the variety and complexity of Australian languages among Australians, there is also a widespread and increasing awareness and appreciation of them among so many. Attitudes have changed since the time W.E. Hanlon named his property with a Yugambeh name that was mocked at (reported in Hanlon 1935). Many queries come my way for a name for a child or property (not all from white Australians) from the language of the person's area. More people are choosing names from the language of the area to name their property. What is certain now is that study of Australian languages is a river that will not quickly run dry. We can look back on the Hale visits of 1959–60 and 1966–67 and the Hale–O'Grady collaboration in 1960 as very significant tributaries to the flood of work on Australian languages. We owe them a debt of gratitude.

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# 17 *Karnic classification revisited*

CLAIRE BOWERN

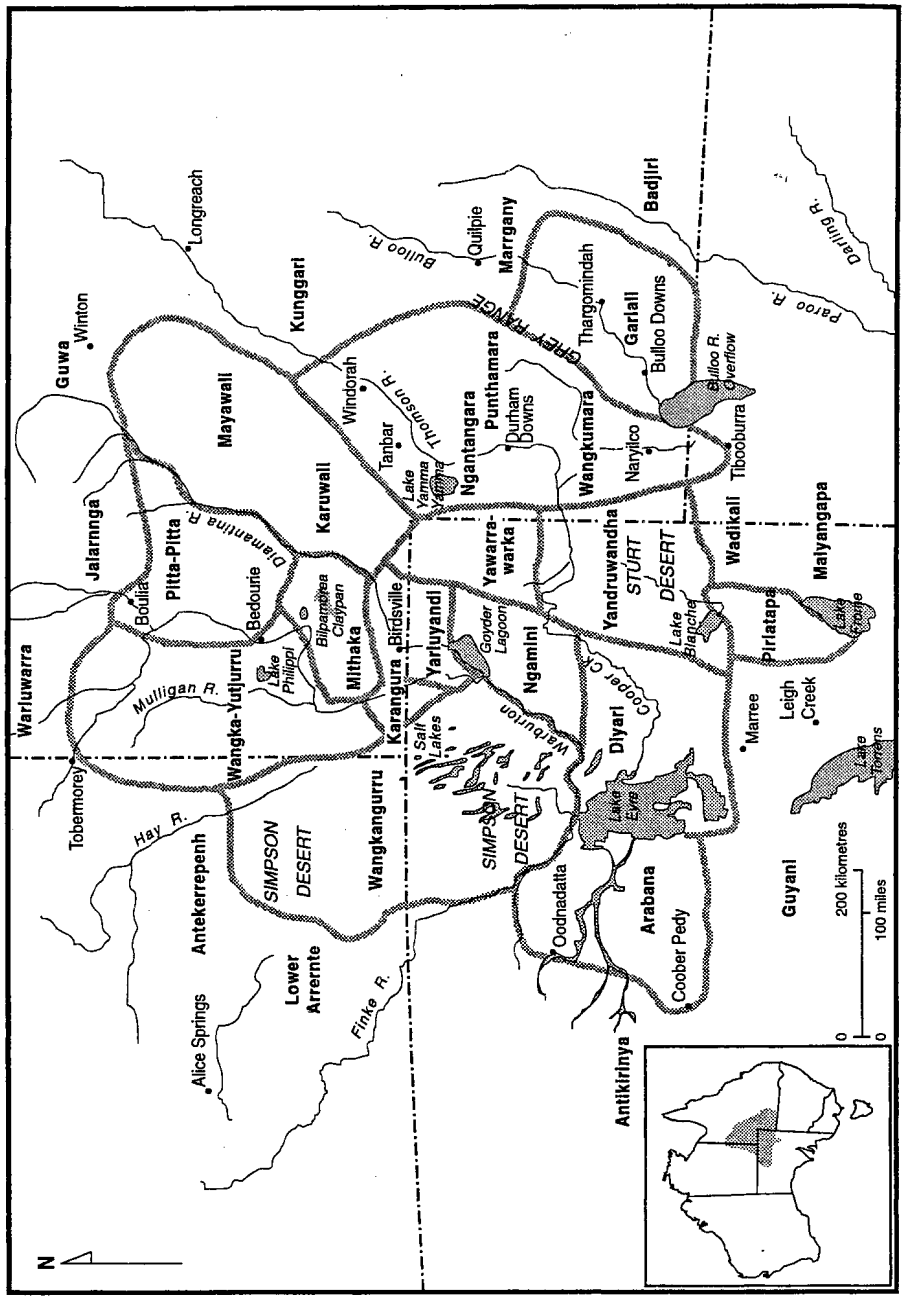
## 1. Introduction

The languages of the Lake Eyre Basin have been the subject of a number of classificatory studies this century.[1] In Australia-wide surveys as early as Schmidt's (1919), the structural similarity of a number of these languages is noted and a name based on the word *karna* 'man' is used. O'Grady, Wurm, and Hale's (1966) map shows four Pama-Nyungan subgroups in the Lake Eyre Basin. Later studies such as Breen (1971) and Walsh and Wurm (1981) have added a layer in the family tree, grouping most of the languages spoken in the Lake Eyre Basin together as the 'Karnic' subgroup of Pama-Nyungan (and demoting O'Grady, Wurm, and Hale's Pama-Nyungan subgroups to subgroups within Karnic). Most recently, Peter Austin (1990a) published a classification of Karnic with approximately three hundred lexical reconstructions (and including some morphological reconstruction), and Hercus (1994) includes a family tree of the Karnic subgroup of Pama-Nyungan, based on, but not identical to, that of Breen (1971).

With this comparatively large body of classification already published, another article on the classification of Lake Eyre Basin languages may seem redundant. Yet while all the studies mentioned above recognise a subgroup 'Karnic', opinions differ greatly as to its composition. In earlier studies, the geographical area of the Lake Eyre Basin is usually described as containing three or four Pama-Nyungan subgroups, none apparently more closely related to another than to any other Pama-Nyungan subgroup. Breen (1971) is the first to recognise any strong genetic relations, but since his focus was on Western Queensland, his survey does not include the Western and Southern Karnic languages.[2] Austin (1990a) omits Arabana-Wangkangurru from Karnic and places the language as a subgroup-level isolate.

1 See Map 1 for the approximate location of the relevant languages. Boundaries and placement of language names are approximate and indicative only. In some cases one language name has been used as a cover term for several mutually intelligible dialects (see Table 1).

2 This should not at all be read as a criticism, more a comment as to why there is need for a study in genetic terms of the whole of Karnic as thorough as the one which Breen did of the geographical area of Western Queensland.




**Map 1:** Languages of the Lake Eyre Basin



This paper[3] contains a new classification of the languages of the Lake Eyre Basin, based on the results of my reconstructions of proto-Karnic nominal (and to a much lesser extent verbal) morphology (presented in detail in Bowern 1998). I aim here to present the evidence for Karnic as a genetic subgroup of Pama-Nyungan and delineate the languages which belong to such a subgroup. Because of limitations of space, I omit arguments for the internal structure of Karnic.[4] These reconstructions follow in no small way from the pioneering work of Ken Hale and his classification and reconstruction of Cape York languages (for example, Hale 1964, 1966, and 1976). Australianists are profoundly indebted to Ken Hale for his early survey work and meticulous collection of language data, as well as his thorough and lucid work on comparative and historical linguistics within Pama-Nyungan.

## 2. Reconstruction, subgrouping and morphology

R.M.W. Dixon's (1997) *The rise and fall of languages* has done much to remind historical linguists that genetic relationships must not be assumed, but must rather be rigorously demonstrated in each case. In areas of prolonged contact between speakers of different languages, we must be careful that apparent similarities are not due to extensive borrowing between otherwise unrelated (or distantly related) languages. Dixon (1997:22) gives a number of well-known morphological characteristics that are unlikely to be borrowed. These are suppletive paradigms (such as *good*, *better*), morphological irregularity (for example, gaps in paradigms and irregular conjugation), and complete paradigms.

Such evidence is used here in the consideration of the genetic status of Karnic as a subgroup of Pama-Nyungan (§4 below) and in the evaluation of the affiliation of a number of the peripheral languages (§5.2). While lexicostatistical evidence will also be briefly discussed, the primary evidence for the genetic classifications presented here is morphological.

## 3. Data survey[5]

Almost all of the languages of the Lake Eyre Basin are now extinct, and some have been extinct for a considerable period of time. There are thus a number of gaps in this classification, due to lack of data. While Diyari has been the subject of detailed field studies by Reuther (1891), Hale (1959), and Austin (1981), some languages are known only through short wordlists from the nineteenth and early twentieth centuries, such as those in Curr (1886–87). Others are simply names on a map.[6] The possibly Karnic languages not included here due to lack of materials are Birria (Pirriya);[7] Pirlatapa;[8] Kungkari and

3 I thank Harold Koch, David Nash, Mary Laughren, and Barry Alpher for many useful comments on earlier drafts of this paper.

4 The intermediate subgroups of Karnic are discussed in detail in Bowern (1998).

5 Much of the data on which the reconstructions are based are unpublished. I am very grateful to Luise Hercus and Gavan Breen for the data (unpublished field notes and personal communications) which they have so freely given me.

6 The situation with the languages in the eastern part of the Lake Eyre Basin is particularly messy. I hope to clear this up at some time in the future.

7 This language should not be confused with the much better known Maric language, Biri, spoken further east.

Kungatutyi;[9] Karendala, Karuwali and Kulumali; Ngandangara;[10] Tereila and Marulta; Bitjara;[11] Karangura;[12] and Wadikali and Karenggapa.[13] Another name which appears frequently in the classifications is Ngurawola. Breen's (1975b) informants analyse this as the Yandruwandha word for uninhabited country (lit. '*camp*-privative'). Alternatively (Howitt 1904:685), the name could be Ngurrawarla ('always-humpy') and referred to a separate group which was absorbed into the Yawarrawarrka.

Table 1 gives the languages considered in this classification, abbreviations, and relevant sources. Dialect clusters for which only one dialect is known well, or whose members are sufficiently similar to one another to be treated together here, are listed under the main dialect.

**Table 1:** Languages and sources

| Language and dialects | Major sources | Abbrev. |
|---|---|---|
| Pitta-Pitta (and Kunkalanya, Rakaya, Karanya, Ringuringu) | Blake and Breen 1971; Blake 1979; Roth 1897 | PP |
| Wangka-Yutjurru (and Talimana, Lhanima) | Blake and Breen 1971; Blake 1979 | |
| Arabana-Wangkangurru | Hercus 1994, n.d. b; Reuther 1891 | Ara |
| Mithaka | Breen n.d. b | Mith |
| Ngamini (and Yarluyandi) | Breen n.d. c; Hercus n.d. e | Nga |
| Diyari (and Thirrari) | Austin 1978, 1981; Reuther 1891 | Diy |
| Yandruwandha (and Yawarrawarrka, Nhirrpi) | Breen 1975a, 1995, n.d. e; Wurm 1958; Bowern 2000; Reuther | Yandr |
| Wangkumara (and Kungadutyi) | Breen 1967, n.d. d; Robertson 1984 | Wang |
| Punthamara | Holmer 1988; McDonald and Wurm 1979; Breen 1967, n.d. d | Pun |
| Garlali | Breen 1967–78; Holmer 1988; Peter Hood pers. comm., March 1999 | Garl |
| Badjiri | Mathews 1905 and n.d.; Breen n.d. a | Badj |
| Malyangapa | Hercus n.d. c; Austin n.d. | Maly |

8 The few recorded sentences are thoroughly examined in Austin (1990b).

9 This is not the Southern Queensland Mari dialect (Breen 1971:31–3; Capell 1963) but a language spoken on the lower Barcoo and Thomson rivers. The small amount of recorded data are analysed in Breen (1990:22–64). Data for Kungatutyi are too uncertain at present to make any further comments.

10 This was said by George Dutton (to Luise Hercus, 1968) and confirmed by the last Garlali speaker, Peter Hood (pers. comm., March 1999), to be a dialect very close to Wangkumara.

11 Again, this should not be confused with the much better known Maric language of the same name (described by Breen 1973).

12 For a thorough analysis of the meagre recorded information, see Hercus (1991) and Austin (1991). From the very few surviving data it would appear to be a dialect of Ngamini.

13 Malyangapa is the only language of this group for which there are enough data suitable for



## 4. Evidence for a Karnic subgroup

Some Lake Eyre languages are always classed as Karnic, while others are deemed Karnic by some authors and excluded from the subgroup by others. These languages and the evidence for inclusion or exclusion will be discussed in §5. More basically, however, it is worth considering the evidence for the existence of a single language ancestral to the modern Karnic languages. If the scenario postulated in Dixon (1997) is correct, then the similarities between the languages of the Lake Eyre Basin could be due to diffusion between languages in contact, and there might never have been a protolanguage. It is therefore necessary to consider the evidence for a genetic subgroup in some detail.

In this section I will present some of the evidence for considering Karnic a genetic subgroup of Pama-Nyungan, and some reasons against viewing the Lake Eyre Basin as a diffusion area with no genetic links. Evidence to be considered here involves features of the languages which they share and which other Pama-Nyungan languages do not share. I will thus present reconstructions which show there to be innovations between proto-Pama-Nyungan (hereafter PPN) and proto-Karnic (PK) (thus implying that there are lexical and morphological innovations which all Karnic languages share). In §4.1 there is also a brief survey of the lexicostatistical data.

### 4.1 Lexicostatistics[14]

According to Dixon (especially 1972, 1997), the typical percentage of common lexical material (under the assumption that loans are counted, together with common inheritances) for languages in a diffusion area is between 40 and 60 per cent (Dixon 1972:331–6). Figures higher or lower than this may indicate either that the period of contiguity has been quite short (something we can rule out if we are assuming large-scale grammatical borrowing) or that the relationship is perhaps a genetic one.

Now, we do not find a figure of around 50 per cent between many pairs of languages spoken in the Lake Eyre Basin, whether Karnic or not (see Table 2). Typically the cognate density (lexicostatistical percentage) is either considerably higher or considerably lower. Consider, for example, the cognate densities of 73 per cent between Diyari and Ngamini, 85 per cent between Yandruwandha and Yawarrawarrka, a mere 7 per cent between Mithaka and (non-Karnic) Warluwarra, and the 21 per cent between Ngamini and (non-Karnic) Malyangapa. Indeed, the great majority of cognate densities which approach the equilibrium level of 50 per cent in Karnic are those for which the data are very meagre, such as for Yandruwandha and Mithaka (50 per cent) and for Garlali and Badjiri (56 per cent). So, almost nowhere in the Lake Eyre Basin do we find lexicostatistical percentages which can be thought to imply a long history of mutual borrowing according to the hypothesis that Dixon (1972, 1997) proposes.

14 The sources for the lexicostatistical percentages presented here are the percentages given in Breen (1971, 1990), using a 100-word list, my own counts from Breen's wordlists, and, for the languages not included in Breen (1971), the additional sources mentioned in Table 1.

**Table 2:** Lexicostatistical percentages[15]

| Warluwara | Warl | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PP** | 7 | PP | | | | | | | | | | |
| **Arabana** | 13 | 35 | Ara | | | | | | | | | |
| **Mithaka** | 15 | 44 | 44 | Mith | | | | | | | | |
| **Yarluyandi** | 8 | 48 | 40 | 75 | Yarl | | | | | | | |
| **Ngamini** | 12 | 35 | 41 | 52 | 74 | Nga | | | | | | |
| **Diyari** | 11 | 20 | 22 | 42 | 65 | 73 | Diy | | | | | |
| **Yandruwandha** | 6 | 37 | 27 | 50 | 67 | 50 | 56 | Yandr | | | | |
| **Wangkumara** | 13 | 20 | 29 | 30 | 38 | 36 | 22 | 38 | Wang | | | |
| Malyangapa | 8 | 16 | 29 | 30 | 21 | 21 | 33 | 22 | 35 | Maly | | |
| Badjiri | 12 | 16 | 18 | 20 | 25 | 26 | 24 | 22 | 26 | 29 | Badj | |
| Marrgany | 9 | 13 | 14 | 13 | 14 | 17 | 16 | 19 | 14 | 14 | 26 | Marrg |

Furthermore, there are a number of well-documented areas where speakers of Karnic languages have had longstanding contact outside the Karnic area (see, for example, the archaeological survey reported in McBryde (1987)). If all similarities between Karnic languages are due to diffusion, we would expect to find a strong correlation between the amount of contact between the speakers of different languages and the number of shared features. Put simply, if Karnic is a linguistic area, the languages that make up Karnic should have a lot in common. The Lake Eyre Basin, however, does not show any significant correlation between contact and linguistic similarity. For example, Arabana-Wangkangurru shares many grammatical features with languages such as Wangkumara (and has a cognate figure of 25%), a language with which Arabana-Wangkangurru speakers would have had very little contact, and yet it shares little with Lower Arrernte (10% cognates, very few grammatical features), where contact has been extensive (Hercus n.d. a and n.d. d).[16]

So, while the evidence from lexicostatistics is by no means conclusive, it should serve as a warning that the relationships in the Lake Eyre Basin might not be simply the result of extensive borrowing between languages, and that there may be some genetic basis for the similarities.

15 Languages names in bold are Karnic. All figures are percentages. Note that some of these figures may be revised when (and if) more accurate data become available. For example, because of gaps in the data, the list for Mithaka contains only 66 items, and these percentages are therefore obviously less accurate than those between well-attested languages.

16 Alpher and Nash (1999:7) propose an equilibrium figure of considerably less than Dixon's 50 per cent, and they note that "equilibrium figures are in general low enough that language classification can proceed using lexicostatistics as a pointer to a first approximation". If we take Alpher and Nash's figures, the lexicostatistics presented in this section are better evidence for a genetic subgroup than they are assumed to be.



## 4.2 Innovations from proto-Pama-Nyungan

### *4.2.1 The lexicon*

Proto-Pama-Nyungan and proto-Karnic differ in the reconstruction of core vocabulary (see Table 3). This is good evidence that there have been innovations between PPN and PK.

**Table 3:** Comparison of PPN and PK lexical reconstructions[17]

| PPN | PK | English | PPN | PK | English |
|---|---|---|---|---|---|
| **kumpu* | **purra* | urine | **pargV* | **paku* | dig |
| **kami* | **kanyiri* | mother's mother | **parnta* | **marda* | stone |
| **kutharra* | **parrkulu* | two | **parnti* | **parthama* | smell |
| **muka* | **pampu* | egg | **patha* | **matha* | bite |
| **nga-* | **thayi* | eat | **purlka* | **pirna* | big |
| **ngalirna* | no category | 1dl.excl. | **tharrV* | **tharrka* | stand |
| **ngatyi* | **kami* | mother's father | **thalany* | **tharli* | tongue |
| **nguna* | **parri* | lie down | **paka* | **paku* | dig |
| **nhu-* | **nguntyi* | give | **partu-* | **karlathurra* | turkey |
| **nhumpVlV* | **nhula* | 2dl | **kurka* | **kimpa* | alive, raw |
| **nyüna* | **ngama* | sit | **pangkarra* | **kalta* | blue-tongue |

The differences in vocabulary include complete replacement of the PPN item (compare PPN **partu* 'turkey', PK **karlathurra*), semantic shift between PPN and PK (compare PPN **kami*, PK **kanyini* 'mother's mother')[18] and minor differences between the two stages (e.g. PPN **paka*, PK **paku* 'dig'; PPN **patha*, PK **matha* 'bite').

### *4.2.2 Morphology*

Better evidence for a strong genetic relationship, however, is innovation in morphology. The reconstructed pronominal paradigms for PK and PPN are an appropriate place to start. The forms are given in Table 4.

17 The sources for PPN lexical reconstructions are Koch (1996); O'Grady (1990); Dixon (1980), and Capell (1963). The source for PK is Austin (1990a). A number of doubtful items have been omitted from both lists. The orthography is that used in Hercus (1994), which is a practical orthography most suited to the phonemic contrasts in Karnic languages. The velar nasal is written *ng*, stops are written as voiceless (except, of course, in the Karnic languages with phonemic voicing contrasts) and there are three rhotics—the trill is written *rr*, the flap *r* and the glide *R*.

18 **kami* is preserved as another kin term, 'father's mother', also reconstructable to PK.

**Table 4:** Comparison of PPN and PK reconstructed pronouns

| | | 1st person | 2nd person | 3 masc | 3 fem |
|---|---|---|---|---|---|
| **Singular** | | | | | |
| PK | Erg | **ngathu* | **nyuntu* | **nhulu* | **nhantu* |
| PPN | | **ngay-DHu*[19] | **ngin-tu* | **NHulu* | **NHantu* |
| PK | Nom | **nganyi* | **nyun* | **nhV* | **nhan* |
| PPN | | **ngay* | **ngin* | **NHu,*[20] **ngu* | **NHan*[21] |
| PK | Acc | **nganha* | **nyuna* | **nhinha* | **nhana* |
| PPN | | **nganha* | **ngin-nha* | **nhunha* | **nhana* |
| PK | Dat | **ngantya* | **nyunku* | **nhuku* | **nhanku* |
| PPN | | **ngay* + GEN/ **ngatyu*[22] | **ngin* + GEN | **nhu* + GEN | **nhan* + GEN |
| **Dual** | | | | | |
| PK | Nom | **ngali* | **nhula* | **pula* | |
| PPN | | **ngali* | **NHuNpalV* | **pula* | |
| **Plural** | | | | | |
| PK | Nom | **ngana* | **nhura* | **thana* | |
| PPN | | **ngana-* | **NHurra* | **THana* | |

Of the pronominal stems, the most divergent is the second-person dual; this form in PK is quite different from that reconstructed for PPN. The first-person singular paradigm also reveals a number of changes between PPN and PK, in particular the PK dative and the nominative cases. Internal reconstruction within PK leads to a reconstruction of the dative form as **ngany-nga*, which is the nominative stem and the proto-Karnic reflex of the proto-Pama-Nyungan locative **-ngga*. The PPN locative became the marker of dative in all pronouns within PK (Bowern 1998:71ff.). This form also shows dissimilation of a nasal cluster, a change which is regular in Karnic (such clusters are not permitted in the phonotactics of almost all the daughter languages).[23] The stages are outlined below:

(1) Stage I: **ngany-nga*
Stage II: **ngany-ka* (dissimilation of nasal cluster)

19 Dixon (1980) reconstructs **ngay-DHu*; Dixon (1991) reconstructs **ngaDHu* and suggests that this reflects an earlier ***ngay-DHu*; obviously **ngaDHu* is almost identical to the form reconstructed for PK.

20 *NH* denotes that the nasal is lamino-dental in the languages with both *nh* and *ny* (and lamino-palatal in the languages with a single laminal series). See Dixon (1970, 1980:153–5). Likewise DH denotes the lamino-dental series in the languages with a phonemic contrast between *th* and *ty*.

21 Dixon (1980) does not explicitly reconstruct a feminine stem. Blake (1991) gives **nyan* as the feminine in the Eastern part of the continent, but see Bowern (1998:158–9) for cognates in Western languages and reasons for considering it of possible PPN antiquity.

22 The first is from Dixon (1980), the second from Koch (1997). *Ngatyu* or a similar reflex is found in many languages surrounding Karnic (see forms quoted in this paper).



Stage III: **nganytya* (assimilation of the nasal+stop cluster)

No etymology of the PK nominative **nganyi* is possible at this time, although the etymology for the dative relies on its existence in PK before the shift of the locative **-nga* to dative meaning.

The stem of the second-person dual, PK **nhula*, is probably related to PPN **NHuNpalV* by syncope of the unstressed syllable (stress at all stages of Karnic is on the initial syllable of the word); clearly is it more likely that this change happened once, in a language which was ancestral to all Karnic languages, than individually, in each daughter language.

This is the best evidence for the existence of a genetic subgroup 'Karnic', since firstly, pronouns are more resistant to diffusion than lexical items (see Austin 1990a:177; Breen 1990:2), and secondly, suppletive paradigms are unlikely to be borrowed (see, for example, Dixon 1997:22).

## 4.3 Irregularities and suppletion in paradigms

While the reconstruction of different paradigms provides evidence for the existence of a 'proto-Karnic', some comment should be made on the validity of such reconstructions. It is possible that the forms could have diffused through the Lake Eyre Basin, giving the appearance of common innovation. However, if such a scenario is assumed for Karnic, we must assume the diffusion of a number of linguistic features which are normally quite resistant to diffusion. This is thus very good evidence that the languages considered to be Karnic are a genetic group and not only a diffusion area. Two features are mentioned briefly here (see Bowern 1998 for others).

The vowel of the third-person masculine singular paradigm shows the same irregularities in many Karnic languages (apart from some dialects which have undergone analogical levelling). The vowel of the stem of the pronoun is *u* in the ergative and *i* in the accusative. The nominative varies between *i*, *u*, and *a*; the original situation is unrecoverable because of analogical levelling in different directions in the daughter languages. Nonetheless, the alternation between the stems *nhu-* and *nhi-* is not found outside Karnic in neighbouring languages such as Malyangapa (ergative *nhundu*, nominative *nhunu*, accusative *nhunha*) and Marrgany (no ergative, nominative *nhula*, accusative *nhungunha*) (Breen 1981:303).

The paradigm of the PK first-person singular is built on a partially suppletive stem. The ergative, nominative and dative are unanalysable forms (**ngathu*, **nganyi*, **ngantya*), whereas the accusative is built on a stem **nga-* (**nganha*). Oblique cases were added to the dative **ngantya*. The forms under consideration are peculiar to the languages considered to be Karnic and do not occur in neighbouring languages (cf. Adnyamathanha ergative **ngathu*, absolutive *ngai*, dative *ngatyu*; Gunya no ergative, nominative *ngaya*, accusative *nganha*, dative *ngatyu*; Kalkatungu ergative *ngathu*, absolutive *ngai*, dative *ngatyi*). The fact that not just single forms but whole paradigmatic relations can be reconstructed and attributed to a set of languages is good evidence for a genetic relationship.

## 4.4 Summary

I have discussed several different types of evidence which support the claim that Karnic is a genetic subgroup. These are inherited irregularities and suppletion in paradigms and lexical innovation. This is not to say that all similarities between Karnic languages are the result of shared genetic inheritance; quite the reverse, for borrowing and calquing have been extensive

in a number of areas, especially between Diyari and Yandruwandha, Yandruwandha and Wangkumara, and Pitta-Pitta and the Warluwarric languages (for evidence and discussion see Bowern 1998). Despite this, however, it has been possible to provide good evidence that Karnic languages share a number of features that are normally resistant to borrowing. Thus the genetic status of Karnic should stand.

## 5. The composition of Karnic

While in the previous section the evidence for Karnic as a genetic subgroup was presented, the exact composition of the group still needs to be discussed. There are a number of languages which have doubtful affiliations to the Karnic group. Various studies have placed these languages in different families: either as subgroups of Karnic, as subgroups of other families, or as groups in their own right. In this section the evidence for each of the controversial languages will be discussed.

### 5.1 Definitely Karnic

There is no space to present the evidence for subgrouping within Karnic; however the family tree is given in Figure 1 (from Bowern 1998). These languages are classed as Karnic in all previous classifications.

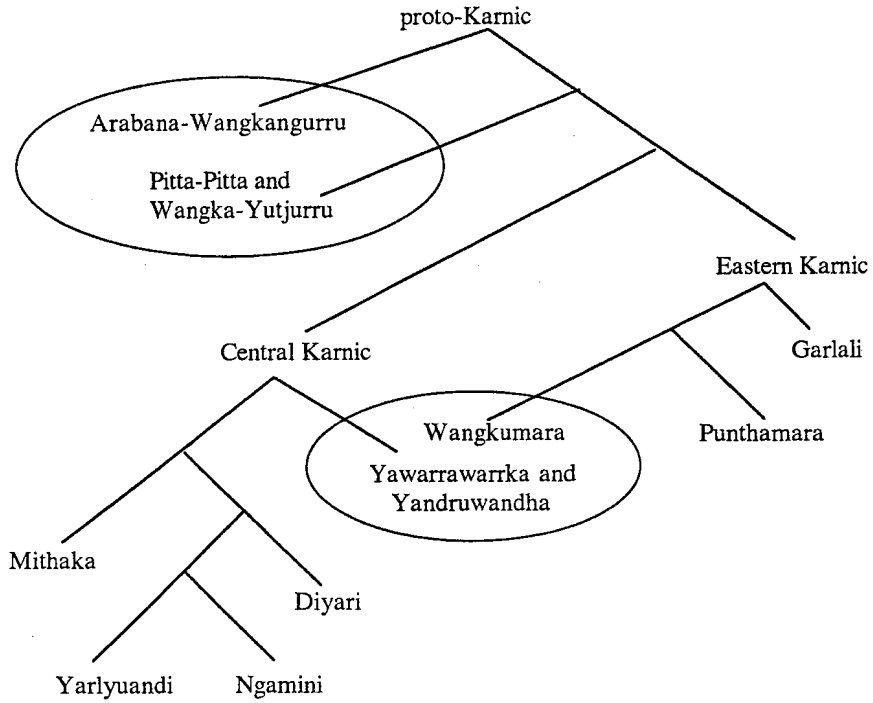



**Figure 1:** Family tree of Karnic



### 5.2 Doubtfully Karnic

#### *5.2.1 The Yarli languages*

The Yarli languages (Malyangapa, Wadikali, and Yardliyawara) were spoken immediately to the south-east of the main Karnic group, contiguous with Pirlatapa, Yandruwandha and Wangkumara. The main sources of grammatical information on them are Austin (n.d.) and Hercus (n.d. c). These languages are deemed part of the Karnic group by Walsh and Wurm (1981), following Wurm (1972) and O'Grady, Voegelin, and Voegelin (1966). A comparison of the morphology of these languages with that reconstructed for Karnic (as well as a comparison with modern Karnic languages) shows that while Yarli languages appear to share some features with Karnic languages, there are many fundamental points of difference (elaborated in Bowern 1998:30ff.). Table 5 lists these.

**Table 5:** Comparison of Yarli languages and proto-Karnic

| | **Malyangapa** | **proto-Karnic** |
|---|---|---|
| Nominal dative | *-dha* | **-ku* |
| Pronominal dative | *-dha* | **-nga* |
| Locative | *-nga* | **-la* |
| Ablative | *-dyali* | **-ngu* |
| 3sg pronoun | *nhu-* | **nhan* (fem), **nhu* (masc) |

Malyangapa does not share the shift of the locative case to the dative in pronouns, a change which occurs in all Karnic languages. In fact, Malyangapa's dative (which covers the function of the genitive) is different from the dative in Karnic languages. The ablative is not based on an allomorph of the ergative. This is a trait shared by all Karnic languages and results from a very early (common Karnic) sound change in which homorganic nasal+stop clusters were reduced to a nasal when preceded by an unstressed syllable. This resulted in the homophony of the ablative (PK **-ngu* < PPN **-ngu*) and the ergative (PK **-ngu* < PPN **-ngku*). Many languages conflated the ergative and ablative cases, but others preserve one allomorph of the ergative (although not necessarily a reflex of **-ngu*, the source of the homophony) as an ablative (cf. Arabana-Wangkangurru ablative/ergative *-ru*). Yarli languages show no signs of any of these changes. They also show no trace of gender (other Karnic languages either have masculine and feminine third-person singular pronouns or can be shown to have lost them recently). Finally, Yarli languages do not share the irregularities in the paradigm of the third-person singular (cf. the forms quoted in §4.3 above).

Where these languages show similarities to Karnic languages, these similarities are also found in many other parts of the country. Some of these similarities include the interrogatives *minha* 'what' and *waRa* 'who'. There seems to be no immediate connection between Yarli languages and the languages of the rest of the Lake Eyre basin. One feature which Malyangapa does share with Karnic is the suppletive first-person singular paradigm *ngadhu, nganyi, [nganyinha], [nganu]* (compare the widespread PPN nominative **ngaya*). This may indicate the existence of an intermediate subgroup between PPN and PK which includes the Yarli languages. However, there are sufficiently many innovations shared by the rest of Karnic, which do not include Yarli languages, that there are good reasons for excluding Yarli from a Karnic subgroup.

### *5.2.2 Garlali*

The name 'Garlali' (also known in the literature as Kalili or Kullila) has been used to refer to a number of different languages once spoken in the far south-western corner of Queensland. Part of the confusion lies in the doubt as to the placement of Wangkumara and Garlali country (see Breen 1971:12). No doubt there was frequent interaction between Garlali and Wangkumara speakers. For example, Charlie Phillips, the informant for McDonald and Wurm's (1979) grammar, was bilingual in Punthamara and Garlali (he was a Punthamara or Wangkumara man but grew up in the area of Thargomindah, in modern Garlali country). He had a preference for speaking Punthamara, and would do so even when asked for sentences in Garlali.[24] Confusion as to the language spoken in elicitation has led to a number of different descriptions of Wangkumara and Garlali being published under the wrong names.

McDonald and Wurm's (1979) *Basic materials in Wangkumara (Garlali)* is probably neither Wangkumara nor Garlali, but Punthamara. Holmer (1988) contains data on both Punthamara and Garlali; his Punthamara is very close to the language described by McDonald and Wurm (1979) while the Garlali accords with that recorded by Breen (1973/1974) and Bowern (1999). This is the correspondence of languages to data used in this study (for further justification and comparison of forms within the sources see Bowern 1998:33ff.).[25]

Wangkumara and Garlali have a considerable amount of grammatical material in common, and show a number of common innovations. Garlali also differs from its nearest neighbour for which data are available, that is, Badjiri (data from Mathews (1905)). Compare the forms shown in Table 6.

**Table 6:** Comparison of assorted grammatical items in Badjiri, Garlali, proto-Karnic and proto-Eastern-Karnic[26]

| Form | Wangkumara | Garlali | proto-Eastern-Karnic | Badjiri |
|---|---|---|---|---|
| 3dl nom | *pula* | *pula* | **pula* (PK **pula*) | *punipula* |
| Case split in 3dl | erg, nom, acc | erg, nom, acc | erg, nom, acc (PK erg, abs) | erg, abs |
| 1sg nom | *nganyi* | *nganyi* | **ngayi* (PK **nganyi*) | *ngayi* (PPN **ngay*) |
| 3sg nom | *nhu-* (masc) | *nhu-* (masc) | *nhu-* (masc) | *kuninha* |
| nominal acc | *-nha* | *-nha* | *-nha* (PK **ø*) | *-ø* |

24 Hence the title of the book—*Basic materials in Wangkumara (Garlali)*. This has been confirmed by the last speaker of Garlali, Mr Peter Hood (pers. comm., March 1999).

25 Gavan Breen has recently shown me data he recorded from a language which his informants called "Garlali" (part of Breen 1967–78). These data are quite different from other Garlali in Breen (1967–78), from what Holmer (1988) recorded, and from the 'Garlali' material Luise Hercus and I collected from Peter Hood in 1999. It seems that we face the same situation for Garlali that exists for several other languages in the region, including Wangkumara and Kunggarri—that is, there are two quite distinct languages, spoken in approximately the same area, with the same name. More work is required on the linguistic situation in this area and the classification of 'Garlali' may later need to be changed.

26 This is the intermediate subgroup of Karnic which also includes Wangkumara and Punthamara.



| Form | Wangkumara | Garlali | proto-Eastern-Karnic | Badjiri |
|---|---|---|---|---|
| locative | *-langa* | *-nga* | *-nga* (nom), *-la* (pronom) | *-la* |
| nominal erg | masc *-ngu*, fem *-ndru* | *-ngu* | masc *-ngu*, fem *ind(r)u* | *-lu* |
| nominal dat | *-nga* | *-nga* | *-nga* (PK **-ku*) | *-ku* |
| nominal nom | marked for masculine and feminine | marked for masculine and feminine | juxtaposition of pronouns to mark definiteness (see Bowern 1998:48ff., 104ff.) | *-ø* |

These items were selected because they are uncontroversial in both Garlali and Badjiri (both languages are very incompletely described and these were almost the only forms which were attested unequivocally in both languages).

Thus it appears that we can not only group Garlali within Karnic but we can also state the subgroup. Garlali appears quite closely related to Wangkumara and part of the Eastern Karnic subgroup. It is possible, of course, that very heavy borrowings from Wangkumara into Garlali, or vice versa, could have obscured original differences. Very detailed reconstruction (or further data) may reveal that Garlali has closer affinities to language groups other than Karnic; for the moment, however, that Garlali shares suppletion and morphological similarities with Wangkumara suggests that it is correctly included in the Karnic subgroup.

### *5.2.3 Badjiri*

Badjiri was spoken immediately to the east of Garlali. Data on Badjiri are from Mathews (1905) and Breen (n.d. a). Badjiri is included as Karnic by Breen (1971) and by Walsh and Wurm (1981). The grammatical data in Mathews (1905) are ambiguous. His orthography is not phonemic and can be difficult to interpret. The sketch grammar cites few forms—full tables are not given, although on several occasions it is mentioned that other forms have been reported. Mathews' field notes are often illegible and also differ in places from the published material.

Badjiri's most revealing nominal comparative data have already been presented in Table 6, and the classification of Badjiri can be given little further comment. If Badjiri is a Karnic language, it is not an Eastern Karnic language. Badjiri also shares little (if any) verbal morphology with other Karnic languages. Compare, for example, the present *-na* (PK **-yi*). While it seems that Badjiri shares little morphology with its Karnic neighbours and should not be classed as Karnic, given the lack of available data this must be considered a highly tentative classification.

### *5.2.4 Arabana-Wangkangurru*

Austin (1990a) is thus far the only author to propose that Arabana-Wangkangurru is not part of the Karnic subgroup. His reasons are based on the fact that Arabana-Wangkangurru shares none of the innovations from PPN that he reconstructs for PK. If Austin's reconstructions are correct, then there is indeed good reason to doubt the Karnic affiliation

of Arabana-Wangkangurru. The reconstructions in Bowern (1998), however, differ considerably from those in Austin (1990a). Table 7 lists some of the forms of major difference.[27]

**Table 7:** Comparison of reconstructions given in Austin (1990a) and Bowern (1998)

| Gloss | Austin | Bowern |
|---|---|---|
| 3sg masc nom | **nhawu* | **nhu* |
| 3sg masc dat | **nhungkarni* | **nhuku* |
| 3sg fem nom | **nhani* | **nhan* |
| 1pl inc nom | **ngandra ~ *nganta* | **ngana* |
| 1sg dat | **ngaka-* | **ngantya* |
| loc | no reconstruction | *la ~ nga* |
| erg | *li ~ ntu* | *lu ~ ngu* |
| dat | *-ngka* | *-nga* |

Austin's primary evidence for not including Arabana-Wangkangurru as Karnic is the resemblances of the pronouns. Arabana-Wangkangurru does not mark the first-person singular dative with reflex of a stem **ngaka-*, a stem which Austin (1990a:183) reconstructs to PK. Also, there is no distinction in gender in the third-person singular in Arabana-Wangkangurru. However, the dative stem *ngaka-* is an innovation in the Central Karnic languages (Diy, Nga, Yarl, Mith, Yandr); it does not occur in Pitta-Pitta, Wangka-Yutjurru, Wangkumara, or Garlali. These languages (along with Arabana-Wangkangurru) reflect an earlier stem **ngantya*, while **ngaka-* has been shown in Bowern (1998:71ff.) to be result of phonological and analogical changes within the dative pronominal paradigms. Thus this is not convincing evidence on which to exclude Arabana-Wangkangurru from Karnic. While Arabana-Wangkangurru has no gender distinction in its third-person singular pronouns (along with the Karnic language Wangka-Yutjurru), this is not a convincing reason to exclude Arabana-Wangkangurru from Karnic either. The third-person singular in this language is based on an invariant stem *uka-*; this stands out within Arabana-Wangkangurru because most of the pronominal paradigms in this language involve some degree of stem suppletion or fusion. In Bowern (1998:160ff.) it is argued that this form is a recent innovation and that the old third-person pronouns, including remnants of a feminine stem **nha(n)*, are preserved in deictic demonstrative stems.

Moreover, Arabana-Wangkangurru appears to have participated in a number of changes which are reconstructed to proto-Karnic. Arabana-Wangkangurru shares the change of the PPN locative **-ngka* (> PK **-nga*) to mark dative in pronouns; this triggered a number of radical sound changes in the paradigms of pronouns with stems ending in nasals and is the cause of the first-person singular dative **ngantya* (Arabana-Wangkangurru *anth-*; see example (1) above). Arabana-Wangkangurru has also undergone some grammatical restructuring as the result of PK sound changes (such as the reduction of nasal–stop clusters

[27] There is in Austin (1990a) no justification or explication of the relative chronology of the changes which are reconstructed, and no justification of these reconstructions. Austin does not show how any of the reflexes in the daughter languages provide support for his reconstructions, nor does he comment



mentioned in §5.2.1 above). Finally, Arabana-Wangkangurru has three rhotic phonemes [ɾ], [r], and [ɻ], a remnant of a distinction in voicing between the apical stops [t] and [d] in PK (Austin 1990a; Bowern 1998:43–4).

Thus Austin's (1990a) arguments against the inclusion of Arabana-Wangkangurru in Karnic are not convincing: Arabana-Wangkangurru is a part of the Karnic subgroup.

## 6. Conclusions

The composition of the Karnic subgroup of Pama-Nyungan presented here is not precisely identical to any previous classifications. If differs from the studies of the 1960s such as O'Grady, Voegelin, and Voegelin (1966) in excluding the Yarli languages and Badjiri, but it is also more inclusive than Austin's (1990a) classification, which omits Arabana-Wangkangurru and Garlali.

Part of the difference in classification is a result of the type of material used; this study has relied heavily on morphology (especially nominal and pronominal), the sharing of suppletive and irregular paradigms and similarities between forms in whole paradigms, and the relative chronology of changes.

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