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Structural Changes in Language Obsolescence: A Kimberley (Australia) Perspective¹

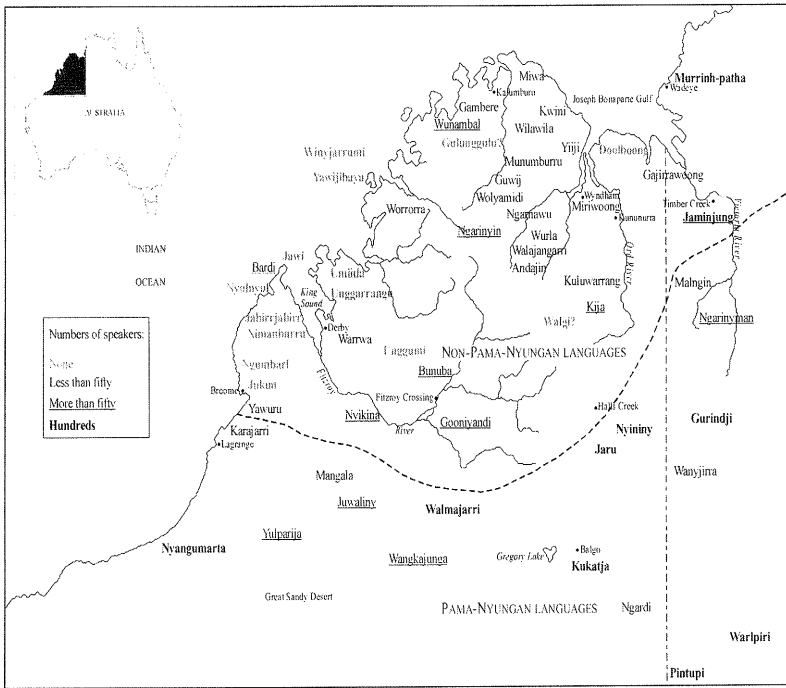
Abstract

This paper discusses structural changes in three obsolescent languages from the Kimberley region in the far north-west of Australia, Gooniyandi, Nyulnyul, and Warrwa. The changes — which are all comparable with changes attested in language obsolescence situations elsewhere in Australia and the world — include a few quite restricted phonological changes, and some more obvious morphological, syntactic, and lexical changes. These are mainly processes of simplification — losses of forms and levelling of systemic distinctions; also discernible is remodelling of systems bringing them closer to the systems of the dominant language. The range and extent of changes differs amongst the three languages, correlating with the different synchronic and diachronic conditions of the language obsolescence situations.

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1. Introduction

As elsewhere in Australia, Aboriginal people of the Kimberley region have shifted their speech habits, including patterns of language use, significantly over the century or so of intensive contact with Europeans. Everywhere there has been a significant shift away from speaking traditional languages and towards speaking post-contact varieties such as Pidgin English (an English-lexicalised pidgin), Kriol (its creolised form), and Aboriginal English. Many traditional languages have fallen out of regular use, and are moribund or dead. Of the approximately sixty languages traditionally spoken in the region (see Map 1), only a handful have more than a hundred fluent speakers, and just a few are being passed on to children as their mother tongue.



Map 1: Traditional languages of the Kimberley region

This paper discusses putative structural changes in some Kimberley languages that may be attributed to their obsolescence. The focus is on three languages I have had extensive first-hand experience with in the field. The changes are comparable with those attested in language obsolescence situations elsewhere in Australia (e.g. Austin 1986, Bavin 1989, Pensalfini 2001, Richards 2001, Schmidt 1985, and Schmidt 1990) and the world (e.g. Campbell and Muntzel 1989, Dorian 1981, Furbee and Stanley 2001, Gal 1989, Grenoble and Whaley 1998, Huffines 1989, Mithun 1989, Mougeon and Beniak 1989, Mühlhäusler 1996, Myers-Scotton 1998, Sasse 1992, Taylor 1989, Tsunoda in preparation, Voegelin and Voegelin 1977, and Woodbury 1998).

Before beginning, a caveat is in order. My fieldwork has been primarily of the salvage grammar type: I have been most interested in obtaining information for descriptive grammars of traditional languages, as represented by the speech of the oldest and “best” speakers. I have not worked intensively on the speech of the less fluent speakers of any language or with children; nor have I systematically investigated any aspect of language obsolescence in the field. The paper is thus based largely on anecdotal and fortuitous observations rather than controlled and directed information gathering — which has some advantages (e.g. the observations are of actual language usage) as well as shortcomings (incompleteness, non-systematicity, non-representativeness, etc.).

2. Outline of sociolinguistics of language obsolescence in the Kimberley region

Kimberley languages can be divided into four categories according to their state of health (see Hudson and McConvell 1984:29-30, Schmidt 1990:54, and Dixon 1991 for similar schemes):

- (1) **HEALTHY LANGUAGES** are languages with fairly large numbers of speakers (several hundred), that are used in a wide range of different social contexts and are being passed on to children, at least in some communities. Just a few Kimberley languages are healthy: Nyangumarta, Walmajarri, Jaru, Kukatja, and Warlpiri (in Northern Territory communities); all of these belong to the Pama-Nyungan family (O’Grady, Voegelin and Voegelin 1966; see Map 1), which covers the bulk of the continent except for the Kimberley and Arnhem Land. The post-contact languages Kriol and Aboriginal English are also healthy. No Kimberley non-Pama-Nyungan language (i.e. autochthonous language not belonging to the Pama-Nyungan family) is healthy, although the Daly River language Murrinh-Patha, spoken by a small number of

- Aboriginal people in Kununurra, is healthy in Wadeye.
- (2) WEAKENING LANGUAGES are spoken fluently by a number of older people from middle age upwards, but are not transmitted fully to children, who do not learn the language as their mother tongue. Such languages generally have from about twenty to a hundred or so fluent speakers. A fair number of traditional Kimberley languages belong to this category, e.g. Bunuba, Gooniyandi, Bardi, Nyikina, Yawuru, Ngarinyin, Wunambal, Kija, Karajarri, Mangarla, Yulparija, Gurindji, and Wangkajunga.
 - (3) DYING LANGUAGES are languages that have just a handful of speakers, all belonging to the oldest surviving generation; they have not been learnt as the mother tongue of the present generation of children or their parents. Dying languages of the Kimberley include Warwa, Gajirrabeng, Gunin/Kwini, Miwa, Gambre and Worrorra; the post-contact pidgins Pidgin English and Broome Pearling Lugger Pidgin are also dying.
 - (4) DEAD LANGUAGES are no longer spoken fluently by anyone, and it has been a considerable time since children acquired the language — no more recently than the great-grandparental generation of the current generation of children. Kimberley languages that fall into this category include Nyulnyul, Jabirjabirr, Nimanburru, Yawijibaya, Umiida, Unggumi, and Doolboong.

Another way of categorising language obsolescence situations is diachronic, according to cause and speed. Tsunoda (in preparation: §5.2.4) proposes the following scheme:

- (a) SUDDEN GLOTTOCIDE, where a population of speakers disappears suddenly, e.g. through genocide or a natural cataclysm. This is a fairly rare situation.
- (b) GRADUAL GLOTTOCIDE, in which the speakers decrease gradually in number through causes such as disease, killings, and so on until none are left, and no descendants of the former speech community — there is no modern speech community that can be traced back to the former speech community of the language.
- (c) SUDDEN LANGUAGE SHIFT, in which speakers of a language change their speech habits suddenly — e.g. in the space of a generation — from using one language on an everyday basis to using another.
- (d) GRADUAL LANGUAGE SHIFT, in which the shift in speech habits away from speaking one language to speaking another takes place relatively slowly. This may be ongoing over centuries (e.g. Scottish Gaelic), or may be complete within several decades. This is probably the most common of the four situations.

It is useful to categorise not just languages in obsolescence situations, but also speakers. Here I adopt a fairly standard classification, comparable to that used by various writers on language obsolescence situations in Australia and elsewhere (e.g. Austin 1986, Campbell and Muntzel 1989), distinguishing:

- (i) FLUENT SPEAKERS (also dubbed *full* or *competent speakers*) are persons who have full

- control of the language, who speak it fluently, can converse in it, and control different registers and genres of discourse.
- (ii) SEMI-SPEAKERS are individuals who are less than fully fluent in the language. Although they may have fairly extensive vocabularies, and might be able to produce sentence-sized utterances, considerable planning time might be required. Usually they will not have control of different linguistic varieties, and would not be able to deploy them meaningfully in speech interactions.
 - (iii) FORMER SPEAKERS (or *rusty speakers*) are individuals who were once fluent speakers but because of lack of practice (or other reasons e.g. pathological) may have lost fluent control. Their control of the language may be similar to that of semi-speakers, or it may be significantly better.
 - (iv) REMEMBERERS recall some words and fixed expressions of the language, but are unable to formulate utterances longer than a word or two. They would also experience difficulties in understanding extended stretches of speech in the language, though probably they are able to understand more than they can produce themselves.

None of these classifications is unproblematic, and it is not always easy to categorise language situations or individuals. They are, however, useful and not too misleading for present purposes.

3. Historical background

It is generally accepted that man has been on the Australian continent for at least forty thousand years (Mulvaney and Kamminga 1999:2). Little is known of the greater part of this time since Aborigines did not keep written records. Nor did their oral traditions document the past in ways that Western thought regards as history (e.g. Kolig 1996). Australian history as such goes back to the first writings of Europeans, and began in earnest in 1788 with British colonisation. Although first contact in the Kimberley can be traced back to the seventeenth century or before, it was one of the last regions colonised. Significant contact didn't begin until the late 1870s when pearlers and pastoralists began despoiling the region. The following decades saw many violent conflicts between the invaders and the indigenes. Both pastoral and pearling industries required a labour force, and coercion was used to secure workers from the indigenous populations.

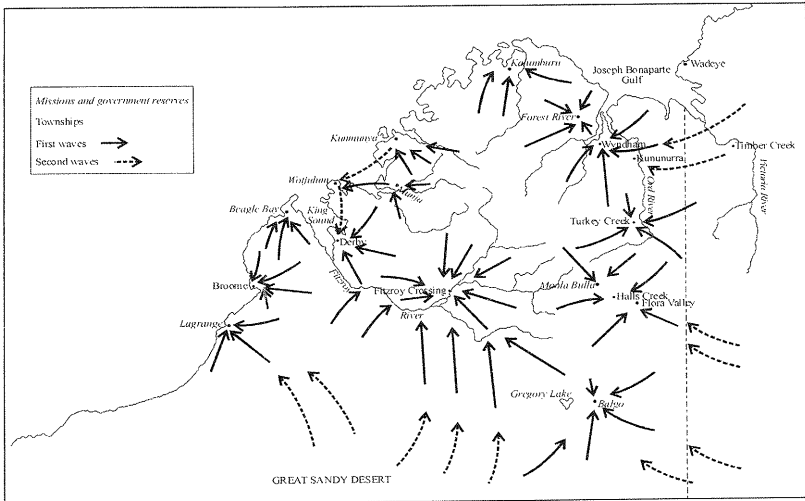
But the violence of the early frontier was not one sided, and a number of whites were killed or wounded by Aborigines, or suffered losses of property. This usually provoked brutal retaliation, and sometimes entire groups were exterminated. It was not until the 1920s that the Kimberley region was effectively colonised. By then most Aborigines living in the Kimberley interior

were working on cattle and sheep properties, though inter-ethnic relations never become entirely harmonious.

Soon after first settlement, missionaries arrived in the Kimberley and began establishing missions, first along the coast (from the late nineteenth century), later in the interior (from the 1940s). Their main purpose was of course conversion, though most understood their task as involving assimilation and instilling the work ethic. Children were seen as the greatest hope; on most missions they were segregated from their families at an early age, and brought up in dormitories. This practice continued until the 1960s, even in the most enlightened missions. In some places missionaries banned traditional ceremonies and destroyed sacred items. Their impact was not, however, all bad; missions also provided refuge, and protection from unscrupulous whites.

Government instrumentalities also had significant effects on the indigenous population. Most notable were the Aborigines Protection Board and the police. As a part of its policy of segregation and assimilation, the Aborigines Protection Board established reserves at Moola Bulla (1910), Violet Valley (1911), and Munja (1927). These operated along similar lines to missions, albeit with less focus on religion.

White colonisation resulted in major population movements in the Kimberley, as summarised in Map 2.



Map 2: Major post-contact population movements in the Kimberley region to about 1970

Killings, massacres, overwork, starvation, and enforced resettlement all contributed to the destruction of Aboriginal societies in the Kimberley. Introduced diseases, especially leprosy and venereal disease, had perhaps even more devastating effects.

Until equal wages were introduced in 1969, most Aborigines in the Kimberley lived in small communities on pastoral properties, missions or reserves; relatively few resided in the towns. Subsequently, many were forcibly removed from the pastoral properties and shifted into the towns. Since the 1980s this trend has been reversing, and increasing numbers of Aboriginal people have been returning to their former stations, missions or reserves where they have established independent communities. (These more recent movements are not shown in Map 2.)

4. Three Kimberley languages

The focus of this paper is on three languages: Nyulnyul, traditionally spoken near the tip of the Dampier Land peninsula in the vicinity of Beagle Bay; Warrwa, traditionally spoken near the township of Derby; and Gooniyandi, traditionally spoken to the east of Fitzroy Crossing. Nyulnyul and Warrwa are representatives of the Western and Eastern branches of the Nyulnyulan family (Stokes and McGregor forthcoming); Gooniyandi belongs to the Bunuban family. All three languages are endangered; and even Gooniyandi is unlikely to be spoken fluently by many people by the end of the twenty-first century. The history and current circumstances for the three languages are rather different, as shown by the summary of Table 1.

	Nyulnyul	Warrwa	Gooniyandi
Status	Dead	Almost dead	Weakening
Type of situation	Gradual shift 1890-1920; sudden shift around 1920	Sudden glottocide 1890s	Gradual shift from 1890s to present
Speech community	Severely reduced (to 10% of original size by 1920s); the remnants subsequently fragmented and spread	Probably decimated in 1890s, leaving very small remnant of former speech community and cultural group	Speech community reduced in size, but less than for Nyulnyul and Warrwa. Some cohesiveness retained.

	Nyulnyul	Warrwa	Gooniyandi
Linguistic varieties	Rapid loss of use of special registers in early 1900s; loss of religious knowledge in 1930s and 1940s with death of generation who were youths in 1890s	Rapid loss of special registers 1890s accompanying devastation of society and incorporation of remainder into the cattle industry	Slow loss of registerial variation; knowledge of marked registers remains
Speakership	No fluent speakers; 10-20 semi-speakers; perhaps 100+ rememberers	1 fluent speaker; no semi-speakers; maybe a few rememberers	Around 100 speakers, perhaps half being semi-speakers; at least as many rememberers
Culture	Repudiation of traditional culture in late 1890s; deliberate adoption of Christianity	Rapid loss of traditional culture accompanying loss of members	Gradual loss of traditional cultural values and norms, and gradual emergence of new ones
Social value	Loss of social value accompanying association with Christianity	None apparent	Significant social value: index of traditional values, political ratification, and social position
Language ecology	Shift to Aboriginal English completed; a small amount of Bardi also	Shift to Aboriginal English completed; fluent speakers also speak Nyikina fluently	Shift to Kriol and Aboriginal English in many social environments, older fluent speakers also fluent in Bunuba and Walmajarri (former <i>lingua franca</i>)

Table 1. Gross features of obsolescence situations in three languages

4.1. Nyulnyul

Nyulnyul is the only one of the three languages for which we have a reasonable longitudinal corpus of diachronic data. The earliest records were made by Fr. Alphonse Tachon, a missionary at Beagle Bay during the 1890s. Tachon produced a good sketch grammar (Tachon 1895) and an extensive wordlist — see McGregor (2000a) for an appraisal. In about 1910 Fr. Bischofs had the grammar and parts of the wordlist typed up, with some emendations (not all to

the betterment of the description). Fr. Bischofs gathered little new material; his major contribution was to record a few songs and speech on wax cylinders in about 1910, the first known recordings of a Kimberley language (see Koch 2000).

In 1927 the anthropologist A.P. Elkin visited Beagle Bay Mission for six weeks, recording (on paper) some songs and lexical items, mainly kinterms and toponyms. The following decade saw the arrival of Frs. Ernest Worms (in 1930) and Herman Nekes (in 1935). These two men recorded much information on Nyulnyul and other Kimberley languages, the bulk of which appears in Nekes and Worms (1953). Unfortunately, they recorded no samples of speech, even though Fr. Worms had an Edison wax cylinder recorder. (He recorded just a few songs.) Shortly thereafter the linguist Arthur Capell visited the Beagle Bay mission briefly during his 1938-1939 field trip through the Kimberley and Arnhem Land, and recorded a little information.

The next person to do serious work on the language was Bronwyn Stokes. In 1979 as a PhD student working on closely related Nyikina, she recorded a lengthy narrative. I began fieldwork on the language in 1985, continuing until the mid-1990s, by which time the remaining fluent speaker was too infirm to work with. During that decade a reasonably substantial corpus of translations of English prompt sentences and a few texts were recorded. Stokes and I worked with two somewhat rusty fluent speakers, now both deceased: a man (AK) suffering from dementia, and a woman (MC) who had been deaf for some forty years. We also worked briefly with a few semi-speakers (the best being RV and MW) and rememberers.

Sufficient information has been recorded by linguists, anthropologists, historians, travellers, and visitors over the past century to permit one to put together a diachronic picture of the language situation in Beagle Bay (McGregor in preparation).

No fluent speaker of Nyulnyul survives: the last speaker (MC) died in 1999, aged about ninety. A number of semi-speakers and rememberers live in Broome and Derby; their primary language of communication is Aboriginal English. Children speak Aboriginal English or Kriol as their mother tongue and normal code. The main language of the Beagle Bay community is Aboriginal English; Bardi is spoken by some older residents. Extended speech in Nyulnyul never occurs today. The language is used almost exclusively as a badge of group identity by Nyulnyul people and Beagle Bay residents, who include occasional Nyulnyul words in their predominantly Aboriginal English speech.

4.2. Warrwa

The research situation for Warrwa could hardly be more different. Frs. Nokes and Worms recorded no information on it, and the earliest written record dates to 1939 when Arthur Capell passed through Meda Station, and gathered a few verb paradigms, a brief wordlist, and a couple of short texts (Capell 1940, Capell 1952/1953).

In the late 1970s Bronwyn Stokes recorded a few texts and elicited some words and sentences. I have been engaged in serious fieldwork since 1992, gathering an extensive body of texts and a fairly large elicited corpus of words and sentences. Stokes and I both worked with the surviving fluent speaker (ML); I also worked with another fluent speaker (FM, ML's brother), until his death in 1999.

There is scant historical information on Warrwa grammar that might permit one to identify recent structural changes. However, with caution, one can use synchronic data from Nyulnyulan languages — which constitute a family of a dozen quite closely related languages that share a number of typological characteristics — to hypothesise structural characteristics of traditional Warrwa, and thus identify potential structural changes.

Like her deceased brother, ML rarely uses the language. Usually she speaks a variety of Aboriginal English, occasionally Nyikina. There seem to be no semi-speakers; although ML's children know some words, they would seem to better fit into the category of rememberers.

4.3. Gooniyandi

The earliest recorded information on Gooniyandi dates to the end of the nineteenth century, when the Fitzroy Crossing postmaster recorded a small corpus of words and sentences. Unfortunately, this material is not sufficiently detailed to permit a profile of Gooniyandi as it was spoken at the dawn of the twentieth century. Nothing substantial was recorded on the language until the mid-1960s when Howard Coate, a missionary linguist, recorded about an hour of texts and elicited sentences. Most research on the language has been done by myself, from 1980. Since then I have gathered a substantial corpus of audio and video recordings of the speech of the oldest speakers, as well as some records (in notebooks and on tape) of the speech of other age groups.

Gooniyandi has, according to my estimate, around a hundred speakers, including fluent speakers and semi-speakers; in addition, there could be at least

as many rememberers. Most Gooniyandi adults over the age of fifty are fluent speakers; in addition many Bunuba people of the same age group speak the language fluently, as do some Kija, Jaru, and Walmajarri people. Many persons between the age of twenty and fifty are semi-speakers; there are also semi-speakers from other language groups. Children still hear Gooniyandi spoken around them in the communities and in language programmes in the schools, and some understand some of the language, and can utter some words. There seems to have been no significant decrease in its use by and to young children over the past 20 years — there may even be a slight increase. (Dalton, Edwards *et al.* 1995:94 make a similar observation in relation to Gurindji, spoken in the eastern Kimberley.)

All Gooniyandi speakers speak at least two languages, including one or more post-contact languages, Kriol and/or Aboriginal English. The majority also speak Walmajarri, the *lingua franca* of the region from the 1930s to the 1950s. This role was subsequently usurped by Kriol, which, since the mid-1950s, has been the first language of most children in Fitzroy Crossing (Hudson 1983:13-14, McGregor 1988:207).

There can be little doubt that the number of speakers of Gooniyandi has decreased over the past century. The decrease seems to have been relatively slow, though constant. I can identify no obvious critical point marking a sudden shift away from speaking Gooniyandi, as for Nyulnyul and Warrwa.²

5. Phonological and phonetic changes

There is little evidence of phonological changes amongst the speakers and part-speakers of the three target languages. The phonological repertoires of the fluent speakers of Nyulnyul and Warrwa are as expected for Nyulnyulan languages; there is no evidence of levelling of any contrasts.³

The lamino-dental stop and nasal are distinct phonemes for all fluent

²The most obvious contender for this role would be the advent of Kriol and dormitories in the 1950s, which might have marked a hiatus in the transmission of the language similar to what happened to Nyulnyul thirty years earlier. This does not, however, accord with the ages of the youngest speakers, who were children at the time.

³Similarly, the last speaker of Unggumi — which in the 1980s was in effectively the same obsolescence circumstance as Warrwa is today — had full control of the phonology, including the lamino-dental stop, nasal, lateral and/or glide. (The status of the latter two as distinct phonemes is uncertain; both are rare in Australian languages).

speakers of Gooniyandi, with the possible exception of some whose mother tongue is Walmajarri, who typically replace them with lamino-palatals. However, there is evidence in the speech of younger fluent speakers that levelling of this contrast may be underway. The nasal /nh/ (IPA /ŋ/) seems to be increasingly — though not systematically — replaced by /ny/ (IPA /ɲ/). For instance, *winhthi* ‘spring water’ is often heard as *winyji*, and *ginharndi* ‘that one, you know’ as *ginyarndi* in the speech of younger fluent speakers (Tamsin Wagner, pers.comm.). Less frequently /th/ (IPA /d̪/) is replaced by /j/ (IPA /ʝ/), as in the first example just cited.

The situation for semi-speakers is less certain, though I am aware of no definite evidence of phonological levelling in the speech of Nyulnyul and Gooniyandi semi-speakers. The older semi-speakers of Nyulnyul I worked with had intact phonologies. They experienced no difficulties in producing and distinguishing amongst segments that are problematic for mother-tongue English speakers. The contrast between apical tap/flap [ɾ] and [ɹ] (allophones in traditional Nyulnyul) and the apical glide [ɹ] was maintained, and there was no problem with word initial [ɲ], or evidence of replacement by [n]. For semi-speakers of Gooniyandi it may well be that replacement of lamino-dentals by lamino-palatals (see previous paragraph) is further advanced than for fluent speakers. However, I have heard both lamino-dental stops and nasals in the speech of some semi-speakers, though the phonological status of these segments in their speech remains uncertain.

The speech of Nyulnyul rememberers — especially children now residing in Beagle Bay community — exhibits one notable phonological change: merging of the apical tap/flap [ɾ] with the apico-alveolar stop [d].⁴ A similar merger has occurred in Gamilaraay (northern New South Wales), where word final /rr/ is primarily realised as a voiced unreleased stop; in the speech of some individuals intervocalic /rr/ is realised as a voiced stop (Austin 1986:210-211),⁵ as it is in children’s Dyirbal (Schmidt 1985:196).

⁴This merger is also evident in the speech of young adults who were former residents of Beagle Bay. Limited tests in the late 1980s with a former resident revealed inability to distinguish the two phones.

⁵Other speakers of Gamilaraay merge /rr/ with /r/ intervocalically, pronouncing both as [ɹ]. According to Donaldson 1980:21 even the most fluent speakers of Ngiyambaa (western New South Wales) frequently show this merger and replacement. It does not seem to occur even in the speech of young children in Beagle Bay.

Phonetic changes were certainly in evidence in the speech of the last two fluent speakers of Nyulnyul, though these can almost certainly be attributed to pathology rather than to language obsolescence. MC frequently blurred the distinction between apico-alveolar and apico-postalveolar consonants, and exhibited unusual prosodic features such as monotonicity and frequent over-long pauses. Doubtless these result from long-term deafness. Among Nyulnyul semi-speakers there is evidence of excessively careful articulation suggestive of irregular use and a need to carefully monitor speech production.

In comparison with the phonological mergers that have occurred in some obsolescent languages of eastern Australia — even amongst the best speakers — phonologies of obsolescent Kimberley languages have remained largely intact. Likewise, phonetic changes are fewer and less significant. I am not aware of any tendency to reduce unstressed vowels to schwa, or to shift stress from the initial syllable of a word, two changes that are widespread in eastern Australia. The apparent lack of influence from Standard Australian English may be due to characteristics of the local varieties of Aboriginal English and Kriol — many of which are inherited from traditional languages.

6. Morphological changes

Morphological changes are more apparent than phonological changes in the target languages; some are evident even in the speech of fluent speakers.

6.1. Pronominal system

Perhaps the most striking morphological change discernible in the speech of fluent speakers of the target languages is the levelling of person-number contrasts in Nyulnyul free pronouns. These traditionally formed an Ilocano system (Greenberg 1988) distinguishing four persons (1, 1&2, 2 and 3) and two numbers (minimal and augmented)⁶ — see Table 2. Underlined forms are uncertain: they are unattested in my corpus and represent my best guesses based on Nekes (1938), which fails to distinguish /r/ from /rr/.

⁶Minimal refers to sets consisting of the smallest number of entities consistent with the category, augmented to sets containing more than this number — minimal plus one or more others. Minimal corresponds to singular, augmented to plural, except for the 1&2 category, where the minimal number is two — 1&2 minimal denotes the speaker-hearer dyad.

		minimal	augmented
1	NOM	<i>ngay</i>	<i>yarrad</i>
	GEN	<i>jan</i>	<i>jarrad</i>
	EMP	<i>janijirr</i>	<i>jarrajirr</i>
1&2	NOM	<i>yay</i>	<i>yadirr</i> (yader)
	GEN	<i>jay</i>	<i>jadirr</i> (djader)
	EMP	<i>jajirr</i> (dja-djer)	? <i>jadirrjirr</i>
2	NOM	<i>juj</i>	<i>kurr</i>
	GEN	<i>jiy</i>	<i>jungkarr</i>
	EMP	<i>jjjirr</i>	<i>jungkarrjirr</i> (djuŋgar-djer)
3	NOM	<i>kinyingk</i>	<i>yirr</i>
	GEN	<i>jin</i>	<i>jirr</i>
	EMP	<i>jinijirr</i>	<i>jirrijirr</i>

Table 2. Nyulnyul free pronominals

This system was not controlled by the last fluent speakers, nor by semi-speakers, who almost always use the 1 augmented form for all first person non-singular categories — i.e. groups containing the speaker and one or more others. It is used, that is, not only for the 1 augmented category, but also for 1&2 minimal and 1&2 augmented.⁷ The modern system is thus a three person, two number (singular/plural) system. Further distinctions can be made: *yarrad kujarr* (1 augmented two) is sometimes used in reference to the speaker-hearer dyad, sometimes a speaker-other dyad; and the compound *juyangay* (you-and-I) — clearly calqued on the English prompt — is sometimes used for the speaker-hearer dyad.

Very occasionally, MC used the traditional forms *yay* NOM and *jay* GEN for the speaker-hearer dyad; in all cases it was uttered involuntarily, when the

⁷In Warlpiri children's speech the inclusive/exclusive contrast has also collapsed. Interestingly, as in Nyulnyul, it is the form that excludes the addressee that has generalised to cover all non-singular categories.

focus was on something else. Never did she utter the traditional 1&2 augmented form in my presence, and attempts to solicit recognition of the forms given in Nekes (1938) proved fruitless. Forgetting the constructed terms mentioned in the previous paragraph, the system could be described as optionally Assiniboine (Greenberg 1988 and McGregor 1989a). The same holds for the person-number categories in the bound pronominals which, in traditional Nyulnyul, were Assiniboine in almost all environments. In the speech of the last two fluent speakers the 1&2 minimal forms were occasionally used, though more often the 1 plural form was used.

Table 3 summarises the above discussion, and shows the emergent person-number system for nominative pronouns in modern Nyulnyul.

	singular	optional duals		plural
		dual	1&2	
1	<i>ngay</i>	<i>yarrad</i> <i>kujarr</i>	<i>yay</i> (rare)	<i>yarrad</i>
			<i>juyangay</i>	
2	<i>juy</i>	<i>kurr kujarr</i>		<i>kurr</i>
3	<i>kinyingk</i>	<i>yirr kujarr</i>		<i>yirr</i>

Table 3. Free pronominals of modern Nyulnyul

No levelling of traditional person-number distinctions has been observed in Warrwa or Gooniyandi. The traditional Ilocano system remained consistently used by the two fluent speakers of Warrwa who I worked with. So also is the typologically unique Bunuban system consistently retained in the speech of fluent speakers of Gooniyandi (McGregor 1996b). One suspects that semi-speakers might not acquire the system, but there is no evidence for this supposition.

6.2. Nominal morphology

6.2.1. Nominal prefixes in Nyulnyulan languages

In traditional Nyulnyul a subset of about fifty nominals — mainly terms for parts of the body — took prefixes indicating the person and number of the possessor (McGregor 1995). An example is *-alm* 'head': *nga-alm* 'my head', *ny-alm* 'your head', *n-alm* 'his/her/its head', *ya-alm* 'our (1&2) head', *yarr-alm* 'our head', and so on. MC used the prefixing system consistently.

However, it appears to have been lost in AK's grammatical system: despite the considerable number of places where he could have employed the system in the text recorded by Bronwyn Stokes, he did not. He invariably used the third person singular form of the prefixing noun, with prefix *ni-*, along with an oblique free pronoun. This is illustrated by the following example — in traditional Nyulnyul one would have said *nyi-marl* 'your hand', not **ni-marl ji*:⁸

- (1) *ni-marl ji agal jurrb wa-ny-j juy-in*
 3sg-hand your particle jump 2sg.nom-en-say you-erg
 "So start flapping your wings" (they told him).' (Nyulnyul)

Likewise, semi-speakers seem not to control the system of nominal prefixing. Interestingly, however, both AK and his sister MW (a very good semi-speaker), used the system of pronominal prefixes on the bound non-body part nominal *-mungk* 'belief, knowledge' — *nyimungk* 'your belief/knowledge' occurs in Torres and Williams (1987:4), and *ngamungk* 'my belief/knowledge' in AK's narrative.

Exactly the same process occurred in Eastern Nyulnyulan languages as a regular historical process, and the system of pronominal prefixes to nominals does not exist in either Yawuru or Nyikina, where reflexes of the proto-Nyulnyulan third person singular form have been reanalysed as root forms. Warrwa represents an intermediate case. In ML's Warrwa the system has been lost, and possession is invariably expressed phrasally (McGregor 2001). However, her older brother retained a small set of prefixing nominals — a dozen or so body-part terms, including *-(u)ngu* 'stomach', *-lirr* 'mouth', *-alma* 'head', etc. — far fewer than can be reconstructed for proto-Nyulnyulan. None of these nominals invariably employed the grammatical system of prefixes: both *niyambala jana* (his/her:foot mine) and *ngayambala* (my:foot) were used to refer to the speaker's feet. Furthermore, for some nominals (e.g. *-nyji* 'back')

⁸The following abbreviations are used: acc — accusative; all — allative; aug — augmented; aux — auxiliary; char — characteristic; cj — conjugation marker; comit — comitative; cont — continuous; CVC — compound verb construction; en — epenthetic nasal; erg — ergative; fut — future; imp — imperfective; inf — infinitive; interr — interrogative; irr — irrealis; IV — inflecting verb; loc — locative; min — minimal; nom — nominative; NP — nominal phrase; O — object; obl — oblique; pa — past; pl — plural; rel — relative; S — subject; sg — singular; SVC — simple verb construction; UV — uninflecting verb; V — verb; 1 — first person; 2 — second person; 3 — third person; and / — conflated with.

only a subset of the person-number categories were represented by prefixed forms, the others being marked by independent possessive pronouns, together with the *ni-* third person singular form of the nominal.

It is reasonable to presume that the Warrwa of the early twentieth century had a system of pronominal prefixes; this was probably reduced vis-à-vis proto-Nyulnyulan, through natural processes of historical change. That this system was partially acquired by the older sibling, and not at all by the younger one can presumably be put down to language obsolescence.

6.2.2. Case marking

Few if any Kimberley languages distinguish case as an inflectional category of nominals. Instead, case relations are marked by phrase-level postpositions, enclitics that typically occur one per phrase, attached to the first word in Nyulnyulan languages, to the focus in Gooniyandi (McGregor 1990:277-282), and to the final word in Ngarinyin (Rumsey 1982:58).

On a recent field trip I observed one of the oldest speakers of Gooniyandi attaching a postposition to every word of many NPs, in contexts where this was not expected (McGregor 1989b). Unfortunately, this observation is impressionistic, and the recordings from that field trip have yet to be transcribed. But if it turns out to be the case, it could be an instance of a natural process of grammaticalisation, or indicative of dialectal or ideolectal variation. It is less likely to be a consequence of language obsolescence.

Nyulnyulan and Bunuban languages have sets of around a dozen postpositions that show little allomorphy other than phonologically conditioned lenition or fortition of initial consonants. Reduction in allomorphic variation such as is found in various obsolescent Eastern Australian languages — e.g. loss of non-phonologically conditioned allomorphs, and of complex phonological conditioning (Austin 1986:214ff, Schmidt 1985:46ff) — is not in evidence. It can however be found in Pama-Nyungan languages on the eastern margins of the Kimberley. Dalton, Edwards *et al.* (1995:90) report an example from the variety of Gurindji spoken by children today (which originated in the previous generation of children). Table 4 presents the allomorphic variation of two case suffixes in the two varieties. Notice that the simple phonologically conditioned allomorphy of the allative suffix is maintained in Children's Gurindji, while the more complex phonologically conditioned allomorphy of the ergative (where number of syllables and point of articulation of the final consonant are relevant) has been reduced to the same simple conditioning as

applies to the allative (and elsewhere).

Cases	Children's Gurindji	Traditional Gurindji
ALL	-yirri / V- ₋	-yirri / V- ₋
	-jirri / C- ₋	-jirri / C- ₋
ERG	-ngku / V- ₋	-ngku / V- ₋ in bisyllabic words
		-lu / C- ₋ in words of more than 2 syllables
	-tu / C- ₋	-tu / C- ₋ where C is alveolar
		-ju / C- ₋ where C is palatal (and others)

Table 4. Two Gurindji case suffixes new and old (adapted from Dalton, Edwards et al. 1995:90)

6.2.3. Other nominal morphology

The Nyulnyul corpus recorded from the last fluent speakers and semi-speakers shows no evidence of bound number marking morphemes attached to nominals. However, Nekes and Worms (1953:99) claim that what appears to be an encliticised form of the third person augmented pronoun *-yirr* is used to mark plural possessums in NP-internal possession constructions, as in (2). Assuming the reliability of both observations, this could illustrate reduction in the functional range of a morpheme accompanying obsolescence.⁹

- (2) bāb djen yēr
 baab jin -yirr
 child his/her they
 'his/her children' (Nyulnyul, Nekes and Worms 1953:99)

Mention might also be made of a possible morphological loss in an esoteric domain of Gooniyandi grammar, the resources for constructing polyadic kinterms (McGregor 1996a). These denote groups of three or more individuals who are pairwise interrelated to one another in the specified kin-

⁹Example sentences in Nyulnyul taken from sources other than my own (Nekes and Worms 1953 and Torres and Williams 1987) are represented in four lines instead of the usual three. The first line represents the transcription of the source; the second line is my reconstructed phonemic representation in the accepted orthography. The other two lines give as usual interlinear glosses (mostly my responsibility) and free translations.

relation, or who are each related to a key central individual by that relation.¹⁰ They are formed in three main ways: (i) by reduplicating a dyadic kinterm;¹¹ (ii) by suffixing *-langi ~ -rra* ‘dyad’ to a partial reduplication of the first two syllables of a monadic or dyadic kinterm; and (iii) by suffixing *-langi-ga-langi* (dyad-*ga*-dyad) to the monadic kinterm. Polyadic kinterms were readily elicited from the oldest generation of speakers in the 1980s and early 1990s. In the late 1990s a number of them were checked with two of the oldest fluent speakers who are roughly a generation younger than the previously mentioned group, and who are now considered the most knowledgeable experts on the language and culture. They showed no recognition of any of the forms, although they do know and use dyadic kinterms. This area of morphology has apparently become obsolete, perhaps due to loss of cultural relevance of aspects of traditional kinship — many polyadic kinterms relate to affinal kin and seem to have been principally used in ritual activities no longer practised.

6.3. Verb morphology

Most languages of the Kimberley region distinguish two types of verbal construction: simple verb constructions (SVCs), involving just an inflecting verb (IV); and compound verb constructions (CVCs), with an inflecting verb in collocation with an uninflecting verb (UV), a verbal particle that takes no inflections (McGregor 2002). In this section we focus on Nyulnyul, first remarking on the usage of the two major types of verbal construction (although this topic does not fall under morphology, it is convenient to treat it here), then making some remarks on IV morphology.

6.3.1. Usage of different types of verbal construction

CVCs are employed relatively rarely in Nyulnyul compared to other Kimberley languages. Across the entire textual corpus available, only 30% of verbal

¹⁰The semantics and pragmatics of polyadic kinterms is complex, and it is beyond the scope of the present paper to go into details, which are in any case irrelevant to the point being made here; McGregor (1996a) should be consulted for discussion of the system.

¹¹Dyadic kinterms denote pairs of individuals in a certain kin-relation to one another, and are mostly formed regularly by the dyadic suffix *-langi* ‘dyad’, as in *ngoombarna-langi* (husband-dyad) and *garingi-langi* (wife-dyad), both of which denote husband-wife pairs.

constructions are CVCs. Examination of the distribution of SVCs vs. CVCs is revealing, as shown by the figures presented in Table 5. There is a major discrepancy between fluent speakers and semi-speakers in terms of usage of the two constructions. Use of SVCs amongst the former averages around 70%, whilst among the latter it is 100%. Neither semi-speaker produced a single textual instance of a CVC, although a number of instances — all involving acceptable UV-IV pairings — were elicited from one of them.¹²

	Nekes and Worms		Modern fluent speakers		Semi-speakers		Total
	NW*	TR	MC	AK	RV	MW	
SV	24	28	149	221	13	19	454
C	(66%)	(58%)	(71%)	(76%)	(100%)	(100%)	(73%)
CV	12	20	62	71	0 (0%)	0 (0%)	165
C	(33%)	(42%)	(29%)	(24%)			(27%)

*Additional abbreviations in this table are NW — Nekes and Worms (1953); and TR — religious material translated by Fr. Worms.

Table 5. Frequency of use of different construction types in Nyulnyul

There are in fact a few instances of UVs in MW's text. One occurs in (3), which retains the very free translation of the source. This is ungrammatical in traditional Nyulnyul: the UV *kaw-kaj* (call-CONT) 'calling out' requires the IV -J 'say, do' to form an acceptable finite verbal construction, with the ability to occur in a clause expressing a proposition.

- (3) gawoo-gaj nooloo layib-inyirr liyan
 kaw-kaj nulu layib-inyirr liyan
 singing [song:type] good-comit feelings
 'He sang a song so full of joy, they say,' (Nyulnyul, Torres and Williams 1987:8)

Independent usage of a UV without a collocating IV is quite common in modern languages in the speech of semi-speakers (and sometimes fluent speakers), in environments where it would be unacceptable in traditional languages. In the latter it was permitted in restricted environments, primarily

¹²The numbers of instances are very small; nevertheless, the χ^2 test reveals that the difference between fluent and semi-speakers is statistically significant (<0.0002).

in commands, in non-finite clauses, and in ideophones (McGregor 2002:105). The utterances of the last two fluent Nyulnyul speakers contain instances of independent UVs in non-finite clauses, but never in circumstances like (3).

What is even more striking is that semi-speakers RV and MW both used IVs heavily: cross-linguistically it is more usual for semi-speakers not to use IVs at all. Doubtless this is partly due to the greater prominence of IVs in Nyulnyul than most Kimberley languages: it has the upper range of numbers of IVs, and traditionally was probably also among the highest in frequency of SVC use.

Dalton, Edwards *et al.* (1995:91-92) report that CVCs appear not to be used at all in Children's Gurindji. The more common intransitive UVs (e.g. *kutij* 'stand up', *makin* 'sleep', *lungkarra* 'cry') are used independently. For transitives, the Kriol/English verb is generally used. Examples (4) and (5) illustrate the two patterns:

- (4) nangala kutij karri-nya Traditional Gurindji
 nangala bin kutij Children's Gurindji
 [subsection] pa stand be-pa
 'Nangala stood up.' (Dalton, Edwards et al. 1995:92)
- (5) (ngayu) ngu-rna kamti karrap nya-nya Traditional Gurindji
 (I) aux-I tree see see-pa
 ngayu-ngku bin luk kamti Children's Gurindji
 I-erg pa see tree
 'I saw a tree.' (Dalton, Edwards et al. 1995:91)

Schultze-Berndt (2000:143-144) reports a similar phenomenon among the last fluent speakers of Jaminjung: the Kriol past tense marker and/or a lexical verb is used where one would expect a Jaminjung IV, as in (6). Whereas this might be code mixing or switching in Jaminjung, in Gurindji it has evidently become entrenched as a novel grammatical structure, ousting the traditional structure.

- (6) we bin go buru then, motika-bina
 we pa go return then car-all
 'We went back then to the car.' (Jaminjung, Schultze-Berndt 2000:143)

6.3.2. Inflections of IVs

IVs in the typical non-Pama-Nyungan language are morphologically complex, leading one to suspect this to be a domain where morphological simplification and regularisation would be apparent. Unfortunately, a systematic analysis of IV morphology in Nyulnyul remains to be undertaken, and many details remain obscure.

Making allowances for the paradigmatic levelling in the pronominal system, in elicitation sessions the last fluent speaker showed no difficulty in producing any requested person-number-tense-mood-aspect form of any IV. One semi-speaker (MW) also knew numerous common forms of the frequent IVs ('go', 'see', 'get', 'hit', etc.). A cursory inspection revealed that amongst the forms she knew the full morphological complexity was retained; no tendency to regularise was apparent. Whether this is generally true is not known.

(7) is an item-arrangement formula for finite IVs in Nyulnyul, which is quite similar to the formula for Bardi IVs given in Metcalfe (1975:4) and Metcalfe (1979:204). The main difference is that whereas Nyulnyul permits a single pronominal enclitic, Bardi allows up to three, an accusative and two different obliques. In Nyulnyul transitive clauses an oblique pronominal enclitic will "oust" an accusative one. Since this is common in Nyulnyulan languages, it most likely reflects the structure of IVs in traditional Nyulnyul, and cannot be presumed to be a consequence of language attrition.

- (7) Nominative Pronominal + (Tense) + Number + (Conjugation Marker) + (Reflexive Prefix) + STEM + (Reflexive Suffix) + (Aspect) + (Applicative) + (Postposition) +
 ({ Accusative }
 { Oblique } Pronominal)

Some elicited inflectional forms of IVs have the appearance of simplification and/or regularisation, although this can't be demonstrated convincingly given deficiencies in both past and present corpora. I restrict myself to two fairly general observations.

First, instead of a derived reflexive/reciprocal IV, fluent speaker MC sometimes used a collocation of two IVs, as in:

- (8) wali ya-nga-rr-a-r ya-nga-rr-banyj walangk-ang
 everyone 1pl-pa-pl-cj-poke 1pl-pa-pl-exchange spear-comit

‘We all speared ourselves.’ (Nyulnyul)

Here the pair of IVs is used instead of the derived reflexive/reciprocal IV stem -MA-R-ANYJ ‘poke oneself/one another’. This mode of expression, unattested in earlier sources, looks like a reflexive/reciprocal CVC.¹³ Perhaps the domain of CVCs has expanded, while the domain of derivational process has narrowed correspondingly. And indeed earlier sources show other reflexive/reciprocal forms not attested in MC’s speech.

Second, in the modern corpora the penultimate slot in (7) can be filled by just a few postpositions, including the locative, dative, and temporal. According to Nekes and Worms (1953:107), another morpheme can be fitted into this slot, *-djer* (*-jirr*), which has the same phonological shape as the third person augmented oblique pronominal. In this context, according to these authors, it is a relative clause marker, as illustrated by the following example:

- (9) ginjing-en wamb, ŋamari ine-lanjb-djer ŋai,
 kinyingk-in wamb ngamari i-na-lanyb-jirr -ngay
 that-erg man tobacco 3sg.nom-cj-steal-rel-1min.acc
 ŋanga-dam ginjing wamb
 nga-ngka-dam-ø kinyingk wamb
 1sg.nom-fut-hit-3sg.acc that man
 ‘I will hit that man who has stolen my tobacco.’ (Nyulnyul, Nekes and Worms 1953:107)

If this is correct, *-jirr* — like *-yirr* (section 6.2.3 above) — has undergone a narrowing in its range of uses.

6.4. Other bound morphemes

Nekes and Worms (1953) contains a number of bound and free function morphemes that are not represented in the last two fluent speakers’ Nyulnyul, and others that are marginal. One is *-elbe*, which Nekes and Worms (1953:199) claim to be a subordinating conjunction that attaches to the subject of the dependent clause. Their example (10) suggests that the subordinate clause is marked as a mistaken belief — ‘I mistakenly thought’.

¹³These involve a UV in collocation with the appropriate form of the IV -BARNJ ‘exchange’ — McGregor, (2000b).

- (10) min-djed wol-oŋ djo-elbe ŋan-d dje
 mi-ny-jid wul-ung ju-ilbi nga-n-d -ji
 2sg.nom-en-go water-all you-that 1sg.nom-en-say -2sg.obl
 'I thought that you had left to bring water.' (Nyulnyul, Nekes and Worms 1953:199)

7. Syntactic changes

7.1. Ergative marking

Nyulnyulan and Bunuban languages are morphologically ergative; all NP types take ergative marking in transitive clauses, regardless of NP animacy, and tense, mood, and aspect of the verb (see Silverstein 1976). However, use of the ergative postposition on the subject of a transitive clause is never obligatory. Optional ergative marking turns out not to be arbitrary, and use of the ergative postposition is not in free variation with its non-use. Investigations of Gooniyandi texts reveal that its use vs. non-use is motivated (McGregor 1992 and McGregor 1998). It is used to specify an Agent as non-prototypical and not both expected and normal (or median) in agentivity.¹⁴ Its omission signals that an Agent is non-prototypical and low in agentivity. Two examples will suffice to illustrate. (11) exemplifies use of the ergative marker to signal that Agent is not expected — it is the first introduction of the rider. (12) exemplifies non-use of the ergative: here the event is construed as an ongoing state the Agent is engaged in, rather than as an event in which the Undergoer is affected by the event.

- (11) Ned Colin -ngga, ridim-nga-ngarra yawarda,
 Ned Collin -erg ride-3sg.acc/3sg.nom/A-1sg.obl horse
 'Ned Colin rode my horse for me.' (Gooniyandi)
- (12) ngirnda maroowa-ngarri gamba baabirri ngorloog-nga,
 this murderer-comit¹⁵ water below drink-3sg.nom/3sg.acc/A
 'The murderer was drinking down there.' (Gooniyandi)

¹⁴A prototypical Agent is both expected and median in agentivity (that is, it shows a normal degree of agentivity, neither higher nor lower than expected); the NP denoting it is ellipsed.

¹⁵Note that the comitative marker in this example *-ngarri* is used NP-internally, not as a marker of a clausal grammatical relation. The head nominal *yooooloo* 'man' has been ellipsed from the full NP *ngirnda maroowangarri yooooloo* 'this murderer man'.

There is no reason to believe that this system is not controlled by all fluent speakers of the language; no information is, unfortunately, available on semi-speakers' control.

Despite Warrwa's advanced state of obsolescence, the last two speakers acquired a complex system of ergative marking involving both optional and focal ergative marking, the latter being marked by a special postposition. Figure 1 depicts diagrammatically the relevant meanings of the different expression-types for Agents in the two languages.

(a) Warrwa

			+expected
			-expected
high	median	low	identity agentivity

(b) Gooniyandi

			+expected
			-expected
high	median	low	identity agentivity

Key:





-  Ellipsed NP
-  Unmarked NP
-  NP marked by ordinary ergative marker
-  NP marked by focal ergative marker

Figure 1: Comparison of marking of Agent NPs in Warrwa and Gooniyandi

In Nyulnyul the system of ergative marking also appears to be operational in the speech of the last two fluent speakers. As in Gooniyandi and Warrwa, the postposition was not invariably present on subjects of transitive clauses. Although a detailed investigation has yet to be undertaken, unsystematic examination of a small number of textual examples bears out the relevance of similar factors as in the other two languages.

The situation for semi-speakers is different. RV used the ergative postposition on almost every overt transitive subject NP, seemingly without regard to discourse and semantic considerations. Consider (13). One would not expect ergative marking of the subject since it is both expected (the previous clause had introduced the man) and low in agentivity. In fact, there is just one transitive clause in this speaker's text that does not have an ergatively marked subject, (14). Like (13), the Agent is low in agentivity; on the other hand, it is a new narrative character, and hence a likely to be marked by the ergative postposition. Thus for this semi-speaker ergative marking appears not to be motivated by the usual factors.

- (13) kinyingk -in King Felix i-m-bikan-an kujarr wuriny
 this -erg king Felix 3sg.nom-en-have-imp two woman
 'That King Felix had two wives.' (Nyulnyul)

- (14) marirr jirr i-m-bikan-an irruwar mida baab,
 sister their 3sg.nom-en-have-imp three boy child
 'Their sister had three sons.' (Nyulnyul)

In the speech of another semi-speaker (MW) the ergative postposition is not in evidence at all, as illustrated by elicited example (15).

- (15) yil i-na-r
 dog 3sg.nom-cj-poke
 'The dog bit him.' (Nyulnyul)

Even MW's published children's book (Torres and Williams 1987) exhibits not a single instance of the ergative postposition, although there are a number of places where it might have been used. (16), for instance, falls into precisely the sort of narrative environment in which ergative marking is expected in both Warrwa and Gooniyandi.

- (16) boogarrigarr Wangkid layinbird inyoorr Waragayin
 bukarrikarr wangkird layb-id i-nyu-ø warakayin
 dreamtime crow steal-char 3sg.nom-get-3min.acc eagle
 jinijirr winjid,
 jinijirr winyjid
 his wife

'In the Dreamtime he stole the Eagle's wife.' (More literally, 'In the Dreamtime the crow was a thief; he took eagle's wife.') (Nyulnyul, Torres and Williams 1987:10)

We can tentatively conclude that for some semi-speakers the ergative postposition has been lost, or has become highly restricted in distribution. For others it remains, though its use seems not to be conditioned by the usual discourse and semantic factors; there is insufficient information, however, to be sure, or to determine whether or not the usage is principled. The last two fluent speakers, AK and MC, seem to use optional ergative marking in similar ways to fluent speakers of Gooniyandi and Warrwa, where there is no reason to believe that the traditional system is not maintained.

7.2. Word order

Australian languages are notorious for their free word order: generally speaking, the phrases of a clause can be permuted in any way and the result will be an acceptable utterance with no difference in referential meaning. Nevertheless, all languages show preferences; not all orders are equiprobable. For transitive clauses SOV is the preferred order in many ergative languages; Gooniyandi shows this preference, with SVO not far behind. Nyulnyulan languages exhibit a preference for SVO order. This can be seen from the statistics provided in Table 6, which are based on counts over sub-corpora of narrative texts in the three languages.

	Nyulnyul		Warrwa		Gooniyandi	
SVO	55	0.89	21	0.49	31	0.27
SOV	0	0.00	6	0.14	38	0.33
OVS	4	0.06	5	0.12	23	0.20
OSV	2	0.03	4	0.09	14	0.12
VOS	0	0.00	5	0.12	5	0.04

VSO	1	0.02	2	0.05	3	0.03
Total	62	1.00	43	1.01	114	0.99

Table 6. Comparison of word order frequencies in three languages

The statistics given in this table are suggestive of increasing word order rigidification with increasing obsolescence: the most viable language, Gooniyandi, shows the greatest freedom, while the least viable, Nyulnyul, shows the least variation. The strong preference for SVO word order exhibited by the two Nyulnyulan language suggests influence from English. However, it is possible that SVO was the (or a) preferred word order in traditional Nyulnyulan languages, perhaps even in proto-Nyulnyulan. The especially strong propensity for this order in Nyulnyul could be due to a reduction in stylistic range and the reduced need for word order variants to express marked pragmatic choices. It could also result from a "scarcity of data" available to children acquiring the language, as suggested by Richards (2001:432) for Lardil. None of these possibilities argues against English influence, and in my opinion it is more likely that all four factors had an impact.

Both rigidification of word order and the preference for SVO are consistent with findings from other obsolescent languages in Australia, including Gurindji (Dalton, Edwards *et al.* 1995:88), Dyirbal (Schmidt 1985:105-111), and Lardil (Richards 2001:441-442). It is notable, however, that even in Nyulnyul word order has not assumed the role of signalling grammatical relations, except in the speech of semi-speakers who do not use the ergative postposition.¹⁶ For the fluent speakers and some semi-speakers word order shows rigidification whilst ergative marking is retained.

7.3. Influences from English?

Various observations earlier in this section attest to the need to be wary of presuming English influence wherever an endangered language shows English-like structures. Investigations of Nyulnyul reveal a number of these, for which closer examination reveals other possibilities. An example is the construction illustrated by (17), where the body part NP is marked by the locative. Better

¹⁶In this regard the situation in Nyulnyul differs from the situation for Lardil, in which the increased frequency of SVO is accompanied by a loss of accusative marking.

known in Australian languages are identically marked constructions (McGregor 1999) — dubbed the “favourite construction” by Hale (1981) — in which the whole and part NPs are accorded the same case-marking, as in (18). Nevertheless, the locative construction is also widely attested; it even occurs in viable Warlpiri. Examination of the Nyulnyul examples reveals that the two constructions contrast semantically. Very roughly, identically marked constructions express a closer relation between the part and the whole, and more intimate involvement of the part in the event; the locative construction expresses more peripheral or accidental involvement of the part (McGregor 1999). The inference that the construction is an English borrowing it is unwarranted.

(17) buy -in i-na-r-ngay nga-mird -uk
 ant -erg 3sg.nom-cj-spear-1min.acc 1sg-leg -loc
 ‘Ant(s) bit me on the leg.’ (Nyulnyul)

(18) nga-marl buy -in kad i-ngi-rr-a-w-ngay
 1sg-arm ant -erg bite 3nom-pa-pl-cj-give-1sg.acc
 ‘Ant(s) bit me on the arm.’ (Nyulnyul)

This is not to suggest that English syntax has had no influence on Nyulnyul. Consider (19) and (20): (19) uses English *to* with the infinitival form of the IV -R ‘poke’, while (20) employs an English-type periphrastic expression with lexical borrowings from English to express the past habitual, which is expressed derivationally in Nyulnyulan languages. Such examples are not common in the utterances of the last fluent speakers, and are almost certainly one-off speech errors that have not become systematised.

(19) njanji layib to ma-r-an wamburiny i-n-jibal-yarrad
 interr good to inf-poke-imp people 3sg.nom-cj-ask-1pl.obl
 ‘“Is it right to kill people?” he asked us.’ (Nyulnyul)

(20) wajanarr they used to; kadakad i-ngi-rr-a-w-an ng; wanggayi:
 later cut 3nom-pa-pl-cj-give-imp [tree:type]
 bardangk, wanggayi,
 tree [tree:type]
 ‘Then they used to chop down the *wanggai* tree.’ (Nyulnyul)

A potential example of systematic and entrenched syntactic change under English influence comes from the domain of complex sentence constructions.

Example (10) above illustrates a means of framing (mistaken) thoughts by use of the generic ‘say, do’ IV as the framing verb. This type of construction is attested elsewhere in Nyulnyulan and nearby languages, and is likely to represent the traditional Nyulnyul construction. It is not attested in the speech of AK or MC, who consistently used framing clauses with *-mungk* ‘think, believe, know’ as in (21). Absence of this mode of expression in earlier corpora lends some credence to the notion that the construction is an English calque.

- (21) yarrad -in yarr-mungk juy arri daarr mi-la-r-an in juy
 we -erg 1pl-think you no come 2sg.nom-irr-pierce-imp this you
 ‘We all thought that you hadn’t arrived, but here you are.’ (Nyulnyul)

8. Lexical changes

8.1. Lexical changes in Nyulnyul

8.1.1. Fluent speakers

Both fluent speakers of Nyulnyul, AK and MC, appear to have had large vocabularies, that included not just the “basic” lexemes, but many others as well. Over 2,000 lexeme types were elicited from MC,¹⁷ and the textual corpora from both fluent speakers are reasonably lexically dense and varied. However, the wordlists included in Nekes and Worms (1953) reveal perhaps several hundred lexemes unattested in AK’s and MC’s usage. These include even body parts terms: for instance, MC consistently gave *ngurrngk* for both ‘elbow’ and ‘knee’. Nekes and Worms (1953:748), however, also give the prefixing noun *nialangon* (*ni-alangkoon*) ‘his/her elbow’. (It is not unusual for an Australian language to have a single term covering both ‘knee’ and ‘elbow’.)

It seems reasonable to presume that words associated with traditional esoteric domains such as secret-sacred law were absent from the lexicons of AK and MC. These items almost certainly disappeared with the generation who

¹⁷Certainly this speaker sometimes experienced difficulties in providing lexical correspondents for English prompts in elicitation sessions. However, in most cases these were memory lapses, not vocabulary attrition associated with language obsolescence, and usually she would recall the word within a few days.

were adolescents in the 1890s, the last generation to have undergone initiation. Furthermore, no evidence could be found of lexemes peculiar to marked registers such as avoidance (mother-in-law) or widow styles, though whether or not this is indicative of registerial loss cannot be determined — no Nyulnyulan language is known to have had a well developed avoidance style.

There is also evidence of losses in the metaphorical extension of some words. According to Fr. Alphonse Tachon,

There are more words in it [i.e. Nyulnyul — WMcG] than in Caledonia. The language is harmonious although there are too many z's. They are down to earth and here is an example: to say 'I love you' they say literally, 'I give you my stomach', or 'I give you my breath.' They laughed at me when I told them it would be better to say, 'I give you my heart.' I will have to create words. (Letter from Fr. A. Tachon to his aunt, dated 20 May 1891, cited in Zucker (1994:32); original held in Abbaye Notre Dame de Sept Fons).

Worms (1953:965) gives an example confirming this metaphoric usage of *-ng* 'stomach'. However, this metaphor is unattested in the recorded utterances of AK or MC, who consistently use a metaphor more like the one Tachon wanted to use as a replacement, namely *liyan* ... -M (heart/feelings ... put) — cf. proto-Nyulnyulan **liyan* 'heart'. This might perhaps represent a successful replacement instituted by Tachon, and the incorporation of the European metaphor. But not necessarily: other Nyulnyulan languages (beyond Fr. Alphonse's reach) show a similar metaphoric use of *liyan* ... -M (heart ... put): in Warrwa, it is used to express affection for a person. We can conclude only that a metaphoric use might have been lost, not that a new one has been gained.

8.1.2. Semi-speakers

The Nyulnyul semi-speaker MW had a quite extensive lexicon — at least 1,000 words — embracing many nominals from the semantic domains of human classification, kinship, body parts, the elements, flora and fauna, artefacts, place names, and qualities. Of these domains, flora, fauna, human classification, and body parts were better represented than qualities and events. She also had a largish vocabulary of UVs, and closed class items including particles ('yes' and 'no'), demonstratives, pronominals, and spatial adverbs.

MW exhibited more lexical gaps than either AK or MC, especially for less common concepts — for example, she claimed that no lexeme existed for 'bubble', though one was readily elicited from MC. This semi-speaker also

applied processes of semantic extension to make up for missing lexemes. For 'cloud' she gave *wul* 'water' and *wungun* 'rain', saying that no separate word existed; however, Nekes and Worms (1953:222, 851) give *wadan*. This example illustrates a process of semantic extension common in Australian languages: a single lexeme denotes both an item and its source. Another example is provided by *kaarr*(*ε*), which the semi-speaker claimed to mean both 'sea' and 'waves'. According to Nekes and Worms (1953:277), however, *gar* (*kaarr*) is the term for 'sea' in Bardi, though not Nyulnyul, for which they give *nagol* (*nakul*) (p.277) and *widigar* (*widikar*(*r*)) (p.568). They give three separate terms for 'waves', *danjbor* (*danybur*(*r*)) (p.420), *walebal-god* (*walibalkud*) (p.856), and *mamb* (*mamb*) (p.680).

In the Beagle Bay community, which I visited in 1986 and 1990, extensive casual observation suggested that perhaps all adults over the age of fifty — most of who were rememberers — know a fair number of Nyulnyul words for flora and fauna, and probably also traditional artefacts and body parts. When talking about hunting and gathering and other traditional activities, they frequently use these terms in speech that is primarily English in grammar and lexicon. Examples can be found in the transcripts of conversations between missionaries and Beagle Bay residents included in Nailon and Huegel (1990). For instance, page 22 of that work has the following example (spoked by Lena Cox about her childhood at the mission): "We would go bush for gubiny, wonger (honey) and gulai". And again on page 24 Senanus Yulugut says:

When I was little, I did not go fishing, I was round spring, digging berries 'bilgin' bush fruit. Me and my grandmother used to go picking up perendin from sand like potatoes, ngerongden, plum. Other bush fruit, dun, yumbug, medingurrah, kabin, wangarrin, belinar, galumbara, bermugumgulla, I went with grubbing sticks.

Beagle Bay children also know Nyulnyul names for at least the most common flora and fauna around the community.

8.2. Borrowings from English

It is reasonable to expect frequent borrowing into obsolescent languages of lexical items from the dominant language. And indeed in the textual corpora of the last two fluent speakers of Nyulnyul borrowings from English are not uncommon. These are incorporated to varying degrees into Nyulnyul phonology, ranging from complete assimilation (as in the case of *kanard* 'don't

let', from *cannot*, in the text recorded by Stokes) to complete non-assimilation (as illustrated by *they used to* in (20)).

In many modern Kimberley languages, borrowing from English is the usual way of creating lexemes for non-traditional entities and activities. Warrwa represents an interesting exception: despite its advanced stage of obsolescence, it shows signs of preference for coining terms using derivational resources. For instance, the normal term for 'motor car' is *burr-kurru*, from *burr*, an onomatopoeic term designating the noise made, and the associative suffix *-kurru*. Indeed, Warrwa speakers seem to be quite creative in this regard, and more so than speakers of more viable languages. At the opposite extreme is Nyulnyul: MC and various semi-speakers I spoke with showed an unwillingness to invent Nyulnyul terms for new objects, saying instead that the item was unknown in traditional times.¹⁸

Finally, it is not just open class words such as nominals and verbals that are borrowed from English. Lacking conjunctions, both Gooniyandi and Warrwa borrowed *nd* (<*and*) and *ɔ* (<*or*) — notice that they have remained phonologically exceptional. Although traditional Nyulnyul had the conjunction *agal* 'and', both fluent speakers and semi-speakers use the English borrowing *nd*.

9. Conclusions

In this paper I have identified and discussed several instances of apparent structural changes accompanying the obsolescence of three traditional Kimberley languages that show marked differences in socio-historical circumstances. It has been seen that the extent and range of structural changes differs markedly among the languages, suggesting connections between the structural changes and the external circumstances (see also e.g. Thomason 2001:227). Warrwa, which suffered sudden glotticide, exhibits significantly less evidence of attrition than Nyulnyul, which underwent gradual shift in the first decades of the twentieth century, followed by a period of rapid shift. Structural changes in Gooniyandi, the strongest of the three languages, are few and restricted to esoteric domains. The changes in all three languages are less significant than the post-contact changes in the three more endangered New

¹⁸This illustrates an extreme case of linguistic and cultural moribundity, in which speakers have reified their construals of traditional Nyulnyul culture as a constant and unchanging entity — a notion that also emerged clearly during discussions with these speakers.

South Wales languages discussed in Austin (1986).

The structural changes we have identified are typical of obsolescent languages, and are of two main types: levelling of paradigmatic contrasts, and loss of forms. Differences may exist among speakers of a language in terms of which contrasts are levelled and which forms are lost, as was particularly clear for the last speakers of Nyulnyul and Warrwa. Nevertheless, I maintain that each speaker has a grammatical system underlying their speech, functional to different degrees depending on fluency. Focussing exclusively on grammatical attrition is misleading to the extent that both fluent and semi-speakers of Nyulnyul show evidence of creative language use, and of the incipient emergence of new systems (see also Gal 1989:316, 329).¹⁹ We saw in the speech of the last fluent speaker evidence of extended use of periphrastic expressions — probably analogised on CVCs — at the expense of derived forms for reflexive/reciprocals. And for one of the semi-speakers evidence of creativity in lexical semantics — as well as possibly the incipient emergence of a system of grammatical marking by word order.

It is striking that some grammatical phenomena seem to be more stable and resistant to erosion than others. Ergative marking appears to be reasonably resilient, and is exhibited even in the speech of some Nyulnyul semi-speakers. Evidence from other obsolescent Australian languages, including Gurindji (Dalton, Edwards *et al.* 1995) and Dyrbal (Schmidt 1985), attests to the stability of ergative marking. On the other hand, possessive pronominal prefixing of nominals seems to be more susceptible to loss in Nyulnyulan languages, as does word order variation.

Two important, related, questions arise: (a) How can the observed lexical and grammatical changes be accounted for? And (b) how can the apparent differences in stability of grammatical systems be explained?

In regard to (a), we have already mentioned two widely used explanation. One is that attrition may result from the influence of the dominant language,

¹⁹An even nicer illustration might be provided by Warrwa. According to Capell (1952/1953) the forms *-na*, *-ni*, *-rni*, *-nma* and *-ma* are allomorphs of two morphemes: the first three of the ergative marker, the fourth and fifth of an emphatic marker for pronouns. In the modern language things are very different: *-na* and *-ma* are ergative allomorphs, while *-nma* is an emphatic ergative marker; the other two forms are borrowings from Nyikina. Capell's corpus is not large enough to support or refute his analysis; but if supported, the last two fluent speakers have innovated an exceptionally complex grammatical system, perhaps more complex than the traditional system. This is of course entirely speculative.

when it does not have the particular category. Examples are easy to find. But there are problem cases, where this explanation, nice as it may seem, lacks empirical support. An example is loss of word order variation, for which other explanations are as plausible — and lacking empirical support. The levelling of the contrast between lamino-dental and lamino-palatal nasals in Gooniyandi also looks promising, though a little thought reveals that if the influence were from English the loss of the distinction would go in a different way — the lamino-dental would merge with the apico-alveolar. Finally consider the loss of pronominal prefixing to body part terms in some speakers' Nyulnyul. English influence is undermined somewhat by the observation that exactly the same systemic levelling occurred as a normal historical process in two Eastern Nyulnyulan languages, predating colonisation. And why should the very un-English prefixing of the word for 'think, believe' be maintained?

The other explanation links grammatical attrition to a reduction in functional range via reduction in formal variation (e.g. Austin 1986:203, Schmidt 1985:4). The main difficulty here is to link specific structural losses with specific reductions in functional ranges. The best case for this scenario is perhaps word order rigidification; it also provides a (partial) explanation for the phonemic merger in Gooniyandi laminal nasals commented on in the previous paragraph: this contrast is one of the weakest in statistical terms in the traditional language.

Turning to (b), some linguists (e.g. Voegelin and Voegelin 1977) have suggested that there is an inverse relation between acquisition and loss, structures learnt last by children being lost first. Unfortunately, we have no acquisition data against which this can be tested for any Kimberley language. Frequency has also been suggested as a factor: the more frequent a structure is, the more resistant to loss (e.g. Gal 1989). Again there is insufficient data to test this against, though it seems likely that it would run into difficulties. Are third person singular forms of prefixing nouns more frequent in general than first or second person singular forms, and is the word for 'think, believe' more common than any body part term in Nyulnyul discourse? This last example suggests that "naturalness" may also be a consideration — perhaps prefixing of *-munk* 'think, believe' in Nyulnyul is retained because of its more verbal semantics, coupled with a "natural" association of person and number marking with verbs.

These are some of the most obvious explanations; others are imaginable, but it is beyond the scope of the present descriptive paper to evaluate them. Explanations in terms of single causal factors are unlikely to be viable — more

likely, sets of factors typically operate in parallel. My guess is that explanation may be possible *post hoc*, but that prediction of structural change is as impossible as prediction of the fate of a language (Vakhtin 2003).

Three further observations are worth drawing out before winding up the paper. First, we have seen that for rememberers of Nyulnyul what remains of the language is a small set of lexemes that are typically used as shibboleths, marking membership of a certain community. A somewhat different type of shibboleth found in a few languages involves overuse of a marked form, and serves as it were as an index of the language. This seems to have occurred with the traditional language of Sunday Island, Jawi, which was very similar to the nearby mainland language Bardi. One or two morphemes have taken on a distinctive role, and may be attached to a Bardi word to form a Jawi word. Similarly, elderly Jabirjabirr people I spoke to in the mid-1980s recalled no words of the language; they characterised it by the feature that all words ended with *-war*. Examination of Nekes and Worms (1953) — which contains a considerable number of Jabirjabirr words and sentences — reveals scarcely any instance of this ending, the morphemic identity of which cannot be ascertained.²⁰

Second, absence of a form from the recorded utterances of a speaker cannot be interpreted as absence from their linguistic knowledge: as is well known, comprehension runs ahead of production. Furthermore, lack of use of a language over a number of decades can hardly not have an effect on a speaker's skills. Increased usage through interaction with the linguist investigator can over even a short time result in improvement in skill, as noticed by e.g. Donaldson (1985:115).

Third, field investigations targeting structural changes in obsolescence could of course provide information that might not emerge in participant observation. However, such investigations are also not without difficulties: constructions or lexical forms might be rejected or go unrecognised for many reasons, and not just because they do not exist in the speaker's grammar. Even eliciting reactions to example sentences can be problematic in the context of obsolescent languages, where speakers are likely to be old and infirm. A good illustration is provided by Nyulnyul, the last fluent speaker of which was deaf. It was impossible to obtain from her reliable reactions to many words and

²⁰Austin (1981:5) reports on a similar phenomenon in the Lake Eyre region, where the last speaker of Thirrari used an instance of the auxiliary verb *purri-* in each sentence in his dialect to differentiate it from Diyari. This is not in evidence in earlier records by Reuther.

constructions from earlier sources. In the best cases she recognised and accepted lexical items from those sources via the written forms. But for longer written sentences lack of fluency in reading coupled with practical difficulties (her bad eyesight, my execrable handwriting) led to failures of identification that could in the end only be regarded as communication failures.

It is hoped that this paper has revealed that there is both scope and need for intensive and systematic investigations of structural changes accompanying the obsolescence of Kimberley languages. Such investigations need to seek explanations for the observed changes, not just describe them. I have also pointed out the need for caution in identifying structural changes, and in attributing them to language obsolescence. Additionally, we need sociolinguistically and historically oriented investigations of language-shift situations in the region, and enquiries into causes of language shift.

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