonological class in Mp, i.e. that /*rr/* is [+rhotic, +anterior] and /*r/* is [+rhotic, -anterior],²⁷ we can see that these two sequences follow the same path of development into Mp, viz.: the second alveolar consonant is reflexed as its non-anterior (i.e. postalveolar) counterpart, and the /*rr/* is deleted. The diachronic rule can then be written as (4):

$$(4) \quad pSD \quad *rr \quad \left[\begin{array}{c} C \\ +Apical \\ +Anterior \end{array} \right] > Mp \quad \left[\begin{array}{c} C \\ -Anterior \end{array} \right]$$

This rule can in fact have a less specific input, since all pSD /**rr-[+Apical]/* clusters, not just the /**rr-[+Alveolar]/* subset, conform to it. For /**rr-[+Postalveolar]/* sequences the part of the rule that specifies a non-anterior output applies vacuously, for example:

Table 12: pSD /**rr-[+Postalveolar]V/* > Mp /*[+Postalveolar]V/*

| | 3rd singular < *Subj - <i>Ci</i> | 3rd 'dual' < *Subj - <i>rr -Ce</i> | 3rd 'plural' < *Subj - <i>rr -Ci</i> |
|------------------|-------------------------------------|---------------------------------------|-----------------------------------------|
| 'be' PI Realis | <i>ka -rdi</i> | <i>ka -rde</i> | <i>ka -rdi</i> |
| 'be' PI Irrealis | <i>ka -rni</i> | <i>ka -rne</i> | <i>ka -rni</i> |

²⁶ Heath (1978:61) reports the same process of /*rr-n* → *rn/* synchronically for the eastern Arnhem language Nunggubuyu.

²⁷ Note that Dixon (1980:189) proposes a feature [±rhotic] to distinguish /*rr/* and /*r/* generally for Australian languages.

Thus the rule can be written more generally as:

$$(5) \quad pSD \quad *rr \quad \begin{matrix} C \\ [+Apical] \end{matrix} > Mp \quad \begin{matrix} C \\ [-Anterior] \end{matrix}$$

I must observe, of course, that the */*rr-rr/* cluster that I propose for pSD is phonotactically odd by the standards of almost any modern Australian language. However, the evidence for its reconstruction here is quite compelling. And it must be remembered that what we are reconstructing are phonological representations, not surface realisations; many different sorts of realisation strategies (e.g. with epenthetic vowels, or as stops) may have been applied to this cluster by pSD speakers. Note that we cannot let ourselves off the hook of this awkward looking reconstruction by proposing that the subject number morpheme be universally reconstructed as */*rrV/*. The price of such a smoothing out of the proto-language would be a loss of explanatory power. For example, we would then have to reconstruct both the 'sit' PI and the 'strike' PI (see Table 11 above) with syllabic number markers, e.g. with second person 'plurals' */*ni-rr-i-ni/* and */*nu-rrV-ni/* respectively. But we would then not be able to explain why the 'strike' sequence is reduced in Mp to */nu-rne/*, but the 'sit' sequence is maintained. On the other hand, by reconstructing for 'sit' a syllabic number marker, which does not reduce to */rr/* and does not blend with the following apical, and for 'strike' a monosegmental number morpheme, which does blend with the following */n/*, the Mp forms can be accounted for. In §3.5 we shall consider further data indicating that the number marker was not uniform in shape in pSD, and that it had already undergone in a number of auxiliaries assimilation in manner to the following consonant. Presumably, all the pSD variants of the number marker descend from an ancestral syllabic */*rrV/*. Perhaps internal reconstruction of pSD, together with data from its close genetic relatives, if indeed there prove to be any, may verify this. But as a general methodological principal we should not allow our picture of the proto-language to be corrupted by our hopes of what internal or higher-level reconstruction might reveal.

TAM and DUAL. In the singular and plural Ngty */nge/* corresponds to Mp */ngi/*. This is the same correspondence as in the 'raised' PI, and */*ngi/* is again reconstructed here. But in the dual there are some irregularities. Ngw has TAM */nge/* here, followed by the regular */gu/* dual; on the basis of the 'raised' PI we might expect to find a corresponding */nge/* in the Mp dual (i.e. with Ngw having merged the TAM encoded dual/plural contrast). However, Mp instead has */ngi/*, the TAM marker, and indeed the whole auxiliary, being identical with the plural. And to further complicate the picture Ngk has the same TAM morpheme as Ngw, namely */nge/*, but suffixes to this a suppletive dual marker, */rrki/*. This occurs in no other auxiliary as a dual-subject morpheme, but it is the dual suffix that attaches to the bound non-subject stems that can appear in the auxiliary-final slot (Reid 1990:126).

For the TAM marker we must reconstruct */*ngi/*. This is preserved in Mp, and becomes */nge/* in Ngty via a regular rule. (The only alternative here is to reconstruct */*nge/*, and to posit a change to */ngi/* in Mp. This would be an ad-hoc and unmotivated change, and this alternative is therefore rejected.)

I thus propose that the proto-paradigm had no TAM encoded dual/plural distinction; the question that remains is whether this distinction was made in pSD with some separate following dual suffix. The only candidates for such a suffix are */gu/* (<**ga*) in Ngw and */rrki/* in Ngk. */gu/* is unlikely, since its appearance in the Ngty PI can be accounted for as an

extension from the Pr-PP, but it is possible that /rрки/ is a retention of an archaic and probably irregular dual affix. This awaits further comparative investigation.

3.4 'lie' and 'take' ('carry') auxiliaries, present

Turning to the Present-Past Perfective, we find, in paradigm after paradigm, the same striking resemblances as for the Past Imperfective, resemblances that can be explained only as the result of a shared genetic legacy from pSD. In this section we will illustrate by looking briefly at reconstructions for the '*lie' and '*carry' auxiliaries of the proto-Present, the only TAM category we can readily reconstruct from the Pr and PP correspondences.

3.4.1 'lie'

The Mp and Ngty 'lie' auxiliaries have virtually identical semantic functions, both classifying the subject of the verb as being in a lying position. As shown in Table 13, they show full formal correspondences only in the singular, and only a partial reconstruction of the proto-Pr is possible. In the non-singular non-inclusive the Ngty and Mp paradigms are not relatable. The Mp forms here are identical to those of the 'sit' auxiliary Pr.PP (Street 1987:81). In fact, the Mp 'sit' and 'lie' auxiliaries are consistently collapsed throughout the non-singular non-inclusive for all TAM categories. In the PI and Pr.PP it is clearly the original '*sit' forms, cognate with the contemporary 'sit' forms in Ngty (see §3.1), which have survived this collapse, ousting the original '*lie' non-singular non-inclusive.²⁸ Whether the Ngty non-singular non-inclusives here then reflex ancestral '*lie', or perhaps some other pSD auxiliary, or perhaps rather constitute a Ngty innovation, remains to be seen; this cannot be determined on the basis of the evidence we survey here.

Table 13: SD and pSD: 'lie' Auxiliary, Present (+Past Perfective)

| | Ngw Pr | Ngk Pr.PP | Mp Pr.PP | pSD Pr |
|-------|-----------------------------|--------------------------|-----------------------|-------------------|
| 1sg | <i>ngi-be-m</i> | <i>ngi-be-M</i> | <i>nga-bi-m</i> | * <i>nga-bi-m</i> |
| 2sg | <i>yi-be-m</i> | <i>yi-be-M</i> | <i>thi-bi-m</i> | * <i>THi-bi-m</i> |
| 3sg-a | <i>wi-be-m</i> | <i>wi-be-M</i> | <i>yi-bi-m</i> | * <i>yi-bi-m</i> |
| 3sg-b | <i>gi-be-m</i> | <i>gi-be-M</i> | <i>ka-bi-m</i> | * <i>ga-bi-m</i> |
| 1Inc | <i>ngimbi-be-m</i> | <i>ngimbi-be-M</i> | <i>thi-bi-m</i> | *? |
| 1Ens | <i>nge-rri-njtje-m-(gu)</i> | <i>nge-rr-tje-M-(gu)</i> | <i>nga-rri-m-(ka)</i> | *? |
| 2ns | <i>ye-rri-njtje-m-(gu)</i> | <i>ye-rr-tje-M-(gu)</i> | <i>ni-rri-m-(ka)</i> | *? |
| 3ns-a | <i>we-rri-njtje-m-(gu)</i> | <i>we-rr-tje-M-(gu)</i> | <i>pi-rri-m-(ka)</i> | *? |
| 3ns-b | <i>ge-rri-njtje-m-(gu)</i> | <i>ge-rr-tje-M-(gu)</i> | <i>ka-rri-m-(ka)</i> | *? |

a = NgTy neutral, Mp neutral

b = NgTy 'remote', Mp 'existential'

SUBJECT STEMS in the Pr-PP are reconstructed by the same principles as for the PI, with the Pr-PP, unfortunately, offering no further insight into the prehistory of the inclusive. Universally in the Pr.PP, as in the PI, the distinctive (underlying) /ngVmbV/ of Ngty lines up

²⁸ Absences of correspondences with Ngty, however, prevent us from determining whether the same displacement took place in the Mp future category, and its prehistory remains obscure.

against a Mp inclusive which is either identical to the second singular or closely formally related to it. As we have noted in §3.1 above, no conclusions about a pSD inclusive auxiliary can be drawn from this.

The only additional complication in the Pr-PP is the separate ‘remote’ — ‘existential’ third person form (i.e. the ‘3sg-b’ row in the table above). This discrete form is found in all Mp and Ngty low-transitive auxiliaries, and additionally in the Ngty high-transitive ‘say’, ‘hands’ and ‘feet’ auxiliaries. The ‘existential’ subject stem in Mp is invariably /kV/, and in Ngty is invariably /gV/, and can be reconstructed generally for pSD as /*gV/.²⁹ Further, the two languages have the common feature that the RE auxiliary as a whole patterns with the first Pr-PP, the only difference between the two being the initial consonant; the first singular is /ng/ initial, while the RE has an initial velar stop. This can be seen clearly in the Mp column of Table 13. The first singular is /nga-bi-m/, while the existential singular is /ka-bi-m/. And the first exclusive non-singular is /nga-rri-m-(ka)/ while the existential non-singular is /ka-rri-m-(ka)/. Observe that we analyse the patterning here as being with the first, rather than the second or third, person because of the distinctive /a/ subject stem vowel.³⁰ Looking beyond the paradigm in Table 13, there is only one exception to this 1st-RE patterning principle. This is in the singular Pr.PP of the Ngw ‘go along’ auxiliary, where the first person is /nge-rri-mbin/ and the RE is the irregular /ga-ganjtjerri/. It is likely that this irregularity has arisen in Ngty as a result of conflation into the one ‘go along’ paradigm of several different auxiliaries, each with a distinct AVR. We can take it then that this 1st-RE structuring pattern was a feature of the pSD Present. That is, it is implausible either that this patterning evolved independently in each language, or, given the lack of evidence of diffusion in the lexicon and non-verbal grammar, that it was borrowed from one language into the other.³¹

We also have to deal here with the discrepancy between the subject stems in the third singular neutral, where Mp has /yi/ but Ngty has /wi/. The most likely ancestral form here is the Mp stem. Both Ngty and Mp have a few instances of a /yV/ subject form scattered through their auxiliaries. No /yV/ initial auxiliary corresponds directly to a /yV/ initial auxiliary in the other language, but the /yV/s are nonetheless likely to be relics from pSD. They cannot be accounted for as coincidental phonological developments in each language, and neither language has any apparent pronominal, demonstrative or other source for a /yV/ bound subject stem. Further, if we take /*yi/ as the pSD third singular stem here, we can observe that, if maintained into Ngty, it would fall together with the second singular /yi/,

²⁹ See Green (1995) for discussion of the Mp #k <→ Ngty #k, #g correspondences. In brief, /*g/ rather than /*k/ is reconstructed here on the hypothesis that Ngty has preserved, at least to some degree, a limited /#*k/ vs /#*g/ opposition which has been neutralised to /#k/ in modern Mp.

³⁰ Ngty is more regular than Mp in this respect, and the Ngty RE patterns equally well with the second as with the first singular Pr.PP. (It does not pattern with the third person neutral, though.) According to the reconstructions argued for here, the patterning with the second persons results from Ngty regularisations, and is not to be attributed to pSD.

³¹ We do not have the space here to discuss the probable distribution of the RE as a separate category in pSD. We can be sure that it was found at least throughout the low-transitives, since it is maintained in the low-transitives in both Mp and Ngty. In all probability it was also found, as in modern Ngty, in a few pSD high-transitive auxiliaries; that is, it appears that in pSD that this was a category which was in the process of being eliminated from the high-transitives. There is no reason to suppose, on the basis of the Mp and Ngty evidence, that it was found regularly across the pSD high-transitives.

lenited from /*THi/. This collapse has been avoided in Ngty by replacing the original, and irregular, /yi/ third singular with the more regular /wi/.

The remainder of the singular subject stems are reconstructed in the same way as for the 'sit' paradigm.

TAM. The /bV/ that follows the singular/inclusive subject stem here looks at first sight as if, consistent with the [Subject -AVR -TAM] pattern suggested above (§2) as typical for auxiliaries, it should be analysed as an AVR. In fact, the /bV/ is clearly, at least in historic terms, a TAM marker, augmenting the final nasal TAM morpheme. The /bV/, for example, is only found in the Pr-PP category. In the PI and Future/Irrealis it is nowhere to be seen, for example:

Table 14: Mp and Ngty 'lie'

| | 2sg Pr(/PP) | 2sg PI (Irr) | 2sg F/Irr |
|------|-------------------|-----------------|--------------|
| Mp | <i>thi -bi -m</i> | <i>thu -ngi</i> | <i>thu</i> |
| Ngty | <i>yi -be -m</i> | <i>yi -n</i> | <i>yi -m</i> |

Further, in Ngty the /bV/ is found also in the 'stand' and 'hang' auxiliaries. Again for these auxiliaries it is confined to the Pr-PP, but it has the added feature of occurring after the AVR:

Table 15: Ngty 'stand' and 'hang'

| | 2sg Pr(/PP) | 2sg PI (Irr) | 2sg F/Irr |
|-------------|-------------------------|-----------------------|---------------------|
| Ngw 'stand' | <i>yi -rri -be -m</i> | <i>yi -rri -nge</i> | <i>yi -rri -m</i> |
| Ngw 'hang' | <i>yi -njtji -be -m</i> | <i>yi -njtji -nge</i> | <i>yi -njtji -m</i> |

In Mp /bV/ is also found in the 'stand' auxiliary, but is restricted to the non-singular of the Pr-PP. It is not found at all in Mp 'be aloft', which otherwise corresponds formally, in all TAM categories, to Ngty 'hang'. I argue elsewhere (Green 1995) that, given its irregularity in Ngty, the /bV/ should nevertheless be reconstructed as a suppletive TAM marker throughout the Pr paradigms of the pSD parents of these auxiliaries; its erosion in Mp is consistent with the general rules for auxiliary development in that language. Whatever the merits of those arguments we can be sure that what we have in front of us in the 'lie' Pr-PP is cognacy of a non-predictable and non-productive TAM augment. Could there be anything other than a genetic explanation for such a matching choice of irregularity?

I reconstruct the shape of this morpheme as /*bi/, and posit the vowel as lowered to /e/ in Ngty. This is consistent with the shift of pSD /*ngi/ to Ngty /nge/ proposed for the 'raised' and 'stand' PI in §3.2–§3.3 above. The Ngty lowering, then, is conditioned phonologically by a preceding peripheral, and has thus far been constrained morphologically to TAM morphemes.

The final TAM morpheme is reconstructed as /*m/. As noted in §2, this has become an assimilating nasal in Ngk.

3.4.2 'carry'

Mp and Ngty each have a high-transitive auxiliary which classifies the verb as denoting a 'carrying' action. In Ngty this is referred to by Reid (1990:246) as the 'take' auxiliary, and in Mp it has been labelled by Walsh (1976:352) as the 'have' auxiliary.³² Both Ngty 'take' and Mp 'have' are non-productive auxiliaries, able to co-occur with only ten or so main verb stems. 'Take' and 'have' correspond formally; the pSD auxiliary from which they both descend I will refer to as the '*carry' classifier.

Table 16: SD and pSD: 'carry' Auxiliary, Present (+Past Perfective)

| | Ngw Pr | Ngk Pr.PP | Mp Pr.PP | pSD pPr |
|-------|------------------------------|---------------------------|-------------------------|--------------------------------|
| 1 sg | <i>nga-ganjtji-n</i> | <i>nga-gatji-M</i> | <i>nga-nhthi-n</i> | * <i>nga-ganhthi-n</i> |
| 2sg | <i>ya-ganjtji-n</i> | <i>ya-gatji-M</i> | <i>tha-nhthi-n</i> | * <i>THa-ganhthi-n</i> |
| 3sg | <i>ye-njtji-n</i> | <i>ye-tji-M</i> | <i>ka-nhthi-n</i> | * <i>ya-nhthi-n</i> |
| 1 Inc | <i>nganggi-njtji-n</i> | <i>nganggi-tji-M</i> | <i>tha-nhthi-n</i> | *? |
| 1 Ens | <i>nga-rr-ganjtji-n-(gu)</i> | <i>nga-rr-atji-M-(gu)</i> | <i>nga-nhthi-n-(ka)</i> | * <i>nga-rr-ganhthi-n-(gu)</i> |
| 2ns | <i>ya-rr-ganjtji-n-(gu)</i> | <i>ya-rr-atji-M-(gu)</i> | <i>na-nhthi-n-(ka)</i> | * <i>na-rr-ganhthi-n-(gu)</i> |
| 3ns | <i>wa-rr-ganjtji-n-(gu)</i> | <i>wa-rr-atji-M-(gu)</i> | <i>pa-nhthi-n-(ka)</i> | * <i>Pa-rr-ganhthi-n-(gu)</i> |

SUBJECT STEMS. Except for the third singular, which I consider below in conjunction with the AVR, subject stems are reconstructed unproblematically, following the pattern established in §3.1–§3.4.1 above. Note that neither language has a discrete remote–existential third singular form for this auxiliary.

SUBJECT NUMBER. While Ngty has /rr/, no corresponding morpheme is to be found in the Mp paradigm. This is the same situation that we dealt with in the PI of the '*raised' auxiliary (§3.2). In line with the discussion there, I reconstruct a /*rr/ number marker for this auxiliary, proposing that it has been deleted in Mp via a regular auxiliary-wide reduction rule which drops /rr/ number markers prior to AVRS.

AVR. Ngw has /ganjtji/ as its predominant AVR form, varying to /njtji/ in the third singular.³³ The Ngk AVR differs in two ways. Firstly, the nasal is absent from Ngk; this is consistent with a general (diachronic) trend in Ngk for reducing homorganic nasal-plus-stop clusters to voiceless stops. Compare, for example, the following Ngw and Ngk auxiliaries:

Table 17: Reduction of homorganic nasal–stop clusters in Ngk

| | Go# 3sPr | Hang 3sPr | Slash 3sPr |
|-----|------------------|-------------------|---------------|
| Ngw | <i>yirrimbin</i> | <i>winjtjibem</i> | <i>wumbun</i> |
| Ngk | <i>yirripin</i> | <i>witjibeM</i> | <i>wupuM</i> |

Secondly, the AVR has no initial /g/ in the Ngk non-singular non-inclusive, where it follows the /rr/ number marker. Presumably the /rr/ here has simply triggered deletion of the

³² Street (1987:91) provides no semantic label, referring to the auxiliary simply as 'Verb Class 22'.

³³ Ignoring, of course, the inclusive, which we do not attempt to reconstruct here.

fricative /g/. This cannot be proposed as a fully regular rule for the development of Ngk, but it certainly is phonologically plausible, and, as Reid (1990:121) points out, there are several instances of sporadic deletion of fricatives and approximants following /rr/ in both dialects of Ngty. The Ngw and Ngk data, then, point to a reconstruction for pNgty of /*ganjtji/ as the main AVR form, with /*njtji/ as the third singular variant.

For Mp we have an AVR that appears synchronically as /nhthi/ throughout the paradigm. But there is one outstanding irregularity here: the /ka/ third singular subject stem. /kV/ is of course the regular third singular 'existential' Pr.PP subject stem, but as a neutral Pr.PP stem is found only in three Mp auxiliaries: 'have', 'be' and the auxiliary labelled simply as 'verb class 35'. While 'verb class 35' has no cognate in Ngty, Mp 'be' is cognate with Ngty 'go'. And this 'be' <—> 'go' correspondence mirrors the 'have' <—> 'take' correspondence in that the Mp /kV/ neutral stem appears (in the third singular Pr.PP) when Ngty has a /gV/ initial AVR (in other than the third singular Pr.PP), for example:

Table 18: Partial Paradigm of Mp 'be' and Ngty 'go' Auxiliaries, Present (+Past Perfective)

| | Ngw Pr | Ngk Pr.PP | Mp Pr.PP |
|--------|-----------------------|-----------------------|-------------------|
| 1 sg | <i>nga -gani -m</i> | <i>nga -gani -M</i> | <i>nga -na -m</i> |
| 2sg | <i>ya -gani -m</i> | <i>ya -gani -M</i> | <i>tha -na -m</i> |
| 3sg-a | <i>ye -ni -m</i> | <i>ye -ni -M</i> | <i>ka -na -m</i> |
| 3sg-b | <i>ga -gani -m</i> | <i>ga -gani -M</i> | <i>ka -na -m</i> |
| 1 linc | <i>nganggi -ni -m</i> | <i>nganggi -ni -M</i> | <i>tha -na -m</i> |

a = Ngty neutral, Mp neutral b = Ngty 'remote', Mp 'existential'

We could, then, try to account for the Mp /kV/ neutral stem as some sort of sporadic hiring of the /kV/ existential for neutral function. In the case of 'take' this would mean proposing that the category existed for the parent pSD auxiliary, a proposal which receives no support from the Ngty data. But surely the 'be' <—> 'go' and 'have' <—> 'take' correspondences suggest a more principled explanation: that the Mp /kV/ stem is the reflex of the first syllable of the pSD AVR. Let us examine this with respect to the 'have' auxiliary, though the explanation applies *mutatis mutandis* to 'be'. I suggest that at some stage in its prehistory Mp had AVR /*kanhthi/ throughout the paradigm. And third singular would have had a zero subject stem, being made up of just the TAM suffixed AVR. (Note that zero third singular marking is found in the Pr.PP in a number of auxiliaries in both Mp and Ngty.) Third singular /*kanhthi/ would have then been reanalysed as consisting of a /ka/ subject marker followed by an /nhthi/ AVR, there being a precedent for /kV/-shaped subject stems in the remote-existential category of the low-transitives as well as, perhaps, a few high-transitives. This reanalysis was associated with a reduction of /*kanhthi/ to /nhthi/ in the remainder of the paradigm. Possibly the third singular reanalysis prompted the reduction elsewhere; this is consistent with the general drive in Mp towards a more compact auxiliary. Alternatively, the third singular reanalysis itself may have been prompted by a phonologically driven reduction in the other forms, with the initial consonant of the original AVR being dropped (perhaps via an intermediate lenition to an approximant) both following the /rr/ number marker, as in Ngk, and intervocalically.

The only stumbling block to taking this scenario for pre-Mp as in fact being pSD is the third singular data. pNgty /**ye-njtji-n/* is an unlikely reflex of pSD /**ganhthi-n/*. As I have remarked above (§3.4.1), /*yV/* is not the regular Ngty third subject stem; it is more probably a retention than a stem which would be expected to be applied to evolving auxiliaries. Equally, the pNgty form is not likely to have been derived from /**yV-ganhthi-n/*. The derivation would not be phonologically motivated, since there is no reduction of the AVR in the other forms (the first and second singular) where it is postvocalic. And there would appear to be no other analogical, paradigmatic etc. factors which would account for the reduction in the third singular auxiliary only. I therefore reconstruct /**ya-nhthi-n/* for the ‘carry’ third singular Pr.³⁴ This was an irregularity in pSD, the remainder of the paradigm having /**ganhthi/* for its AVR. Third singular /*ganhthi-n/* is then a (pre)Mp innovation, regularising AVR shape, which is then, with the reanalysis of the initial /*ka/* as a subject stem, uniformly reduced to /*nhthi/*.

TAM. /*n/* occurs in both Mp and Ngw and is therefore reconstructed as the pPr marker. This has become an assimilating nasal in Ngk. Observe that choice of the /*n/* form constitutes a matching irregularity, and thus further evidence of genetic relatedness; in both Mp and Ngw /*m/* is the most common Pr(-PP) allomorph, less than a quarter of the auxiliaries selecting the /*n/* variant.

DUAL. The correspondence between Ngty /*gu/* and Mp /*ka/* is reconstructable as /**gu/*. The proto-phoneme /**g/* becomes /*k/* in Mp by a rule, still synchronically operational to some degree, which devoices stops following nasals. The vowel reconstruction is more problematic. The vowel of the Ngty dual, which corresponds to the Mp /*a/*, is represented by Reid as underlyingly /*u/*. This is realised as either /*u/* or /*i/*. Prior to syllables with an /*i/*, /*e/* or /*a/* nucleus, it is realised as /*i/*; elsewhere, that is word-finally or prior to syllables with an /*u/* nucleus, it is realised as /*u/* (Reid 1990:122). A number of such roundness-assimilating /*u/*s (not all of them as synchronically transparent as the dual vowel) can be identified in Ngty auxiliaries; these correspond regularly to Mp /*a/* (Green 1995). There are also regular correspondences between Mp /*u/* and non-assimilating Ngty /*u/*, and between Mp /*a/* and Ngty /*a/*. This data, in phonological terms, would appear to be most plausibly accounted for by proposing that the Ngty assimilating /*u/*s preserve the character of the vowel in pSD, and that Mp has eliminated the surface variation of this /**u/* by lowering it to neutral /*a/*.³⁵

3.5 ‘shove’ auxiliary, future

Ngty has an auxiliary referred to by Reid as the ‘shove’ auxiliary, which ‘classifies activity that affects its undergoer by projecting it into motion, or in some way re-arranging

³⁴ The change of the third singular subject stem /**ya/* to Ngty /*ye/* is associated with the Ngty lenition of second singular /**TIIa/* to /*ya/*, and maintains the distinction between the two forms, which would otherwise collapse. Third singular /*ye/* is a regular Ngty development; it is not visible in Mp and not to be attributed to pSD.

³⁵ The alternative would be to reconstruct dual /**ga/* and have certain /**a/* vowels in pSD, in particular morphemes, become subject to raising and rounding-assimilation processes. While not implausible in itself this suggestion is not supported by other data on vowel harmony in the Ngty verb, which shows evidence of backness/frontness assimilation of certain vowels, but no raising, and, apart from the dual, no rounding-assimilation.

its spatial configuration' (Reid 1990:269). Semantically corresponding to, and formally cognate with, Ngty 'shove' is Street's Mp 'verb class 29', which appears in verbs such as 'shove', 'expel', 'take items from an enclosure' and 'send' (Street & Street 1989). In our final reconstruction here we shall, by comparing the Ngty (General) Irrealis with the Mp Future, put together what we can of the Future paradigm of the pSD '*shove' auxiliary.

SUBJECT STEMS. Most of the subject stems are reconstructed by the regular principles established in the preceding sections, and the only issues that we need to deal with here are the correspondence in the inclusive, and the prehistory of the Mp Future Irrealis \leftrightarrow Ngty Undesirable correspondence.

Table 19: SD and pSD: 'shove' Auxiliary, Mp, pSD Future — Ngty Irrealis

| | Ngw Irr | Ngk Irr | Mp Future | pSD Future |
|-------|---------------------------|-------------------------|-------------------|-----------------------|
| 1sg | <i>ngu -du</i> | <i>ngu -di</i> | <i>ngu -rdu</i> | * <i>ngu -rdu</i> |
| 2gs-a | <i>yu -du</i> | <i>yu -di</i> | <i>thu -rdu</i> | * <i>THU -rdu</i> |
| 2sg-b | <i>gunjtju -du</i> | <i>gutju -di</i> | ----- | * <i>gunhthu -rdu</i> |
| 3sg-a | <i>wu -du</i> | <i>wu -di</i> | <i>pu -rdu</i> | * <i>Pu -rdu</i> |
| 3sg-b | <i>gu -du</i> | <i>gu -di</i> | <i>ku -rdu</i> | * <i>gu -rdu</i> |
| 1Inc | <i>ngumbu -du</i> | <i>ngumbu -di</i> | <i>pu -rdu</i> | * <i>ngumbu -rdu</i> |
| 1EdI | <i>ngu -d -du -gu</i> | <i>ngu -d -di -gu</i> | <i>ngu -d -da</i> | * <i>ngu -d -da</i> |
| 2dl-a | <i>yu -d -du -gu</i> | <i>yu -d -di -gu</i> | <i>nu -d -da</i> | * <i>nu -d -da</i> |
| 2dl-b | <i>gunjtju -d -du -gu</i> | <i>gutju -d -di -gu</i> | ----- | * <i>gunu -d -da</i> |
| 3dl-a | <i>wu -d -du -gu</i> | <i>wu -d -di -gu</i> | <i>pu -d -da</i> | * <i>Pu -d -da</i> |
| 3dl-b | <i>gu -d -du -gu</i> | <i>gu -d -di -gu</i> | <i>ku -d -da</i> | * <i>gu -d -da</i> |
| 1Epl | <i>ngu -d -du</i> | <i>ngu -d -di</i> | <i>ngu -d -du</i> | * <i>ngu -d -du</i> |
| 2pl-a | <i>yu -d -du</i> | <i>yu -d -di</i> | <i>nu -d -du</i> | * <i>nu -d -du</i> |
| 2pl-b | <i>gunjtju -d -du</i> | <i>gutju -d -di</i> | ----- | * <i>gunu -d -du</i> |
| 3pl-a | <i>wu -d -du</i> | <i>wu -d -di</i> | <i>pu -d -du</i> | * <i>Pu -d -du</i> |
| 3pl-b | <i>gu -d -du</i> | <i>gu -d -di</i> | <i>ku -d -du</i> | * <i>gu -d -du</i> |

a = Ngty neutral, Mp Future Realis

b = Ngty 'undesirable', Mp Future Irrealis

Turning firstly to the inclusive, we observe that here, unlike the PI and Pr-PP, the Mp and Ngty forms are relatable. Now the Mp inclusive in the PI and Pr-PP is, as we have seen above, formally related to the Mp second singular. But the Mp inclusive in the Future, as typified in Table 19, is rather related to the third realis singular. Semantically, a linkage between the inclusive and second singular would appear to be more plausible than a linkage between the inclusive and third singular. But in this case historically it is the third singular linkage that is more readily accounted for. The form /*ngumbu/ can be reconstructed as the pSD Future inclusive. This is preserved in Ngty. In Mp the medial /b/ becomes /p/ through the general process of post-nasal stop devoicing. Auxiliary contraction-rationalisation pressures in Mp then promote the deletion of the initial syllable; as a result, the inclusive falls

together with the /pu/ third singular realis.³⁶ This contraction of pSD /*ngVmbV/ to /pV/ in Mp is a completely regular, pan-auxiliary process.³⁷

Ngty has a separate Undesirable in both second and third persons, but the separate Future Irrealis in Mp is restricted to third person only. Consequently, only the third person for this category can confidently be reconstructed on the basis of SD internal evidence alone. The reconstruction of third /*gu/ for this auxiliary follows the same lines as for the Remote-Existential correspondence of 'lie' in §3.4.1. Wider comparative data is required to determine whether the Ngty second person Undesirable is an innovation, or a reflex of a distinction made in pSD.³⁸

SUBJECT NUMBER/AVR/DUAL. As is typical in the Mp Future <—> Ngty General Irrealis correspondence sets, there is no segmentable TAM morpheme, and the auxiliary consists maximally of a [Subject – Number – AVR – Dual] sequence.

While Ngty has just the single apical series, Mp has an apical contrast between alveolars and postalveolars. There is no evidence to suggest that Mp has recently developed its apical contrast, and it appears that Ngty has systematically merged the distinct alveolars and postalveolars of pSD. The consonant of the AVR in the singular, where we have a Mp /rd/ <—> Ngty /d/ correspondence, is therefore reconstructed as postalveolar /*rd/.

In the non-singular non-inclusive both languages have a number – AVR sequence /d-dV/, and the simplest reconstruction is to propose /*d-dV/ for the proto-language. (That is, we have the pSD AVR varying from /*rdV/ in the singular/inclusive to /*dV/ in the non-singular non-inclusive, presumably under the influence of the preceding alveolar number morpheme.) Of course one might ask here whether the simplest reconstruction is necessarily the best. And the question which then arises is whether the /d-dV/ sequences of the modern languages are better traced back to an original /*rr-dV/; this would necessitate positing assimilation in both languages but would make for a more regular reconstruction. Unfortunately the Mp data does not support this proposal. Compare the 'shove' paradigm above, for example, with the PI of the Mp 'be' <—> Ngty 'go' correspondence set given in Table 18.

³⁶ We can speculate on whether the prehistory of the PI and Pr-PP inclusive may be analogous. That is, the correct Mp forms would be derived if we suppose that the pSD PI and Pr-PP inclusive was /*ngVmthV/; the same process of initial syllable deletion that applies in the Future would then produce Mp inclusive /thV/, which falls together with the second singular. This /*ngVmthV/ inclusive allomorph would have simply been eliminated in Ngty, which, in generalising the Future /*ngVmbV/ to all TAM categories (perhaps under the influence of its Western Daly neighbours), produces an inclusive which is invariant for TAM category, as are the majority of its other subject stems. This appears to be something of an ad hoc proposal, but it is interesting to note that Matngele (of the Eastern Daly subgroup) has several auxiliaries with a parallel distribution of putatively cognate inclusive forms. These auxiliaries have /ngVm-njV/ as their realis inclusive dual subject stem, and /(k)VmbV/ as their irrealis inclusive dual stem.

³⁷ The Future inclusive, though, is not everywhere identical to the third singular Realis Future, since some auxiliaries show a further reduction, deleting the /pV/ third singular Realis stem while maintaining the /pV/ of the inclusive.

³⁸ Given the antiquity of /ngVnjtjV/ as a general second singular in northern Australia (Dixon forthcoming), and no source for the /gV(nj)tjV/ undesirable in contemporary Ngty, it does seem likely that pSD did have a separate second person Future Irrealis auxiliary. But /*gVnjtjV/ would have been the singular form only — /CVnjtjV/ second non-singulars are not attested elsewhere — and would have been generalised to the non-singular in the same way as the second singular neutral subject stems. A speculative second non-singular Future Irrealis for pSD would be /*gVnV/.

Table 20: Partial Paradigm of Mp ‘be’ and Ngty ‘go’ Auxiliaries, Past Imperfective

| | Ngty PI | Mp PI Realis | pSD PI Realis |
|-----|------------------|-----------------|---------------------|
| 2sg | <i>ya -gadi</i> | <i>tha -rdi</i> | <i>*THa -gardi</i> |
| 3sg | <i>ye -di</i> | <i>ka -rdi</i> | <i>*ya -rdi</i> |
| 2dl | <i>ya -d -de</i> | <i>na -rde</i> | <i>*na -rr -rdv</i> |
| 2pl | <i>ya -d -di</i> | <i>na -rdi</i> | <i>*na -rr -rdi</i> |

In the Mp ‘be’ PI the plurals have the structure /Ca-rdV/. It is clear that these derive from a pSD /*Ca-rr-rdV/ sequence, the /*rr/ number morpheme being lost via the well-motivated /rr/ plus apical cluster simplification rule which we have investigated above (§3.3). Recall that this rule in its most general form, was expressed as (4), given again here:

$$pSD \quad *rr \quad \left[\begin{array}{c} C \\ +Apical \\ +Anterior \end{array} \right] \quad > \quad Mp \quad \left[\begin{array}{c} C \\ -Anterior \end{array} \right]$$

Thus if we were to posit an /*rr-rdV/ sequence for the plural of ‘shove’ it should be systematically reflexed in Mp as /rdV/, and not as the /d-dV/ that we actually get. Consequently I maintain here the simplest reconstruction, assigning pSD ‘shove’ a /*d-d/ cluster, and pSD ‘go’ (> Mp ‘be’) a /*rr-rd/ cluster. One would assume that the two clusters ultimately derive from the same source. That is, it is highly likely that at some point in pre-pSD the ancestors of both ‘*shove’ and ‘*go’ had an /*rrV/ number morpheme. These two auxiliaries then underwent different paths of development in arriving at the pSD situation. In the ‘*shove’ paradigm /*rrV/ was reduced to /*rr/, and the resultant /*rr-rd/ cluster subsequently underwent (right to left) manner assimilation and (left to right) place assimilation to become /*d-d/. But in the ‘go’ paradigm, for reasons that are not now apparent (though one possible reason is that a differing vowel quality blocked the reduction) a syllabic /*rrV/ was retained until much later, not reducing to /*rr/ until a point at which the /rr-rdV → d-dV/ assimilation had ceased to be synchronically operable.

In the singular, inclusive and plural, the Ngw AVR vowel is (non-assimilating) /u/, as it is in Mp. This indicates that /*u/ should be reconstructed for pSD. The Ngk /i/ vowel cannot then be accounted for phonologically. Its genesis is not clear, but a possible source is the pSD PI Irrealis, a category which we infer existed in pSD, but the forms of which, in the general absence of Ngty cognates, we can only speculatively reconstruct (cf. §2). In the PI of ‘shove’ the single Ngty PI is formally relatable to the Mp PI Realis. The Mp PI Irrealis is not relatable to any Ngty paradigm, but it is formally close to the Future, varying primarily in respect of its AVR vowel, for example:

Table 21: Partial Paradigm of Mp ‘shove’ Auxiliary, Past Imperfective

| | Mp PI Irrealis | Mp Future |
|-----|------------------|------------------|
| 2sg | <i>thu -rdi</i> | <i>thu -rdu</i> |
| 2dl | <i>nu -d -de</i> | <i>nu -d -da</i> |
| 2pl | <i>nu -d -di</i> | <i>nu -d -da</i> |

The Mp PI Irrealis perhaps largely preserves the pSD PI Irrealis. If so, the collapse of the Realis — Irrealis contrast in the Ngty PI, and the taking over of the function of the original PI Irrealis by the new general Irrealis (normally based on the pSD Future paradigm), may have resulted in the original PI Irrealis becoming, in pNgty, an alternative way of expressing the general Irrealis. This alternative was dropped in Ngw, but became the sole choice in Ngk.

As shown in Table 15, the dual is marked by the regular /gu/ suffix in Ngty but by lowering of the AVR vowel to /a/ in Mp. We have argued in §3.2 that it is likely that the Mp marking preserves the pSD situation, with Ngty having extended the /gu/ marking from the pPr category, facilitating the eradication of the distinctive dual vowel. The lowered vowel marking for the dual is therefore reconstructed for pSD here.

4 Concluding remarks

The evidence from the auxiliaries, as outlined above, can leave us in no doubt that Mp and Ngty are closely genetically related, the auxiliary systems of the two languages being systematically derivable by a series of plausible and, for the most part, relatively minor changes from their immediate common ancestor. Clearly, there can be no other credible account of the formal similarities of the two languages. The matching array of both regularities and suppletions could obviously not have arisen by chance. Diffusion is similarly to be dismissed as a possible cause of these resemblances. The six classifiers, for each of which one TAM category has been reconstructed above, are merely the tip of the iceberg as far as our inventory of pSD auxiliary morphology is concerned; the methods illustrated above can be used to reconstruct relatively confidently most of the TAM categories of 18 pSD classifiers, and, with varying degrees of success, partial paradigms of a further 10 (Green 1995). Extensive morphological diffusion is of course possible, as Thomason and Kaufman (1988) have demonstrated, although it is typically associated with significant lexical diffusion, which is not evident in this case. In any event, Thomason and Kaufman present no precedents for such large-scale morphological diffusion as would be required for a non-genetic account of the formal similarities of Mp and Ngty.

While we can be sure, then, that Mp and Ngty are closely genetically linked, it remains for their status as a subgroup to be rigorously established; that is, the innovations that mark pSD out as distinct from its immediate precursor need to be explicitly identified, and the claim that no other languages constitute branches of pSD must be defended at length. But of equal interest to these questions, which pivot around the shared features of Mp and Ngty, is the matter of the degree of divergence between the two languages. Is it possible, for example, that the lexical, and, auxiliaries aside, the general grammatical diversity of Mp and Ngty is simply due to considerable time-depth and, despite their contemporary contiguity, protracted historical isolation from one another? Or has there been massive internally-driven innovation in one or both branches? Or is the divergence to be accounted for externally, Ngty changing radically under the influence of its Western Daly neighbours, and/or Mp altering extensively as a result of contact with an as-yet unidentified (and perhaps extinct) speech community? These are intriguing questions that demand further detailed comparative work.

Appendix: Southern Daly phonemic inventories

Vowels in Ngty and Mp: *i, e, a, u*

| | Bilabial | Dorsal | Apical | Laminal |
|-----------------|----------|-----------|-----------|-----------|
| Voiceless stops | <i>p</i> | <i>k</i> | <i>t</i> | <i>tj</i> |
| Voiced stops | <i>b</i> | | <i>d</i> | |
| Fricatives | <i>f</i> | <i>g</i> | <i>s</i> | <i>sj</i> |
| Nasals | <i>m</i> | <i>ng</i> | <i>n</i> | <i>nj</i> |
| Lateral | | | <i>l</i> | |
| Rhotics | | | <i>rr</i> | <i>r</i> |
| Semivowels | <i>w</i> | | | <i>y</i> |

Consonants in Ngty

| | Bilabial | Dorsal | Apico Alveolar | Apico Postalveolar | Laminal ³⁹ | Lamino Palatal |
|-----------------|----------|-----------|-------------------|-----------------------|-----------------------|-------------------|
| Voiceless stops | <i>p</i> | <i>k</i> | <i>t</i> | <i>rt</i> | <i>th</i> | <i>(tj)</i> |
| Voiced stops | <i>b</i> | <i>g</i> | <i>d</i> | <i>rd</i> | <i>dh</i> | <i>(dj)</i> |
| Nasals | <i>m</i> | <i>ng</i> | <i>n</i> | <i>rn</i> | <i>nh</i> | |
| Lateral | | | <i>l</i> | <i>rl</i> | | |
| Rhotics | | | <i>rr</i> | <i>r</i> | | |
| Semivowels | <i>w</i> | | | | | <i>y</i> |

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³⁹ Note that the analysis adopted by Street (1987) represents Mp as having only a single laminal, orthographically Ch, which is realised as dental prior to back vowels, as well as before laminal stops which precede back vowels, and as palatal elsewhere. Street's representations are preserved in the data presented herein.

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