

The Death of ‘Prefixing’: Contact Induced Typological Change in Northern Australia

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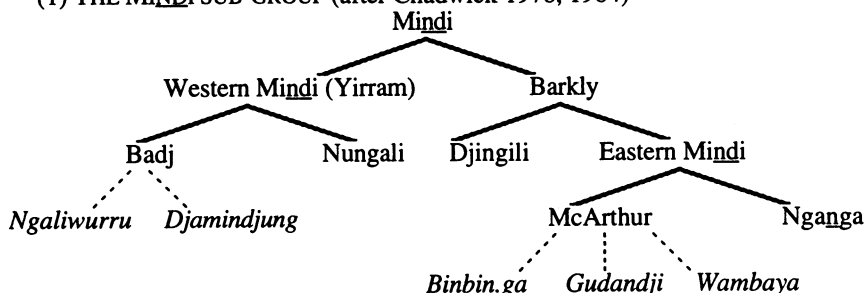
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**The death of 'prefixing':
contact induced typological change in northern Australia**
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1. THE MINDI LANGUAGES. The Mindi languages of northern Australia present the socio-historical linguist with an intriguing picture of typological diversity. Consisting of five modern languages, the Mindi varieties are a genetic unit, forming a sub-group of the Australian language family. (The sub-group takes its name from the form of its innovative first inclusive dual pronoun, *mindī*, reflected in all daughter languages). The Mindi sub-group is geographically discontinuous. To the west is the 'Yirram' or 'Western Mindi' branch, made up of two languages: Badj (with dialects Djamindjung and Ngaliwurru) and Nungali. More than 200 kilometres to the east, and separated from the Yirram bloc by the Wardaman and Mudburra languages, is the 'Barkly' branch. This consists of Djingili, Nganga and a chain of three dialects, Binbin.ga, Gudandji and Wambaya, making up the so-called 'McArthur' language¹. Genetically the Barkly branch divides in two; Djingili makes up one sub-branch, while Nganga and McArthur make up the other, referred to here as 'Eastern Mindi'. (1) below gives the structure of the Mindi family tree², while the Appendix presents a map showing the geographic position of the Mindi languages within central northern Australia.

(1) THE MINDI SUB-GROUP (after Chadwick 1978, 1984)



Evidence for the close genetic linkage of the Western Mindi and Barkly blocs comes not primarily from lexical comparison, lexical diffusion in the region having obscured somewhat the genetic picture. Wambaya, for example, has only 17% cognate vocabulary with its close relative Nungali, but scores 35% with its eastern neighbour Garrwa. Similarly, Djingili has a mere 9% of its vocabulary in common with Ngaliwurru, compared to 28% with its southern neighbour Mudburra. The major evidence for the genetic unity of the Mindi languages is, rather, morphological. Recognition of this is due to Chadwick (1984), who set out the correspondences in pronominal paradigms and nominal class markers between Western Mindi and Djingili, and identified a number of cognate innovations from proto-Australian that established the sub-grouping. While Chadwick's analysis focussed on Djingili, largely to the exclusion of the other Barkly languages, his arguments have subsequently proved extendable to Eastern Mindi, and the overall Mindi sub-grouping is now uncontroversially accepted by Australianist scholars (cf. Dixon et al to appear (b)). Surprisingly, however, no detailed reconstruction

that would reveal the character of the proto-language has been attempted. But this remains an urgent task, since the Western *Mindi* and Barkly blocs exhibit a striking typological difference. For while the Western *Mindi* languages are 'prefixing' in nature, the Barkly varieties are, on the other hand, to be regarded as 'suffixing'.

2. *MINDI* TYPOLOGICAL DIVERSITY: PREFIXING VS. SUFFIXING. There are two major respects in which the Western *Mindi*'s are prefixing³ languages. Firstly, their verbs are formed with pronominal prefixes. Verbs in the Western *Mindi* languages are typically composed of a non-inflecting main verb stem followed by an 'auxiliary', which constitutes a separate phonological word. The auxiliary consists of a sequence of pronominal and mood prefixes to an auxiliary verb stem (AVS) which is itself inflected for various tense categories. The prefixed pronominals index core participants: intransitive subject (S), transitive subject (A) and object (O). The mood prefixes mark the imperative, irrealis positive and irrealis negative categories. The auxiliary verb has a semantic classificatory function, indicating the action-type class to which the verb belongs. Each of the Western *Mindi* varieties has of the order of 20 of these verbal classifiers, ranging over intransitive (e.g. 'sitting', 'standing', 'coming', 'going', 'be in the process of burning') and transitive (e.g. 'handling', 'seeing', 'hitting', 'telling') action types.

(2) WESTERN *MINDI* VERB STRUCTURE:

VERB --> Main Verb Stem # Auxiliary

AUX --> ({ Irrealis Neg }) - S/A -(O) - (Irrealis Pos) -AVS.Tense
Imperative

e.g. Nungali (Bolt, Hoddinott and Kofod 1971b):

ngilidjga wa -wu -rrum -am
cry 3sgS Irr Pos come Future
He will be coming crying.

Secondly, the Western *Mindi* bloc exhibits prefixing in its nominal noun-class marking. Synchronically this is found only in Nungali. Nungali has four noun classes, essentially masculine, feminine, vegetable, and residue. Noun class membership is primarily marked by concord, with obligatory prefixes on NP modifiers (e.g. adjectives, possessive pronouns, numerals) as well as demonstratives. There is also lexically specified class marking of noun stems themselves, prefixes being obligatory for some noun stems, optional for some and proscribed for others. The noun class prefixes vary for a three way macro-case opposition of Ergative/Locative/Instrumental vs. Absolutive vs. Dative/Oblique. This macro-case opposition is supplemented by a system of suffixal case-marking which is invariant for noun-class:

(3) *NUNGALI* CLASS-CASE PREFIXING (Bolt, Hoddinott and Kofod 1971b)

Masculine Absolutive	<i>di-nad du-ngunin</i>	big man
Masculine Ergative	<i>nji-nad nji-buri</i>	big dog
Masculine Oblique	<i>giya-malin giya-ngara</i>	for the good kangaroo
Feminine Absolutive	<i>nja-nad nja-ngarung</i>	big woman
Feminine Ergative	<i>nganji-nad nganji-ngarung</i>	big woman
Feminine Oblique	<i>ganji-malin ganji-yilgin</i>	to the good mother

Body-part terms are distributed among the four classes. For those body part terms that belong to the vegetable and neuter classes there is a second order class marking, whereby a morpheme denoting the gender of the possessor follows the initial class-case prefix. These morphemes do not vary for case, and have the form *ya* masculine and *na* feminine. Thus compare *mi-ya-luwal* vegetable:Absolutive-

masculine-knee '(his) knee' with *mi-na-luwal* vegetable: Absolutive-feminine-knee '(her) knee', and *ni-ya-man.ga* neuter: Absolutive-masculine-ear '(his) ear' with *ni-na-man.ga* neuter: Absolutive-feminine-ear '(her) ear'

In place of the Western *Mindi* auxiliary, consisting of pronominal and tense-mood prefixes to an auxiliary verb stem, the Barkly languages have an auxiliary which is described (e.g. Chadwick 1975, 1978; Nordlinger 1993) as consisting of just a sequence of bound pronominals and tense-aspect-mood (TAM) morphemes. A generalised structure for this Barkly auxiliary is given in (6) below. (Note that not all languages have all the TAM marking options shown in the formula.) In Djingili this auxiliary is a suffix to the main verb stem. In Eastern *Mindi* it is a second position enclitic, following either the first word or the first constituent of the clause. In Wambaya, for example, this enclitic behaves phonologically as a suffix when mono-syllabic, and as a separate word (i.e. as a separate stress domain) otherwise. And in contrast to the twenty or so action-type categorising auxiliary verbs of the western bloc, the Barkly unit varies in form according to just a three-way directional opposition, determined by whether the speaker construes, and wishes to mark the action as, accomplished with motion towards the speaker, or with motion away from the speaker, or as motion-neutral. But there is no systematically segmentable auxiliary verb root associated with this categorisation; in fact there is no morphological head in this unit at all (Nordlinger 1993:162-164), the motional categorisation being effected not via a discrete morpheme but rather through variation in the form of the final TAM affixes.

(4) BARKLY GENERAL VERB STRUCTURE

AUX --> { Neg Interrogative Future
Imperative
Past } - S/A - (Future) -(O) - TAM.Direction

(5) e.g. Djingili (Chadwick 1975)

(a) *ngadja -ni -mind -dju*
see 3sgA 1Inc dIO Pres neutral
He's watching you and me.

(b) *ngadja -ni -mind -djiimi*
see 3sgA 1Inc dIO Past towards
He came and saw you and me.

(c) *ngadja -ni -wurr -adu*
see 3sgA 3plO nonPast away
He's going to see them.

(6) e.g. Wambaya (Nordlinger 1993)

iligiirri -nmandji ngurr -uba yarru
river ALLATIVE 1Inc pl S nonPast away go/come
We're all going down to the river.

Class marking strategies in the Barkly group provide an even starker typological contrast with the Western *Mindi* branch than do verb structures. Semantically, the Barkly languages in this respect align closely with Nungali, all possessing a matching set of masculine, feminine, vegetable and neuter classes. And the Barkly's noun class markers also show macro-case oppositions, although here the opposition is primarily a two-way absolutive vs. non-absolutive contrast, and less frequently involves a division of the non-absolutive into ergative and dative type categories in the same way that Nungali regularly does. The outstanding difference, though, is that in the Barkly class-case marking is not generally effected through

prefixes, but rather by suffixes. Class-case suffixing is obligatory for head nouns and NP modifiers, as illustrated by the Wambaya data below⁴.

(7) WAMBAYA CLASS-CASE SUFFIXING (Nordlinger 1993)

	Absolutive	non-Absolutive	
Masculine	<i>bungmadj-dji</i>	<i>bungmadj-ni</i>	old man
Feminine	<i>bungmadj-na</i>	<i>bungmadj-nga</i>	old woman
Vegetable	<i>manugudja-ma</i>	<i>manugudja-mi</i>	conkerberry fruit
Residue	<i>bagi-ga</i>	<i>bagi-gi</i>	big

But there is one major exception to suffixal class-case marking in the Barkly group. Unlike other nominal constituents, the demonstratives of the Eastern *Mindi* branch regularly effect their noun class-case marking by applying prefixes to the stem. The class-case demonstrative prefixes are largely identical to the regular nominal suffixes, as can be seen by comparing the final syllables of the Wambaya data in (7) with the initials in (8):

(8) WAMBAYA REMOTE DEMONSTRATIVE: PREFIXES+STEM (Nordlinger 1993)

	Absolutive	Ergative/Locative	Dative
Masculine	<i>i-ni-yaga</i>	<i>ni-nki-yaga</i>	<i>ni-nagi-yaga</i>
Feminine	<i>na-ni-yaga</i>	<i>nga-nki-yaga</i>	<i>nga-nagi-yaga</i>
Vegetable	<i>ma-mi-yaga</i>	----	----
Residue	<i>ya-ni-yaga</i>	----	----

Some demonstrative forms and adjectives with demonstrative-like discourse functions ('one', 'different', 'other') in Djingili also have some class marking by prefix, although these show no variation for case (Chadwick 1984:25).

3. THE *MINDI* LANGUAGES IN AREAL PERSPECTIVE. The Western *Mindi* and Barkly groups (as diagrammed in the Appendix) sit on opposite sides of the 'prefixing' boundary. The Western *Mindi* group has non-prefixing languages to its south, and prefixing languages on all other sides. The Barkly group has prefixing languages on its northern borders, but is otherwise surrounded by suffixing-only languages. Now the distinguishing feature of all languages categorised as prefixing is that they possess structures in which bound pronominals attach to and precede a verbal element; this element may be either a main verb stem or some type of auxiliary verb. These bound pronominals have the phonological status of prefixes; the verbal element is typically segmentable as a separate morpheme, and is usually TAM inflected. But it is not the case that a post-prefixal verbal element can be universally extracted in the prefixing languages, there being some tendency for auxiliary verb stems to fuse with TAM affixes into a synchronically non-segmentable unit. The Barkly languages can thus be viewed, as per Blake's (1990) reclassification, as aberrant prefixing languages; that is, they are 'prefixing' in that they attach bound pronominals to a following portmanteau morpheme which has both TAM and, insofar as it classifies the verb for a three-way motional contrast, auxiliary verb-like functions. But they are aberrant in respect of the status of their auxiliaries. Djingili is marginally so, in that its auxiliary (except in its simple verb function) is a series of suffixes to the main verb stem rather than a separate phonological word. The Eastern group is more strikingly so; while Djingili has its main verb stem and auxiliary juxtaposed, as have all the prefixing languages proper, the Eastern group has its auxiliary as a second position clitic, thus allowing it (given that word order is free) to be dissociated from the main verb stem. Note that the Barkly languages also diverge from the prefixing bloc in general in having

only three auxiliaries, prefixing languages typically having auxiliary inventories at least five to six times larger (Dixon et al to appear (a)).

It is the attachment of pronominals to a following auxiliary verb-like (i.e. verb classifying) element which can be seen as a critical feature that distinguishes the Barkly group from its non-prefixing neighbours, which otherwise have structures analogous to those of the *Mindi* group. For example, while Mudburra (McConvell 1980) also has bound pronominals, these are enclitics rather than proclitics or prefixes. Mudburra bound pronouns may follow verb stems, or they may suffix to a base morpheme that has some TAM function, thus replicating the initial [TAM - Bound Pronoun] sequence of the *Mindi* auxiliary. In addition Mudburra, in a manner reminiscent of the verbal classification of Western *Mindi*, constructs its verbs by combining non-inflecting verb stems with one of about thirty TAM marked auxiliary verbs. But the bound pronominals and auxiliary verbs remain discrete grammatical elements, and there is no systematic preposing of the former to the latter.

Equally, Warumungu (Simpson and Heath 1984) and Garrwa (Belfrage 1992) both show some TAM suffixation or encliticisation of pronouns. And both have a type of verbal classification, described as a verbal category of 'associated motion' (Koch 1984), which is semantically similar to that found in the Barkly group. Garrwa can mark actions performed 'while in action' with a serial construction that postposes the root *djila* 'go' to the main verb. Warumungu has four motional categorisations: motion away, motion towards, start-of-motion and an unmarked motion neutral. As in Garrwa, these are categories that are marked on the verb, in this case as suffixes. As in Mudburra, neither Garrwa nor Warumungu tie their bound pronouns to following main or classificatory verbal elements.

From an areal perspective it is also the Barkly rather than the Western *Mindi* group which in respect of its class marking is exceptional. Class marking is an areal feature of Australia's central north, found over a region that covers a large portion of the prefixing bloc and extends into the Barkly group and south-east into Wagaya. In this region only the Barkly group and Wagaya, together with the Jarrakan languages to the immediate west of Western *Mindi*⁵, encode class membership with suffixes rather than prefixes. And class suffixing in Wagaya is best explained as a recent acquisition from the neighbouring Barkly languages (Brammall 1991).

The recognition of the sub-grouping of Western *Mindi* and Barkly thus raises challenging historical questions as to the nature of proto-*Mindi* and the consequences of language contact. Was proto-*Mindi* prefixing, and has the Barkly group reorganized its structures in the suffixing mold under the influence of its more southerly neighbours? Or was proto-*Mindi* suffixing, the Western branch then developing its character - placing bound pronominals in front of classifying verbs and acquiring class prefixes - through diffusion from the north? And what sort of verbal classification did it have: a system like the twenty or so action-type categories of the contemporary Western languages, or something more like the three-way directional opposition found in the Barkly⁶?

4. **PROTOMINDI AS A PREFIXING LANGUAGE.** In respect of verbs, all the comparative evidence points clearly to proto-*Mindi* having been a prefixing language, that is, one that attaches bound pronouns prior to verbal stems. While reconstruction of the proto-*Mindi* verb is naturally a lengthy task well beyond the scope of this paper, the following are for our purposes the critical points in the enterprise.

(a) Firstly, as implicit in Chadwick (1984), proto-Mindi had at least singular bound pronominals. That is, we can reconstruct fairly confidently the major portions of the free and bound pronominal paradigms of the proto-language; the reconstructable singular bound paradigms include forms distinct and not derivable from the equivalent free forms. For example, as illustrated below, **nganjdjV* is the proto-Mindi second singular bound A form, but **Nami* (where *N = n* or *nj*) the second singular free stem. Similarly, **(ng)ana* is the first singular bound O, but **ngarrgu* the first singular free form that had O function in the proto-language.

	Djamindjung	Djingili	Binbin.ga	proto-Mindi
2 sg A bound	<i>nganhdh</i>	<i>nganjdja</i>	<i>(nj)djV</i>	<i>*nganjdjV</i>
2 sg A free	<i>nami</i>	<i>nama-njama</i>	<i>njami</i>	<i>*Nami</i>
1 sg O bound	<i>an</i>	<i>ana</i>	<i>ng</i>	<i>*(ng)ana</i>
1 sg O free	<i>ngarrgu</i>	<i>ngarru</i>	<i>ngarri</i>	<i>*ngarrgu</i>

(b) Secondly, as noted in Chadwick (1984), the auxiliary-initial imperative markers of Western Mindi and Djingili are cognate, and reconstructable for the proto-language as **ba*. This imperative marker has been lost in the Eastern group, where imperative singular goes unmarked, and imperative non-singular employs the regular second person bound pronominal forms.

(10) AUXILIARY INITIAL IMPERATIVE AFFIXES

	Djamindjung	Djingili	Wambaya	proto-Mindi
2 sg	<i>ba</i>	<i>wa- Ø</i>	<i>Ø</i>	<i>*ba</i>
2 dual	<i>ba-wunj(i)</i>	<i>wa-nju</i>	<i>gul</i>	<i>*ba-wunji</i>
2 plural	<i>ba-wurru</i>	<i>(w)a-rru</i>	<i>girr</i>	<i>*ba-wurru</i>

One further auxiliary-initial TAM marker appears to be shared between the Western and Barkly groups. For example, Binbin.ga has an auxiliary-initial *yi* which marks interrogative future negative (Chadwick 1978), and which would appear to be cognate with the *nja-ya* auxiliary-initial morpheme found in the Western group, and which has a general future negative function.

(c) Thirdly, as Nordlinger (1993:285) has demonstrated, a number of the TAM-direction affixes of the Barkly auxiliary show correspondences with the intransitive auxiliary verbs of the Western branch. For example, Nganga has an element *agba* in its habitual past motion-neutral affix. Djingili has a likely cognate form *aga* as its motion-neutral past. Within the array of Barkly TAM-direction affixes both Nganga *agba* and Djingili *aga* are irregular. A potentially cognate *gagba* is also found, again as an irregular form, within the Western branch, where it appears as the suppletive past tense of the auxiliary verb 'be' in Djamindjung. Nordlinger notes that similarly the Wambaya past motion-away affix (*g)anj* is likely to be historically related to the Djamindjung past tense form *ganj* of the verb 'go'. Equally, the Wambaya habitual motion-neutral past *adji*, presumably derives from *yadj*, the irrealis form of the Djamindjung auxiliary verb 'be'. It is also likely that the Djingili motion-away affixes in *rrV* are cognate with the Djamindjung AVS *rrum* 'come', the opposing orientations in the two branches resulting from differing directional interpretations of an originally directionally unmarked motion verb⁸.

(d) Points (a) to (c) above together establish proto-Mindi as a language with a sequence of TAM and pronominal affixes that preceded two or three motional and copular verbs. There are no apparent correspondences for any of the Western transitive verbs. However, the Western transitive set includes a number of auxiliary verbs found widely in northern Australia, and which are most likely part of an ancestral set of classifying or compounding verbs; it is most unlikely that this set as a whole has diffused, both in form and function, over the northern Australian

region (Dixon et al to appear (a)). Ancestral transitive stems reflected in the Western *Mindi* classifier set include *wandja* 'take', *wa* 'bite', *injdi* 'eat', *yada* 'spear', *ma* 'have', *rra* 'handle' and *unggum* 'say'. Despite the lack of cognates in the Barkly branch, we can conclude, then, on the basis of a top-down reconstruction, that proto-*Mindi* had at least nine or ten auxiliary verbs. And although there is evidence in the Barkly group of only intransitives being pronominally prefixed, the simplest scenario is that all the auxiliaries of proto-*Mindi* were prefixed, and that in the Barkly the original transitive inventory has undergone wholesale deletion. This scenario is consistent with the typology of the modern prefixing languages, since no prefixing languages have prefixing for some of their classifier verbs, but not for others. A prefixing origin is the only plausible way of accounting for the consistent association of the bound pronouns with TAM-verbal classificatory morphemes in the Barkly auxiliary, since these morphemes are not systematically linked in any of the surrounding languages, such as Mudburra and Warumungu, to which we would look to provide precedents for any model of a non-prefixing proto-*Mindi*. On the other hand, a scenario that had proto-*Mindi* with the structure of Mudburra, for example, would require coincidental changes in both the Western and Barkly groups, each branch independently locking its inherited Mudburra-like [TAM - Bound Pronoun] sequence into a position prior to the auxiliary verb, and each preserving no trace of the original separability of the combined elements.

Turning to the matter of noun-class marking we find the character of proto-*Mindi* more difficult to access. Comparison of the data across the two *Mindi* branches permits reconstruction of only a partial set of proto class markers, as shown in the comparison of the Nungali (Bolt, Hoddinott and Kofod 1971b) and Wambaya (underlying forms from Nordlinger 1993) affixes in (11) below. Only a two-way, absolutive vs. non-absolutive, contrast is formally reconstructable, dative forms not showing clear cognates and being excluded from (11). Reconstruction of the proto absolutive set proceeds, except for the vegetable class, from recognition of the formal correspondence between the second syllable of the Nungali concordial form and the Barkly form. This procedure follows that of McConvell (1985). It assumes that there were innovations in the Nungali system which saw masculine, feminine and neuter absolutive markers (*di*, *nja*, and *nV* respectively) simply added to the original set. That the *ya* and *na* in the masculine and feminine agreement markers of Nungali had previous status as separate morphemes is supported by the existence of the *ya* masculine and *na* feminine second-order marking for possessor of vegetable and neuter class body parts (as discussed under example (3) above). And the absence of these second syllables from the prefixes for noun stems suggests that NP-head prefixing could itself have been a Nungali innovation, one which accompanied the innovation of the new absolutive prefixes, and which saw these newer prefixes applied to the head along with the non-absolutive prefixes from the concordial set.

(11)	Masculine	Feminine	Vegetable	Neuter
Nungali Abs (nouns)	<i>di</i>	<i>nja</i>	<i>ma</i>	<i>nu</i>
Nungali Abs (adjectives)	<i>di(ya)</i>	<i>nja(na)</i>	<i>ma, mi</i>	<i>nu(wa), ni(wa)</i>
Wambaya Abs	<i>dji, yi, i, Ø</i>	<i>na</i>	<i>ma</i>	<i>ga, wa, Ø</i>
p <i>Mindi</i> Abs	<i>*djV</i>	<i>*na</i>	<i>*ma</i>	<i>*ga</i>
Nungali Erg	<i>nji</i>	<i>nganji</i>	<i>mi</i>	<i>wunji</i>
Wambaya non-Abs	<i>ni</i>	<i>nga</i>	<i>mi</i>	<i>gi</i>
p <i>Mindi</i> non-Abs	??	<i>*nga</i>	<i>*mi</i>	<i>*gV</i>

The reconstructable case oppositions of **na* vs **nga* in the feminine, and **ma* vs **mi* in the vegetable⁹, indicate that class-case marking was a feature of the proto-language, and did not originate independently in each branch. The forms of these markers, however, offer no clue as to whether they were originally prefixes or suffixes. Further, while the Barkly group has class-case prefixed demonstratives and some adjectives, these are not formally relatable in any clear way to those of Nungali. Nevertheless, the prefixed demonstratives of the Barkly perhaps are the key to the status of the class-case morphemes in proto-Mindi. Any account of proto-Mindi as having purely suffixal class-case marking would require an implausible wholesale reanalysis of noun suffixes as prefixes to following modifiers in Nungali, and a coincidental reanalysis confined just to demonstratives in the Barkly group. On the other hand, if proto-Mindi were thoroughly prefixing in its class-case marking, how is the Barkly shift to suffixing in all but the demonstratives to be accounted for?

Chadwick has suggested rather that nominal class-case suffixing in the Barkly group has developed from 'postposed markers not previously attached to the noun stem' (1978:336), but does not explain why demonstratives, in contrast to most other nominals, should have acquired prefixing. Reacting to Chadwick's idea, Nordlinger (1993:281) proposes that postposed prefixed demonstratives are instead the source of the Barkly suffixes. This would explain the effective formal identity of demonstrative prefixes and nominal suffixes, and, since demonstratives would not be expected to be postposed to demonstratives, it would also explain why demonstratives themselves do not take class suffixes. Unfortunately, Nordlinger's demonstrative hypothesis lacks the necessary formal support, since there is no trace in the Barkly suffixes of any specifically demonstrative morphology (e.g. such as a stem or an exclusively demonstrative case allomorph). It seems plausible then to combine these accounts, and suggest that in proto-Mindi the precursors of the modern noun class-case affixes were in fact postposed as separate words to the head noun, as suggested by Chadwick. At the same time proto-Mindi must have had class-case prefixed demonstratives, as suggested by Nordlinger, these demonstratives representing a first extension of prefixing strategies from the verbal to the nominal domain. The nominally postposed class-case markers functioned as part of the overall demonstrative paradigm; they had the same class-case stems as the other demonstratives, and they alternated, rather than co-occurred, with them. Precedents for such systems, with noun class markers or 'articles' belonging to the set of prefixed demonstratives, are found in prefixing languages such as Mara (Heath 1981), Maung (Capell and Hinch 1970) and Ngarinjin (Rumsey 1982). In the Barkly group the postposed class-case markers became absorbed into the noun stem as suffixes. However the other demonstratives were maintained as prefixal, the suffixisation process able to fuse independent postposed words to the noun, but not extending to the disruption of established words by stripping them of their prefixes. The Western Mindi branch saw noun class-case markers develop into prefixes to following modifiers in Nungali; prefixing was subsequently extended to head nouns. Class marking as a feature, however, was dropped altogether in Badj.

4. THE LOSS OF PREFIXING. The most plausible scenario motivated by the comparative evidence, then, is that proto-Mindi was a verbally prefixing language, and that significant changes were effected to its Barkly branch as a result of contact with suffixing-only languages.

The mechanisms of these changes are fairly straightforward. Speculating on a prefixing origin for the Barkly languages Blake (1990) has suggested that Djingili acquired its phonologically suffixing verbal structure under influence from Mudburra; though not elaborated in any detail, Blake's proposal implies that the Mudburra feature of postposing tense-inflected (though not pronominally marked) classifier-like verbs to an uninflected main verb served as the model for Djingili's 'putting the auxiliary permanently at the end of lexical verb stems' (p55). But Blake's suggestion is not properly informed by data on the Western *Mindi* verb, which shows clearly that Djingili did not have to have recourse to Mudburra influence to create a verb plus auxiliary construction. The verb plus auxiliary sequence in Djingili is not an innovation on, but rather inherited from, proto-*Mindi*. In proto-*Mindi*, as in the modern Western branch, the auxiliary most likely had the phonological status of a separate word. The according of suffixal status to the auxiliary then amounts to no more than a minor rearrangement of stress assignment within the overall verbal complex, the loss of the verb - auxiliary word boundary accommodating the Djingili verb to speakers entirely lacking prefixing strategies in their linguistic repertoire.

Across the Barkly group as a whole, in the Eastern sub-branch as well as Djingili, the same process has applied to the class-case markers. That is, a postposed element bearing grammatical information pertinent to the phrase as a whole has been reanalysed as suffixal to the phrasal head.

The Djingili verb, representing an initial response to contact with suffixing-only languages, would appear to preserve the earlier Barkly structure. The second position enclitic status of the Eastern *Mindi* auxiliary then constitutes a subsequent development. While the Djingili verb conforms to a suffixing-only model, it nonetheless has an aberrant structure relative to languages such as Mudburra and Warumungu, whose bound pronouns commonly occur as second position enclitics. The freeing up of the rigid verb stem plus auxiliary ordering of Djingili then brings this regionally aberrant structure into line with these surrounding languages.

This type of change could well have taken place through contact of proto-*Mindi* descendants with any of the non-prefixing languages surrounding the contemporary Barkly group. But there is another factor that points towards contact with the Garrwa/Warumungu part of the region, rather than the west, as the motivating factor in the changes. This concerns the reduction of the AVS inventory.

No doubt facilitating the shift to suffixing structures in the verb was the reduction of the original AVS inventory. In terms of identifying a likely influence on proto-Barkly this decidedly points to the Warumungu-Garrwa region. These languages lack the large scale type of action/event classing by auxiliary verb that would have been inherited into proto-Barkly from proto-*Mindi*. On the other hand, proto-*Mindi* verbal classification would not appear to be incompatible with the verbal systems of Mudburra and its close genetic relatives to the west, which all employ dual verb stem constructions that combine main verb stems with a wide range of classifier-like auxiliary verbs, but which lack a specific verbal category of 'associated motion'. The reduction of the classifier inventory of proto-*Mindi* to a three-way motional opposition, then, appears to be best explained as a simplification of the system for speakers unfamiliar with verbal classification in general, and only able to interpret it in terms of their familiar system of associated motion.

There is some formal support for Garrwa in particular having influenced proto-Barkly. For example, the irregular dative/oblique marker **ngi* reconstructable for just the third singular feminine in proto-Barkly appears to be a borrowing from

Garrwa, since *ngi* is the regular pronominal dative suffix in Garrwa. Further, reconstructable for proto-Barkly, and found in all languages of the Barkly group, is the procedure of forming reflexive verbs by placing a morpheme *ngg(V)* in the bound pronominal object slot in the verb (that is, immediately preceding the TAM-direction marker, cf. (4) above). The Western *Mindi* strategy, however, is quite different. In Western *Mindi* reflexive verbs are derived by suffixing a morpheme *djV* to the AVS; the reflexive verb functions as an intransitive, and nothing may appear in the O prefixal slot. Thus compare (12) and (13).

(12) Djingili (Chadwick 1975)

ulugadja -ni -nggu -nu
wash 3sgA Reflexive Past neutral
He washed himself.

(13) Nungali (Bolt, Hoddinott and Kofod 1971b)

mung nga -ngayi -dji -na
look 1sgA see (AVS) Reflexive Past
I looked at myself.

Wider comparative evidence (Dixon et al to appear (a)) establishes the Western *Mindi* strategy here as the ancestral one, and the Barkly branch as the innovator. Garrwa, out of all the languages of the region, alone provides us with a source for this Barkly development. Garrwa constructs all its free form reflexive pronouns (except for the irregular first singular) by suffixing *ngga* to a pronominal stem. This then appears to be a Garrwa intrusion into proto-Barkly, the bound pronominal subject plus reflexive morpheme sequence in proto-Barkly replicating the free form reflexive pronoun that we find in modern Garrwa.

Further investigative work, comparing the grammars and lexicons of the Barkly languages and their neighbours, and attempting both to identify and stratify diffusion in the region, is required to verify whether, as this data seems to suggest, Garrwa was indeed the major influence in the evolution of proto-Barkly from proto-*Mindi*. Hopefully such further investigations will also put us in a position to make inferences about the social conditions that attended these linguistic developments; we may then be able to determine whether these developments are the results of gradual convergence between discrete speech communities, or whether they came about more abruptly, through interference in language shift as speakers of a non-prefixing language adopted proto-Barkly, imprinting on it their suffixing-only native linguistic patterns.

¹ The following orthographic conventions are used: retroflexes are represented with an underscore (*d*, *n*, *l*), lamino-palatals as *dj* and *nj*, dentals as *dh* and *nh* and velar nasals as *ng*; sequences of alveolar nasals followed by velar stops are given as *n.g*.

² Chadwick (1984) is at points equivocal about the positioning of Djingili in the family tree; for further discussion of the branching presented here see Dixon et al to appear (b).

³ My use of the term 'prefixing' here follows Australian typological practice, where it is used as shorthand for 'prefixing and suffixing'; that is, it denotes languages which are able to employ both prefixing and suffixing strategies in the formation of their agglutinative structures.

⁴ Underlying forms of roots and affixes are given in (5).

⁵ Jarrakan class suffixing appears to derive from the absorption into the stem of postposed generics; the forms are not cognate with those of the *Mindi* group, and the system has fewer categories (Dixon et al to appear (a)).

⁶ Note that there is as yet no higher level sub-grouping of proto-*Mindi* that would establish a prefixing or non-prefixing legacy for it. Both *Mindi* branches are classified as of the 'non Pama-Nyungan' type (Blake 1988) on the basis of their free pronominal forms, but no consequences for their prefixing/non-prefixing ancestry issue from this. Equally, there is no supporting archaeological data that would locate proto-*Mindi* clearly within an ancestral prefixing or non-prefixing bloc.

⁷ Note that the habitual and irrealis categories are regularly formally related in northern Australian languages (Green 1995).

⁸ For a wider view of the prehistory of the **rrV* motional auxiliary verb, see Dixon et al (to appear (a)).

⁹ Note that the reconstruction assumes that the *mi* vegetable class allomorph in the Nungali absolutive agreement set is derivable from *ma*.

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APPENDIX: THE MINDI GROUP IN AREAL PERSPECTIVE (adapted from Blake 1990)

