

Enindhilyakwa phonology, morphosyntax and genetic position

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This is to certify that:

- (i) the thesis only comprises my original work towards the PhD,
- (ii) due acknowledgement has been made in the text to all other material used,
- (iii) the thesis is less than 100,000 words in length exclusive of tables, maps, bibliographies, examples and appendices,
- (iv) human ethics approval for this research was obtained from the Human Research Ethics Committee of the University of Sydney (Ref No: 05-2008/10821)

Marie-Elaine van Egmond

Abstract

This thesis is a grammatical description of Enindhilyakwa, a non-Pama-Nyungan language spoken by over 1200 people living in the Groote Eylandt archipelago in the Gulf of Carpentaria, Northern Territory, Australia. The language is classified as an isolate in O’Grady et al. (1966), and as “perhaps the most difficult of all Australian languages, with a very complex grammar” (Dixon 1980: 84; Capell 1942: 376). The aim of this thesis is to unravel this complex grammar, morphosyntax and phonology, and to place the language in the context of the neighbouring Arnhem Land languages. I propose that, although highly intricate, Enindhilyakwa morphology is also fairly regular and transparent, and, in fact, patterns much like the Gunwinyguan family of languages to its west.

The areas of grammar covered in this thesis are: phonology (Chapter 2), nouns and adjectives (Chapter 3), verbal prefixes (Chapter 4), verb stem structures (Chapter 5), tense, aspect and mood marking on the verb (Chapter 6), the incorporation of body part and generic nominals into verbs and adjectives (Chapter 7), case marking (Chapter 8), and the genetic affiliation (Chapter 9).

Enindhilyakwa phonology displays some radical departures from the typical Australian pattern, as well as from the typical Gunwinyguan pattern. However, the innovations can be traced back to an original proto-Gunwinyguan stock.

Other grammatical features of this language are: (i) an elaborate noun classification system, involving noun classes, gender and generics incorporated into verbs and adjectives; (ii) an extensive degree of nominal derivation, including inalienable possession, alienable possession and deverbalising prefixes; (iii) four distinct pronominal prefix series on the verb to mark an equal number of moods; (iv) the possibility of most nominal case markers to be used as complementising cases on verbs; and (v) the pervasive use of body parts, which play a major role in naming and classifying inanimate objects.

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¹ This is a Dutch ‘cargo bike’ with two child seats in front. Although very common in the Netherlands, it is not known in Germany (or anywhere else in the world), so we are very conspicuous, and by now also famous.

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Abbreviations and glossing conventions

- * 1) ungrammatical example
2) reconstructed form

Abbreviations used in glosses

Gloss	Definition	Gloss	Definition
1	first person exclusive	MIST.TH	mistaken thought
12	first person inclusive	NEG	negator
2	second person	NEUT	neuter noun class
3	third person	NP1	atomic non-past
a	augmented	NP2	neutral non-past
ABL	ablative case	NP3	negated non-past
ALL	allative case	NPST	non-past
ALP	alienable possession	NSR	nominaliser
CAUS	causative	O	object (general)
CofR	change of referent marker	P1	atomic past
COLL	collective noun class	P2	neutral past
compl.act	completed action	PI	past imperfective
cont.act	continuing action	pl	plural
DAT	dative case	POL	polite marker
DEM	demonstrative	POSS	possessive case
DENIZ	denizen case	PP	past perfective
du	dual	PRG	pergressive
EMPH	emphatic marker	PRIV	privative case
EXCL	exclamation	PRO	pronoun
FACT	factitive	PROP	proprietary case
f	feminine gender	PST	past
FEM	feminine noun class	PURP	purposive marker
HORT	hortative mood	RDP	reduplication
IMP	imperative mood	REAS	reason marker
INALP	inalienable possession	RECP	reciprocal
INCH	inchoative	REFL	reflexive
INSTR	instrumental case	S	subject (general)
IRR	irrealis mood (realis is unmarked)	sg	singular
KIN	kinship	SF	stem formative
LOC	locative case	tri	trial
m	masculine gender	TRM	termination marker
MASC	masculine noun class	TRVSR	transitiviser
min	minimal (usually unmarked)	VEG	vegetable noun class
		XTD	extended action

Boundaries

- synchronic morpheme boundary
- + historical morpheme boundary or bound form
- = clitic boundary
- . in glosses: 1) frozen boundary between noun class prefix and noun stem (this boundary is not indicated on the lexeme itself)
2) separates multiple English words for a single Enindhilyakwa morpheme; in phonetic transcriptions: syllable boundary

Other glossing conventions:

‘x/y’ in glosses denotes ‘x (subject) acting on y (object)’ for portmanteau pronominal prefixes

‘x-y’ in glosses denotes ‘x (subject) acting on y (object)’ for segmentable pronominal prefixes

For segmentable reverse order combinations subject and object are indicated in the glosses: ‘x.O-y.S’ means ‘y (subject) acting on x (object)’, where y is lower on the person/animacy hierarchy than x and appears in second order

Minimal number is not marked on glosses, so that 2/1 is to be interpreted as ‘second person minimal subject acting upon first person minimal object’, i.e. ‘you(sg) acting upon me’

SMALLCAPS are used to denote items with grammatical, rather than lexical meaning

In translations:

- Parentheses ‘()’ are used to denote elided material that is not actually present in the text
- Square brackets ‘[]’ are used to denote elided material that is actually present in the text

Sources

AEH	Alpher, Evans & Harvey (2003)
GED	Groote Eylandt Dictionary (1993)
JH	Jeffrey Heath (n.d.) (unpublished sketch grammar)
JS1	Judith Stokes (1981)
JS2	Judith Stokes (1982)
JW1	Julie Waddy (1987)
JW2	Julie Waddy (1988) (published PhD thesis)
LL	Language Lessons books (Reid, Stokes & Waddy 1983)
VL1	Velma Leeding (1989) (unpublished PhD thesis)
VL2	Velma Leeding (1996)
WD	Waddy Dictionary (unpublished digital file)
Ansec1,2	Anindilyakwa Secondary roots1, 2 (unpublished digital files by Julie Waddy)
‘Awurukwa’ w34	Stories collected by Judith Stokes, Julie Waddy and colleagues at Angurugu Linguistics in the 1960s-80s (name of story in inverted commas, followed by reference letter of story and reference line)
anin1_dl_au_001	Fieldwork recording (fieldwork trip_initials of speaker_type of recording_number of recording)

Languages mentioned in text

BGW	Bininj Gun-Wok (GN)	Ngal	Ngalakgan (GN)
D	Dalabon (GN)	Ngan	Ngandi (GN)
Dj	Djambarrpuyngu (Yolngu)	pGN	proto-Gunwinyguan
Eng	English	PN	Pama-Nyungan
Enin	Enindhilyakwa	pPN	proto-Pama-Nyungan
GN	Gunwinyguan	Rem	Rembarrnga (GN)
GP	Gapapuyngu (Yolngu)	Ri	Ritharrngu (Yolngu)
Mac	Macassan	Wub	Wubuy (aka Nunggubuyu, GN)

Chapter 1: Introduction

This thesis is a description of Enindhilyakwa, a non-Pama-Nyungan language spoken on the Groote Eylandt archipelago in the Gulf of Carpentaria, Northern Territory, Australia (Map 1.1 on p.2). Enindhilyakwa is spoken as a first language by over 1200 people living on Groote Eylandt and neighbouring Bickerton Island (Map 1.2 on p.5). It is fully acquired by children. Enindhilyakwa is classified as a language isolate by O’Grady, Voegelin & Voegelin (1966), O’Grady, Wurm & Hale (1966) and Evans (2005: 250).

Enindhilyakwa is richly polysynthetic, with extensive cross-referencing of subject and object arguments on the verb, noun incorporation, and a variety of argument-changing affixes. Every part of speech (except adverbs and particles) is obligatorily inflected for person, number and gender for humans, or noun class for non-humans. Consistent with its head-marking nature (Nichols 1986), case-marking is primarily exploited as a strategy for the more semantic grammatical roles such as locative, ablative, allative, instrumental, and to indicate relations between nominals. There is no case-marking on subjects or transitive objects, apart from some well-defined instances of differential object marking.

Together with Wubuy spoken on the mainland opposite Groote Eylandt (Map 1.1), the language has been described as “by far the most complicated [language] in north Australia, perhaps in the whole of Australia” (Capell 1942: 376). This perceived complexity of Enindhilyakwa is likely to be related to what is deemed the most complicated noun-classifying system in Australia (Sands 1995: 275), involving noun classes, verb-incorporated classifiers, and gender. To this complex system of noun classification may be added: (i) the obligatory cross-referencing and agreement on nominals and verbs; (ii) an atypical vowel inventory and phonotactics; (iii) four distinct series of pronominal prefixes on verbs encoding an equal number of moods; and (iv) extensive nominal derivation by means of prefixes - and the result is a language that is judged as “perhaps the most difficult of all Australian languages, with a very complex grammar” (Dixon 1980: 84).

This thesis aims to unravel the complexities of this language. I hope to show that, despite its intricacies, Enindhilyakwa grammar is also fairly regular, and, in fact, patterns much like the Gunwinyguan family of languages on the mainland to its west.

1.1 The Enindhilyakwa speakers and their language

This section introduces the reader to the Enindhilyakwa language and its speakers. Following an outline of the principal morphosyntactic typological features (section 1.1.1), I discuss its genetic affiliation in some more detail (section 1.1.2). The next two sections - the geography of Groote

- Incorporation of body part and generic nominals into verbs and adjectives, leaving the valency of the verb unaffected; the incorporable grammatical relations are restricted to the absolutive pattern
- Quantifier prefixes occurring between the pronominal prefix and the stem
- Complex verb stems that historically consist of an uninflecting plus an inflecting element, the latter determining the conjugational class of the stem
- Syntactically free, pragmatically-determined word order

The following examples illustrate some of the above features: the pronominal prefixes on verbs and noun classes on nominals in (1a-c), noun incorporation in (1b) and derivational affixes in (1c) (see pages xviii - xix for a list of abbreviations and glossing conventions used in this thesis).

- (1) a. *ngayuwa yiba-rrvngkv-na-ma nungkuwa adhalyvmv-manja arnungkwaya*
 1.PRO IRR.1/2-see-NP2-ma 2.PRO NEUT.river-LOC tomorrow
 ‘I will see you at the river tomorrow’ (anin4_mm_au_001)
- b. *nanga-lyang-barra arvngkv-manja akinv-mvrra dhukururrku-manja*
 FEM/FEM-head-hit.P1 NEUT.head-LOC NEUT.that-INSTR FEM.brolga-LOC
 ‘She [Emu(FEM)] hit Brolga on the head with that [stick(NEUT)]’ (VL1 p.310)
- c. *kvrri-env-mvrv-muku+lharri-ju-wa merra*
 2a.O-3m.S-BENE-fluid+fall-CAUS-P2 VEG.blood
 ‘he shed his blood for you’ (Ansec2)

Similar typological features as those listed above are found in the Gunwinyguan languages spoken on the mainland opposite Groote Eylandt.

1.1.2 Genetic affiliation

Enindhilyakwa is classified as a language isolate in the O’Grady, Voegelin & Voegelin (1966) and O’Grady, Wurm & Hale (1966) classifications,¹ based primarily on lexico-statistics. However, this isolate status is not undisputed. Some researchers have noted structural similarities between Enindhilyakwa and Wubuy (aka Nunggubuyu)² (Capell 1942; Worsley 1954a; Heath 1978b, 1984, 1990, 1997, n.d.), although Worsley notes that the two languages have a “totally different vocabulary” (1954a: 20). Based on these structural parallels, Heath has long persisted that Enindhilyakwa forms a subgroup with Wubuy and the neighbouring language Ngandi (1978b, 1984: 638, 1990, 1997, n.d.), though without providing much formal evidence to support this claim. Dixon (2002) follows Heath in grouping the three languages together into a subgroup of his

¹ These two classifications are essentially identical, the former being a special fascicle of *Anthropological Linguistics*, and the latter a wall map (Evans 2005 fn5). They will be referred to together in this thesis as ‘O’Grady et al.’.

² Wubuy is more commonly known as “Nunggubuyu”, as in Heath (1984). Technically, “Wubuy” is the indigenous name for the language, while “Nunggubuyu” is the name for the people who speak Wubuy (Baker 2008b fn2). Wubuy is currently spoken in Numbulwar at the Rose River mouth (Map 1.2), but the traditional country is as indicated in Map 1.1.

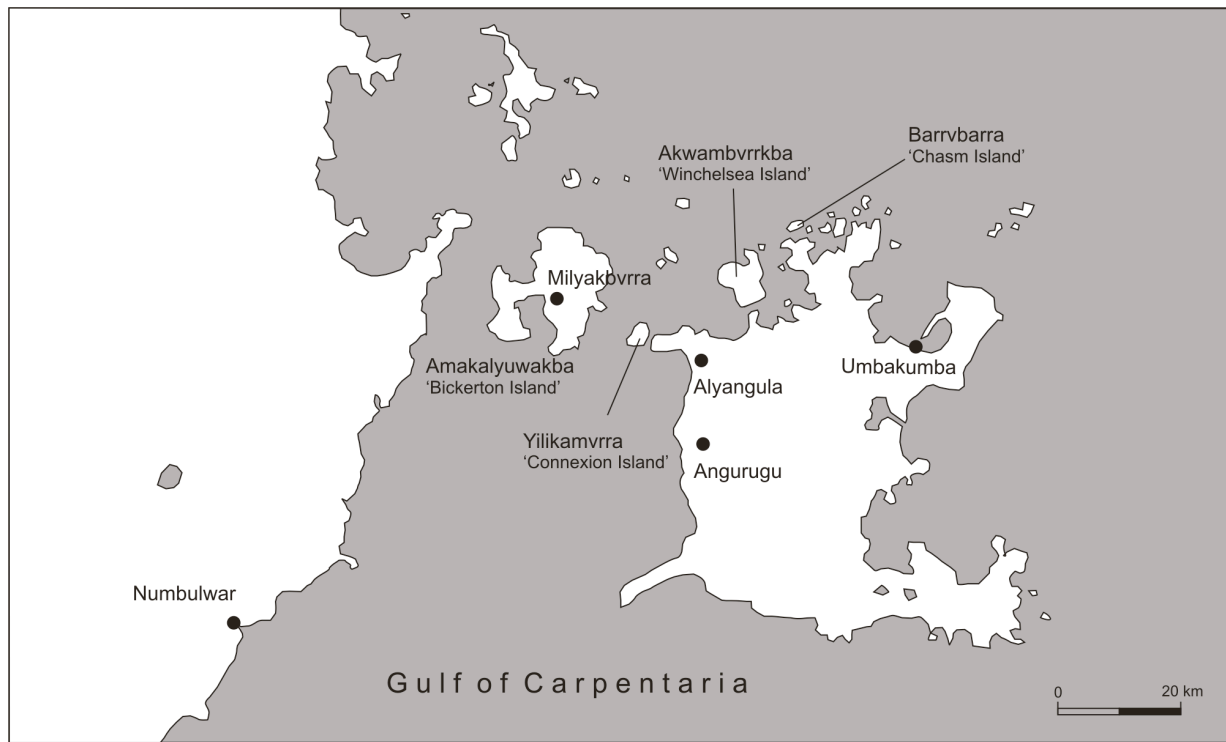
“Arnhem Land Group”, but still without any justification for the reasons. Therefore, the generally accepted view, as worded by Evans (2005: 250), is that “the evidence for Heath’s claim is slender”, and that “one should, for the moment, maintain the conservative position that [Enindhilyakwa] is a family-level isolate”.

An issue related to the genetic affiliation of the language is the timing of settlement of Groote Eylandt. Does the archaeological record provide evidence for long-term linguistic isolation, which could support an isolate status of the language, or is settlement of the island more recent, which could support Heath’s claim that Enindhilyakwa, Wubuy and Ngandi share a common ancestor? The following two sections - largely based on Clarke (1994) and Brockwell et al. (2009) - address these questions by providing an overview of the geography, archaeology and prehistoric population density of Groote Eylandt.

1.1.3 Geography of Groote Eylandt

Groote Eylandt is the largest island in an archipelago located on the western side of the Gulf of Carpentaria, which consists of over one hundred islands, ranging in size from small rocky outcrops to substantial islands capable of sustaining a permanent human population (see Map 1.2 on next page). The archipelago is a geological extension of Arnhem Land with a similar range of landscape features and vegetation. Groote Eylandt is located 43 km east of the Arnhem Land coast, while Bickerton Island lies 10 km east of the mainland and 17 km west of Groote Eylandt. Groote Eylandt is about 70 km from west to east and 70 km from north to south, covering an area of approximately 2260 km². Groote Eylandt and Bickerton Island can each be divided into three main geomorphological zones: a sandstone plateau, coastal plains, and dune fields, spits and sandplains (Shulmeister 1991). The sandstone plateau forms the central core of Groote Eylandt, with *Yandharrnga* ‘Central Hill’ rising 100 m above the surrounding plateau.

When sea levels were low during the Pleistocene (> 10,000 BP), the Groote Eylandt archipelago was part of the supercontinent Sahul, which embraced Australia and Papua New Guinea. The end of the Pleistocene at about 10,000 years BP is marked by an end to the glacial period and subsequent rise in sea-level, transforming Groote Eylandt into an island at around 7000 BP (Prebble et al. 2005: 358).



Map 1.2: The Groote Eylandt archipelago

1.1.4 Archaeology, rock art and prehistoric population density

All the dated sites from eastern Arnhem Land relate to a Mid - Late Holocene (6000 - 4000 years BP) occupation of coastal environments (Clarke 1994; Brockwell et al. 2009). There is no comparable sequence of human occupation to that from western Arnhem Land, where human settlement has been shown to have begun at least 55,000 years ago (see Clarke 1994: 7 and the references therein). The archaeological record suggests that the pattern of settlement on the coastal plains of Arnhem Land roughly followed the evolution of the landscape (Brockwell et al. 2009). Shortly after stabilisation of sea-levels at around 6000 BP, people began foraging the edges of the vast swamps, occupying the adjacent rock shelters. With increasing sedimentation people began to move out onto floodplains after 4000 BP and onto the prograding coast. People also began to travel further out to sea and occupy islands, such as Groote Eylandt, after 4000 BP (ibid p.62). The oldest archaeological record on Groote Eylandt to date comes from a midden and is dated at 2987 - 2677 years (ibid p.66). Archaeological finds of this age are however rare, and only begin to increase at dated ages of about 1300 years. They become most frequent at around 700 BP.

Dutch explorers visited the Gulf of Carpentaria in the 17th century but left little record of their doings (Tindale 1925: 61), apart from the naming of Groote Eylandt (Dutch for 'big island' in archaic spelling) by Abel Tasman in 1644. The first known record of an Aboriginal presence in the Groote Eylandt archipelago was made by Matthew Flinders (1814), who noted rock art on

Chasm Island to the north of Groote Eylandt (Map 1.2) during his 1803 voyage around Australia, representing porpoises, turtle, kangaroos and a human hand. McCarthy (1960) recorded some forty-five rockshelters with paintings depicting emus and kangaroos, neither of which now live on the archipelago. He attributed these paintings to either mainland visitors or to Groote Eylandters who had visited the mainland. Representations of mythical beings and ceremonial figures, extensively depicted in mainland caves, are not seen on the archipelago (Tindale 1926: 117).

Chaloupka (1989) divided the rock art into two phases: the Sahulian phase, associated with low sea-levels during the Pleistocene (> 10,000 BP), and the marine phase. He suggested that depictions of large macropods on Chasm Island represent the large macropods that would have been found on the Sahulian plains. This interpretation is, however, based on a brief field observation and not on a detailed analysis (Clarke 1994: 5). McCarthy also observed pictures of these large animals but noted that it is impossible to distinguish between kangaroos and wallabies, or between the emu and other birds (1960: 388).

Turner (1973) recorded art sites on Bickerton Island, and found that some of them were very recent. He also found out that people tended to depict unique events, which would explain the high proportion of European ships present in Bickerton art, and the apparent mainland images in Groote Eylandt art. He suggested that these were painted by Groote Eylandters on their return from the mainland, as a record of their experiences. These suggestions are supported by Rose (1942, 1961), who proposes that the rock art on Groote Eylandt was made by two peoples at different times. The earlier paintings were made by visitors from the mainland who brought their ochre with them, while the later paintings were done by the inhabitants of Groote Eylandt who used local ochres. The earliest paintings are probably very old, but the newer ones were done within historical times (Rose 1942).

No stone suitable for implements is found on the island, so that “all the stone implements found on Groote Eylandt have at one time or another passed in turn through the hands of the Allawa, Ngalakan, Mara and Nunggubuyu, the former obtaining them from tribes still further south” (Tindale 1925: 98).

Regarding the prehistoric population density, Rose estimated the maximum population on Groote Eylandt to be around one hundred before the advent of Macassan fishermen (1961: 528) in the late 17th century (see next section). Tindale estimated the population of the entire archipelago at the time of first European contact in 1921 at little more than 300 (1925: 64). This gives a pre-European contact population density figure of 1 person per 9 km², which falls within the lower ends of the ranges recorded for Yolngu coastal groups (see Clarke 1994: 13). For the Nunggubuyu the estimated pre-contact figure is 1 person per 13-18 km². White et al. (1990) attribute this low

Nunggubuyu figure to environmental factors, arguing that this region is drier and lacks the diversity of resources found on the north coast of Arnhem Land.

These numbers raise interesting further questions in relation to the prehistoric population density and the timing of settlement of the Groote Eylandt archipelago, as Clarke (1994: 14) points out. Why is there a lower population density in comparison to northern coastal Arnhem Land? Is it a function of ecological variables, as White et al. (1990) have suggested for Nunggubuyu country, or could it be due to a more recent time span for settlement? Would a late Holocene (< 2000 BP) settlement of Groote Eylandt relate to the stabilisation of productive coastal habitats following the post-glacial sea-level rise? Is there evidence for a late Holocene development of watercraft capable of crossing the sea from the mainland to Bickerton Island, and from there to Groote Eylandt, a stretch of altogether 27 km?

This thesis investigates the linguistic components to these questions in Chapter 9. There I hope to demonstrate that the linguistic evidence coincides with both the archaeological record and the low pre-contact population density figures: Enindhilyakwa is not a family-level isolate, as was hitherto assumed, but is genetically affiliated with some of the mainland languages. In other words, the available evidence from a range of disciplines all points to a comparatively recent timing of settlement of Groote Eylandt, which may have taken place around 3000 years ago. There is no evidence - archaeological or linguistic - for a great time-depth of occupation that would coincide with the geographic isolation of the island at around 7000 BP.

1.1.5 Contact history

The indigenous people of Groote Eylandt experienced contact through two distinctive groups of outsiders: firstly Macassan fishermen, followed by European missionaries (MacKnight 1972, 1976; Stokes 1982; Leeding 1989; Clarke 2004, 2011). Macassans came from the Indonesian port of Macassar in southern Sulawesi for yearly visits to the Northern Australian shores in the wet season, during a period lasting from the late seventeenth century until 1906³ (MacKnight 1976). The fishermen (often referred to as Malays in many 19th century texts, or more commonly as Macassans [Clarke 2011: 93]) came to Australia in search of commodities to sell, the main focus being on trepang (bêche-de-mer, or sea slug), but also including pearl shell, pearls, turtle shell, manganese, amongst others. Along with North-East Arnhem Land (Yolngu) and the Cobourg Peninsula (Iwaidjan), the region around Groote Eylandt and the adjoining mainland (Wubuy) appears to have been one of the main three foci of Macassan activity (Evans 1992: 51-2). Many place names still in use on Groote Eylandt attest to substantial linguistic influence, such as

³ In 1906 the White Australian Policy was enforced, restricting “non-white” immigration to Australia (MacKnight 1972, 1976).

Umbakumba (< Malay *ombak-ombak* ‘lapping of waves’) and Bartalumba Bay (< Macassan *batu lompoa* ‘the big rock’), as do the many loanwords of Macassan origin. Evans (1992) lists 35 words, mostly nouns, that have entered the Enindhilyakwa language through contact with the Macassans.

Tindale suggests that although Northern Australian natives have always been hostile to the alien Macassan intruders and no intimate contact took place, on Groote Eylandt closer communication was brought about than elsewhere (1925: 66). The Macassan fleets spent much time at the island, as evidenced by the remains of their camps Tindale observed, covering extensive areas on the northern part of the island. The natives were employed in shelling and trepanning, and many of them accompanied the Macassans on their return voyages to Macassar, often returning with extensive knowledge of their habits and culture (*ibid.*).

The Macassans introduced the dug-out canoe to the Arnhem Land Aborigines, as well as metal, fishhooks, knives, tobacco, alcohol, and diseases (Macassan words for these items can be found in languages all across Arnhem Land; see Evans 1992). Rose (1961) suggests that the introduction of the dug-out canoe brought about a fundamental change in the economy of the Aborigines, as it shifted the emphasis from land hunting and collecting, to sea hunting. This shift was most pronounced for Groote Eylandt, Rose suggests, and he hypothesises that Groote Eylandt may not have been permanently occupied before the advent of the Macassans, but was only visited by the adjacent mainland (Nunggubuyu) tribe (1961: 529). According to Rose, the introduction of the dug-out facilitated the use of the rich resources of the island’s waters, thereby paving the way for part of the Nunggubuyu tribe to settle permanently on the island.

Tindale notes that the traditional bark canoe was still in use, but only in sheltered creeks and bays (1926: 103). He witnessed Groote Eylandters making direct voyages of about 30 miles to Numbulwar on the mainland in dug-out canoes (1926: 111). Some older Wubuy speakers told Brett Baker they had travelled to Groote Eylandt in bark canoes (Brett Baker, p.c.).

European settlement started in 1921, when the Emerald River Mission was established by the Church Missionary Society (CMS) (Clarke 1994). This mission was set up as a station for ‘half-caste’ children from the Roper River Mission on the mainland. By 1933 the number of children had dropped substantially, and the CMS turned their missionary activities towards the Groote Eylandt people (Dewar 1992, cited in Clarke 1994). In 1938 the mission was moved to its present site at the Angurugu river. The Umbakumba settlement was established in 1938 by Fred Gray, in the same year that Qantas started building a flying Boat Base at Port Langdon at the Umbakumba lagoon, to serve as a refuelling depot for the Sydney-London flight. Umbakumba was taken over

by the CMS in the 1960s. In the 1980s the Aboriginal townships became self-governing and administration was handed over to elected Land Councils.

In 1964 the Groote Eylandt Mining Company Pty Ltd (GemCo) was established and began the mining of manganese on the west coast of Groote Eylandt. Currently the mine produces about a quarter of the world's manganese. The mining town Alyangula was erected for non-Aboriginal GemCo employees. GemCo leases the land from the Enindhilyakwa people, who receive royalties in return.

1.1.6 Present-day speech communities

The number of Enindhilyakwa speakers according to the 2006 census was 1,283 - a four-fold increase since the first European contact. Today there are three major Aboriginal communities and several outstations on the archipelago: most Enindhilyakwa speakers live in Angurugu on the west coast of Groote Eylandt (an estimated number of 850⁴). Umbakumba in the north east has a population of 467, and Milyakbvrria on Bickerton Island harbours 180 people. The population of Alyangula is predominantly non-Aboriginal. The number of inhabitants is highly variable due fluctuation of the workforce ("fly-in fly-out" employment at GemCo is common), but averages around a 1000 people.

There are 14 clans with territories distributed across Bickerton Island and Groote Eylandt (Turner 1974; Waddy 1988; Groote Eylandt Linguistics 1993; Clarke 1994).⁵ These clans are divided into two strictly exogamous patrilineal 'moieties', the society as a whole being over 90% endogamous (Rose 1961). In contrast to the mainland, the moieties have no proper name (Turner 1986: 34): ego calls his own moiety *yirr-enikabvrria* 'us mob', and the other moiety *wurr-enikabvrria* 'them mob'. Turner believes this reflects a fairly recent origin of the moiety divisions. Groote Eylandt people also do not have a name for themselves as a whole. In this thesis I will refer to them as the 'Enindhilyakwa speakers'.⁶ The Bickerton Island people, on the other hand, do have a collective name for themselves: *Warnvngamakalyuwakba* 'people belonging to *Amakalyuwakba* [Bickerton Island]' (Turner 1986). The Mamarika and Amagula are recognised as the "original owners" of the land and the language (Leeding 1989: 2). In the 1950s surnames were adopted to comply with requirements for Government welfare records (Turner 1974) and royalty distributions. Many of these surnames are derived from one of the clan totems and they exist alongside the clan names (e.g. *Mamarika* 'southeast trade wind' is a surname of the Warnindhilyakwa clan) (Waddy 1988: 111).

⁴ <http://www.rahc.com.au/uploads/file/Community%20Profiles/Groote%20Eylandt%20Community%20Profile.pdf>

⁵ Other previous work lists smaller numbers of clans; see Waddy (1988: 110-17) for an overview of these analyses.

⁶ The term *Warnindhilyakwa* that is sometimes used properly refers to the Warnindhilyakwa clan (Waddy 1988: 47).

The Enindhilyakwa people have ties to eastern Arnhem Land through ceremony, trade and exchange networks, song cycles, the routes taken by ancestral beings, marriage and through the migration of people in recent times (Tindale 1925-6; Worsley 1954a; Rose 1960; Turner 1974; Waddy 1988; Clarke 1994). Four clan groups are known to have migrated to the Groote Eylandt archipelago in historical memory (Clarke 1994: 11; Turner 1974; Waddy 1988). The five clans on Bickerton are bilingual and also speak Wubuy (Turner 1974). My impression is that many speakers are multi-lingual: apart from Enindhilyakwa and English, some of my informants told me they also speak Wubuy, Ritharrngu, Rembarrnga or Kriol. However, Kriol, the English lexifier creole prevalent in Northern Australia, is not at all common on Groote Eylandt. The only time I have heard it was from a Wubuy visitor from Numbulwar.

The Aboriginal communities on the archipelago are deeply affected by the Machado Joseph Disease (MJD), previously known as the “Groote Eylandt Syndrome” (www.mjd.org.au). This hereditary neuro-degenerative condition renders people paralysed and wheelchair bound within 10-15 years of the first symptoms emerging.⁷ Each child of a person who carries the defective gene has a 50% chance of developing the disease. There is no known cure for MJD.

1.1.7 Previous work

The first Enindhilyakwa word list was compiled by Tindale (1925-6), who called the language *Ingura*.⁸ He provides a list of about 500 items, transcribed in the Royal Geographical Society’s system (which did not distinguish between for instance retroflex and alveolar consonants). The next brief descriptions come from Capell (1942, 1946), who noted the very close structural resemblance of *Andiljaugwa* with Nunggubuyu (1942: 379). Moody (1954) is a first attempt at deciphering *Anindilyaugwa* phonemics and morphology, while Worsley (1954b) investigates *Enindiljaugwa* noun incorporation.

Between 1975 and 1977 Jeffrey Heath spent a few weeks with one Enindhilyakwa speaker at Numbulwar Mission, while conducting fieldwork on a number of other Arnhem Land languages. This resulted in his insightful but unpublished *Draft grammatical sketch of Anindhilyagwa* (Heath n.d.) (67 pages, includes audio material on tape, archived at Australian Institute for Aboriginal and Torres Strait Islander Studies [AIATSIS] in Canberra). Heath’s sketch grammar covers Enindhilyakwa phonology, kin terms, and nominal and verbal morphology.

⁷ The disease also occurs in people of Portuguese ancestry. The spread of this disease to Arnhem Land was previously attributed to contact with the Macassans, who in turn traded with Portuguese sailors in the 16th century. However, recent research points to an Asian link (Martins et al. 2012).

⁸ This is similar to the Wubuy name for the Enindhilyakwa language and its speakers: *inykurra* (Heath 1982). Conversely, the Enindhilyakwa name for the Wubuy language is *yingkura* (Leeding 1989: 1).

The next published work comes from Judith Stokes, who examines *Anindhilyakwa* phonology in Stokes (1981) (41 pages) and describes the expression of mathematical concepts in this language (counting, spatial position, time, and so on) in Stokes (1982) (112 pages). Together with Lois Reid and Julie Waddy, she compiled a series of ‘Language Lessons Books’ (Reid, Stokes & Waddy 1983; Waddy 1986, 1987). These booklets cover the basic sound system, vocabulary and nominal and verbal morphology. They are designed as learning books for non-Enindhilyakwa speakers and contain drills and conversation exercises. The Waddy (1986) booklet comes with audio files.

Most of Julie Waddy’s other work on the language is unpublished (her PhD thesis, published as Waddy 1988, deals with the classification of plants and animals by the Groote Eylandt people). In this thesis I make extensive use of her unpublished data, which consist of texts and dictionaries (see below). Most of these are archived at AIATSIS.

A comprehensive Enindhilyakwa dictionary-encyclopaedia *Eningerribirra-langwa jurra* was designed for post-primary school children whose first language is Enindhilyakwa (Groote Eylandt Linguistics 1993). It contains nearly 1500 entries, Enindhilyakwa-English and vice versa, with reference to pictures in a separate section. Pictures of plants, animals, and so on, are accompanied by Enindhilyakwa texts with English translations.

The most thorough description of Enindhilyakwa phonology and morphology is Velma Leeding’s unpublished PhD thesis (Leeding 1989; 532 pages). Beside a detailed analysis of the phonology, this work covers the morphology and semantics of all the word classes. In Leeding (1996) (57 pages) she addresses the use of body part nominals in more detail.

References will be made throughout this thesis to previous analyses where relevant.

1.1.7.1 Differences from previous work

This thesis extends the description and analysis of Enindhilyakwa in a number of ways. Firstly, it aims to resolve a number of controversial issues in the previous work, including: the phonology and orthography (Chapter 2), the semantics of the noun classes (Chapter 3), and the number, form and meaning of the inflectional tense/aspect suffixes (Chapter 6). Secondly, I investigate aspects of the language that have so far remained un(der-)described, such as the structure and morpho-syntactic status of the pronominal prefixes (Chapter 4), the structure of the verb stem (Chapter 5), mood and modality (Chapter 6), the incorporation of body part nominals and generics (Chapter 7), and case-marking (Chapter 8), in particular complementising cases on verbs.

Finally, this thesis puts Enindhilyakwa into the context of the neighbouring Gunwinyguan language family. In Chapter 9 I take up the challenge of systematically comparing Enindhilyakwa to Wubuy, and to a lesser extent, Ngandi and other Gunwinyguan languages.

1.1.8 This work: fieldwork and data

This work deals primarily with the Enindhilyakwa language as it is spoken in the community of Angurugu on the western side of Groote Eylandt. Between 2008 and 2011 I undertook three fieldtrips to Groote Eylandt: I was resident in Angurugu for four weeks in November - December 2008, and two weeks in March 2011. Due to lack of accommodation I stayed in the mining town Alyangula for four weeks in March - April 2009, commuting daily to Angurugu.

This work makes use of four types of data, which were collected in a variety of ways. The language examples in this thesis are annotated to indicate their origin.

1. Elicited data: these were produced in elicitation contexts (e.g. ‘how do you say X?’ ‘Can you say X?’). These data were recorded and examples are indicated in the text as ‘anin’ followed by the fieldwork trip during which it was recorded, the initials of the speaker, the type of recording and the recording number. Thus ‘anin2_pw_au_004’ refers to an elicitation session on my second fieldtrip, with Priscilla Wurramarra, which was our fourth audiorecording. Metadata were also recorded, including date, age and gender of speaker, location and type and format of recording (e.g. 48 kHz, 16 bit), type of recorder and microphone, and keywords. Recordings and their transcriptions are, or will be in the near future, archived at AIATSIS, Canberra, and the Endangered Languages Archive (ELAR) at SOAS, London.
2. Overheard speech: I kept a notebook with me at all times in which I wrote down speech which I happened to overhear or which was said to me. Examples of this kind are designated ‘Fieldnotes’ in this thesis, together with the initials of the speakers and the date.
3. Textual data: this refers to a compilation of over thirty unpublished stories in printed or digital format (no audio). These stories were collected by Julie Waddy, Judith Stokes and colleagues at Angurugu Linguistics in the 1970s and 80s. All stories are translated into English, and about half of them also include morpheme glosses. In this thesis, examples from these stories are annotated with the story name in inverted commas, followed by the reference letter of the story and the reference line number (for example: ‘Awurukwa’ w3). I also collected a number of short texts myself, which are annotated with the title plus the initials of the speaker (e.g. [‘My Dream’ DL] represents a text by Dugururu Lalara). Finally, I have a few copies of the ‘Akarrikarra’ periodical that was published in the 1990s, which contains some short stories written in Enindhilyakwa. Examples taken from it are annotated *Akarrikarra*, with the date of publication.
4. Dictionaries: I have made extensive use of the Groote Eylandt dictionary-encyclopaedia, which contains a large number of texts without morpheme glosses. Data from this dictionary are annotated GED followed by the page number. Data from the unpublished digital dictionary

compiled by Julie Waddy are indicated WD. Data from the two ‘ANindilyakwa SECondary roots’ digital files are labelled Ansec1 and Ansec2. These are compiled by Julie Waddy and colleagues and contain incorporated body part and generic nominals (Waddy called these ‘secondary roots’).

The above data span a time period in which some language change has taken place. For example, noun incorporation, which is amply present in the older texts, appears to have gone out of use (see Chapter 7). Therefore, the language “Enindhilyakwa” as presented in this thesis may in some cases be something of an artefact and not synchronically accurate. This will be acknowledged in the relevant sections.

Unless specifically indicated, I changed the orthography and morpheme glosses of the original texts according to the analyses developed in this thesis, while maintaining the original translations as much as possible. This means that, based on my knowledge of Enindhilyakwa phonology, I have also altered transcriptions of words that I have never heard myself (as will be justified in Chapter 2). Examples in this thesis from Gunwinyguan languages are adjusted to conform to the orthography used here, for ease of comparison. For instance, the reconstructed proto-Gunwinyguan form **patca-* ‘hit’ (Alpher, Evans & Harvey 2003) is converted here to **-badja-*, to better expose the similarities with Enindhilyakwa *+baja-* ‘hit’.⁹

1.1.9 Outline of thesis

This thesis can be divided into two parts. The first part, Chapters 2 to 8, is a synchronic description of aspects of Enindhilyakwa grammar (with acknowledgement of those features that are present in the older material but may have gone out of use today). The second part, Chapter 9, investigates the genetic relation of Enindhilyakwa to Wubuy and, to a lesser extent, Ngandi, by comparing synchronic features (vocabulary, grammatical morphemes), and by reconstructing diachronic changes.

CHAPTER 2 deals with what is probably the most controversial aspect of the language: its phonology. I propose a vowel inventory that not only differs from the previous work, but also departs from the typical Australian, and the typical Gunwinyguan, pattern. The main difference is the phoneme /ə/. The vowel [u], on the other hand, which is typically phonemic in Australian languages, is not contrastive in Enindhilyakwa. Another departure from the typical Australian pattern is the strong tendency to avoid codas, as evidenced by: (i) all words ending in [a], (ii)

⁹ This is not problematic because a voicing contrast for the stops is not reconstructed for proto-Gunwinyguan (Harvey 2003a). Australian languages generally do not contrast voicing in stops (Dixon 1980).

frequent vowel epenthesis to break up consonant clusters, and (iii) the syllabification of some consonants clusters as onsets.

The nominal word class is described in CHAPTER 3. This chapter also investigates the rich nominal classification system, and the productive set of derivational prefixes that derive adjectives from nouns and verbs. Adjectives derived from nouns denote various types of possession, and a nominaliser prefix derives adjectives and non-finite verbs from verbs. This degree of productive derivation is rather unusual for the Gunwinyguan languages.

CHAPTER 4 describes the four distinct pronominal prefix series that encode an equal number of moods: realis, irrealis, imperative and hortative. This chapter also investigates the morpho-syntactic status of the pronominal prefixes, and the various other prefixes that precede the verb stem.

The structure of the verb stem is examined in CHAPTER 5. Here I show that many verb stems are historically complex, consisting of an uninflecting element plus an element that takes the inflections and that determines the conjugational class of the complex stem. This makes Enindhilyakwa fit in with the ‘complex verb’ area of Northern Australia. In some Northern Australian languages the uninflecting and the inflecting element are independent words, but in most Gunwinyguan languages they are locked up in a frozen complex stem - as they are in Enindhilyakwa.

CHAPTER 6 deals with another controversial issue in the previous work: the tense/aspect suffixes. This chapter also describes the system of composite mood marking, which combines prefixes encoding mood with the inflectional suffixes to mark a variety of modal meanings.

In CHAPTER 7 I investigate the incorporation of body part nominals and generics in more detail than has been done before. An interesting aspect of Enindhilyakwa incorporated nominals is that they are first of all frequently suppletive, and secondly they are often polysemous between a body part reading and a generic reading. Suppletion and polysemy of incorporated nominals occurs to some degree in the Gunwinyguan languages, but not to the extent that can be observed in Enindhilyakwa.

Case-marking is the topic of CHAPTER 8. Given its head-marking nature, the primary use of case is not to mark the grammatical relations of core arguments of the verb, as this is done by the pronominal prefixes on the verb. Instead, case suffixes are used to mark local semantic relations, and adnominal relations. But, since languages usually are not either strictly head-marking or

strictly dependent-marking (Nordlinger 1998), some dependent-marking occurs in Enindhilyakwa as well. The very productive use of case suffixes on verbs is also investigated.

Finally, CHAPTER 9 addresses the issue of the genetic status of Enindhilyakwa. Focussing on Wubuy, but also addressing Ngandi and other Gunwinyguan languages, I examine the three criteria for recognising a genetic relation: (i) shared basic vocabulary; (ii) systematic sound correspondences in shared forms; (iii) sharing of morphosyntactic features, in the form of inflectional suffixal paradigms. I will conclude that there are plenty of formal similarities, including shared innovations, to indicate that Enindhilyakwa and Wubuy form a subgroup, nested within another subgroup including Ngandi, in turn embedded within the large Gunwinyguan family.

Chapter 2: Segmental phonology and phonotactics

2.1 Introduction

Enindhilyakwa has a fairly typical Australian consonant phoneme inventory, but a rather unusual vowel inventory. Quite characteristic from an Australian perspective are the six points of articulation for stops and nasals, a lateral in each coronal series, one apico-alveolar tap or trill, and three glides (labio-velar, palatal and retroflex). As is also common in Australia, there is no phonemic voicing or length contrast in the stops. Some less usual consonantal features include: three additional series that employ more than one articulatory gesture, including two labialised velars (/k^w/, /ŋ^w/), a series of prenasalised stops (one in every stop/nasal series), and three dorsal+labial double stop articulations (/kp/, /ŋp/, /ŋm/). All of these will be analysed as phonemic unitary complex segments in section 2.5, rather than clusters of consonants.

The Enindhilyakwa vowel inventory consists of four phonemic vowels, with no contrastive length distinction: /a/, /i/, /ɛ/ and /ə/. This inventory departs from the typical Australian pattern of three vowel phonemes (/i/, /u/, /a/), and from most languages in Arnhem Land which have a five-vowel system (/i/, /ɛ/, /a/, /ɔ/, /u/) (Dixon 1980). The vowel [u] is a common sound in Enindhilyakwa, but it is not contrastive and its distribution is fully predictable. The mid-central vowel /ə/ is very rare as a contrastive vowel in Australia (and also the subject of some controversy in Enindhilyakwa, see below and section 2.6.1). Between the Gunwinyguan languages, it is only shared with Rembarrnga. Dalabon has a high central vowel /i/ (see Map 1.1 for an outline of the Gunwinyguan language family). Although there is no phonemic length contrast in the vowels, /a/ and /ɛ/ are characteristically longer than /i/ and /ə/ in Enindhilyakwa. Since stress is quantity-sensitive, /a/ and /ɛ/ are stress attractors.

Enindhilyakwa phonotactics are also rather atypical for an Australian language. There is a strong preference for open syllables, and codas are avoided by: (i) all words ending in [a] (where word-final [a] is *not* a stress-attractor); (ii) the frequent breaking up of consonant clusters by vowel epenthesis; and (iii) the syllabification of some sequences of consonants as onsets: this happens with the complex segments mentioned above. The only permitted codas are apical sonorants (nasals, laterals and rhotics).

Table 2.1 sets out the consonant phoneme inventory, comprising altogether 32 consonants, some of which are complex. Table 2.2 presents the vowel inventory, consisting of non-round and non-back vowels only. The most suitable IPA symbols are given in bold, followed by their orthographic representations in parentheses. The phonemes in the shaded cells are comparatively rare (see Heath n.d.; Stokes 1981; Waddy 1986; Leeding 1989).

		Place of articulation						
		Bi-labial	Apico-alveolar retroflex		Lamino-dental palatal		Dorso-velar rounded	
Manner of Articulation	Stop	p (b)	t (d)	ɽ (rd)	ɟ (dh)	c (j)	k (k)	k^w (kw)
	Nasal	m (m)	n (n)	ɳ (n)	ɲ (nh)	ɲ (ny)	ŋ (ng)	ŋ^w (ngw)
	Lateral		l (l)	ɭ (rl)	ɮ (lh)	ʎ (ly)		
	Vibrant		r , r (rr)					
	Glides			ɻ (r)		j (y)		w (w)
	Nasal + stop	mp (mb)	nt (nd)	ɳɽ (rnd)	ɲɟ (ndh)	ɲc (nj)	ŋk (ngk)	ŋk^w (ngkw)
	Complex segments	kp (kb) ŋp (ngb) ŋm (ngm)						

Table 2.1: Consonant phoneme inventory (orthographic symbols in parentheses, phonemes in shaded cells are rare)

	Front	Central
High	i (i)	
Mid	ɛ (e)	ə (v)
Low		a (a)

Table 2.2: Vowel phoneme inventory (orthographic symbols given in parentheses)

Enindhilyakwa phonology is perhaps the most controversial aspect of the language, in particular the vowels. The issue is that, very generally, the quality of the high vowels and schwa appears to be conditioned by the surrounding consonants. But, to be argued in detail in this chapter, this is not the full story, because these vowels also appear in non-conditioning environments. The main differences between the various proposals in the previous work and this work, then, concern the number of vowel phonemes. Leeding (1989) argues for a two-vowel system, consisting of /a/ and /i/, whereas the Stokes/Waddy system assumes four phonemic vowels: /a/, /i/, /u/ and /ɛ/ (Stokes 1981, 1982; Waddy 1988, n.d.-a-c; Groote Eylandt Linguistics 1993; Waddy Dictionary). Heath (n.d.) suggests there is only one ‘real’ vowel, /a/, and two parasitic or distributionally restricted vowels, /ɛ/ and /æ/. He assumes that the remaining vowels are due to epenthesis. Based on my own fieldwork, I will both build on and extend the previous analyses, resulting in a yet again different analysis, where /i/ and /ə/ are contrastive, whereas [u] is not. The rounding of [u] will be argued to be underlying feature of contiguous consonants. I furthermore make new proposals concerning Enindhilyakwa phonotactics, stress assignment, and the consonant inventory.

2.1.1 Outline of chapter

This chapter is organised as follows. Section 2.1.2 first outlines the orthography adopted for this thesis. The next two sections address the phonotactics and prosody of the language, as these are crucial to understanding its segmental phonology: section 2.2 starts with the phonotactics of words, and the skewed distribution of word-initial and -final segments. Section 2.3 investigates the syllable structure and phonotactics: the phonotactic structure of the syllable is addressed in section 2.3.1, followed by an examination of syllable clusters across morpheme boundaries in section 2.3.2. Section 2.4 provides a brief discussion of stress. The consonant inventory is dealt with in section 2.5, starting with the simple consonants in sections 2.5.1 to 2.5.5. Section 2.5.6 investigates the homorganic nasal+stop clusters, and section 2.5.7 the heterorganic dorsal+labial clusters, which will both be argued to be phonemic single segments. Section 2.5.8 addresses loss of retroflexion, a process responsible for the presence of a subset of alveolar consonants. Section 2.6 takes up the vowel inventory. Section 2.6.1 starts with an overview of the differing previous analyses of the vowels, and section 2.6.2 proposes a yet again different inventory, introducing the phoneme /ə/ in section 2.6.6. Section 2.7 describes the various reduplication templates. Section 2.8 concludes this chapter with a summary.

2.1.2 Orthography

In this thesis I adopt the orthography, with some modifications, designed by Judith Stokes and Julie Waddy during their long residences on Groote Eylandt (Stokes 1981, 1982; Waddy 1988, n.d.-a-c; Groote Eylandt Linguistics 1993; Waddy Dictionary). Most orthographic symbols employed in this thesis are set out in Tables 2.1 (consonant phonemes) and 2.2 (vowel phonemes) above. The two additional orthographic symbols that are used in this thesis are: *ee* for [e], and *u* for [u], as will be justified below.

There are several reasons to favour the Stokes/Waddy orthography to the one developed by Velma Leeding, or the preliminary orthography in Jeffrey Heath's sketch grammar. First of all, it is the system in use in Angurugu, where I did most of my fieldwork, and in perhaps all of Groote Eylandt.¹ Most of my textual data come in this orthography. Secondly, the Stokes/Waddy system employs four vowels, *a*, *e*, *i* and *u*, which is phonetically more realistic than Leeding's two-vowel system consisting of *a* and *i* only. In Leeding's system the symbol *i* represents [i], [ɪ], [u], [ʊ] and [ə]. The symbol *a* represents [a], [æ], [ɛ] and [e]. However, as I will show in detail in this chapter, [i], [ə], [a] and [ɛ] are contrastive sounds, which thus merit a distinct symbol in the orthography. Heath's system has a similar drawback, because he takes the high vowels and schwa to be epenthetic, which are therefore not represented in his orthography.

¹ Velma Leeding's orthography was only ever in use in Umbakumba, on the eastern side of the island. She mainly

The proposed modifications to the Stokes/Waddy orthography include:

- (i) Addition of the orthographic symbol *v* to accommodate the phoneme /ə/
- (ii) Representing the sound [e] as *ee* (rather than Stokes/Waddy *e*). Even though [e] is not contrastive, I do distinguish it in the orthography from [ɛ] (symbol: *e*). The former only occurs in primary stress position (e.g. *eeka* ['e:ka] ‘tree’ vs. *ekalhara* [,ɛka' ɟaɟa] ‘burnt off bush’). See section 2.6.3
- (iii) Representing Stokes/Waddy’s sequences *kwu* and *ngwu* as *ku* and *ngu*, respectively. In my analysis, [u] may be generated from the vowels /i/ and /ə/ that absorb the labialisation of a preceding labialised velar consonant. Thus, /k^wi/ and /k^wə/ are both phonetically realised as [ku], written as *ku*, and /ŋ^wi/ and /ŋ^wə/ as [ŋu], written *ngu*. The labialisation of the velar disappears because it is transferred to the vowel. See section 2.6.7
- (iv) Distinguishing lamino-dental from alveolar consonants. Although Stokes/Waddy note the existence of lamino-dentals, these are not distinguished in their orthography because “the spelling system was already difficult enough” (Julie Waddy, p.c.) (Leeding 1989 and Heath n.d. do make this distinction in their orthographies). Following Australianist tradition, *h* is used to indicate lamino-dental articulation (i.e., *dh*, *lh*, *nh*). This allows Stokes/Waddy’s *r/d* or *r.d* (the forward slash or full stop is used to distinguish it from the retroflex stop *rd*) to be represented as *rdh*

My orthography thus uses six vowel symbols: *a*, *i*, *e*, *v*, *u*, *ee*, which are a mixture of phonemes and allophones. This is done to make the orthography as phonetically realistic as possible. Using allophones in the orthography is not problematic, because there is no variation: the symbol *u* always represents [u], *ee* always represents [e], and so on. In those instances where there is variation, the underlying phoneme is used in the orthography. For example, /ə/ contiguous to a bilabial consonant varies between [ə] and [ɔ], and the orthography represents the underlying phoneme (e.g. *arvma* [aɾəma ~ aɾɔma] ‘big’).

The orthography adopted in this thesis follows the common Australianist convention of indicating palatal articulation with *y* (thus: *ly*, *ny*), but it uses *j* (rather than *dy*) for the stop. Finally, double digraphs are simplified in the orthography: *rnd* represents [ɲɲ], *ndh* represents [ɲɲɰ], and *nj* represents [ɲç]. This is visually more elegant than using *rnrnd*, *nhdh*, *nyj*.²

² The Stokes/Waddy system employs (*b*, *d*, *k*) for the stops, which is followed here. Since there is no phonemic contrast in voicing of the stops, this in effect frees two sets of English graphemes (*b*, *d*, *g*) and (*p*, *t*, *k*) for use in the orthography. The problem of this three-way contrast has a long history in Australian languages, and a great deal of argument has gone on concerning whether (*p*, *t*, *k*) or (*b*, *d*, *g*) are most appropriate (Dixon 1980: 138). For Enindhilyakwa, Heath (n.d.) uses (*b*, *d*, *g*), whereas Stokes (1981) and Leeding (1989) use (*p*, *t*, *k*). The mixed set of voiced and voiceless symbols (*b*, *d*, *k*) avoids the orthographic confusion that *g* creates when dealing with the distinct phonemic sequences /nk/, /ŋ/ and /ŋk/. This is also the approach taken by Chadwick in his (1975) Jingulu grammar, and by Carroll (1976) and Evans (2003a) for Kunwinjku.

Except where specifically indicated, all examples in this thesis are in the Stokes/Waddy orthography with the modifications outlined above. This means that, based on my analysis of the Enindhilyakwa phonology, I have also altered their transcriptions of words that I have never heard myself (for example, *u* never appears adjacent to *m* and *b* in my transcription, except when also adjacent to a velar. E.g. Stokes/Waddy *mabulala* is rendered *mabvlhalha* ‘VEG.shallow sea’ here).

2.2 Phonotactics of the word

One of the most prominent phonological features of Enindhilyakwa is that all words end in [a]³ (Heath n.d.; Stokes 1981; Leeding 1989). There are only a few exceptions, which are interjections such as *yindhiyi* [ji.n̩.ɬi:] ‘oh, I’m sorry!’, *kardiyi* [kaɬi:] ‘watch out!’ (Leeding 1989: 27, 80). Also, *yawa* ‘yes’ is often pronounced as [ja^u]. The phonotactics of Enindhilyakwa words is furthermore skewed in that the range of word-initial segments is biased towards the initial segments of the noun class and pronominal prefixes. This is because all predicates and arguments obligatorily inflect for noun class (for non-humans) or person, number, gender (for humans), and all modifiers obligatorily show noun class and pronominal agreement with their heads. Enindhilyakwa words may thus begin with a vowel (which is not that common in Australia): this can be [a] or [ɛ], which represent the NEUT noun class prefix on nominals (section 3.4) or the negated non-past (NEGNP) prefix on verbs (section 4.2). To my knowledge, there are only two words that underlyingly start with a different vowel: these are the particle *vmba* [‘əmpa] ‘but’ and the noun *eeka* [e¹ka ~ e:ka] ‘NEUT.tree, wood, log’. Otherwise, words start with a consonant. Any consonant, apart from retroflexes (save [ɬ]) and the complex segments in Table 2.1 above, can occur in word-initial position, although this distribution is skewed towards the initial segments of the noun class and pronominal prefixes. Apart from [a] and [ɛ] representing NEUT noun class or NEGNP, inherited nouns begin with [m] (VEG class), [w] (COLL class *wurr-*), [j] (MASC) or [ɬ] (FEM). Loanwords do not conform to this pattern, because these do not receive an overt noun class marker. Examples are: *libaliba* ‘dugout canoe’ (< Mac *lepalepa* ‘dugout canoe’); *lyelyinga* ‘knife’ (< Mac *ladiŋ* ‘knife’); *kaliwanga* ‘sword’ (< Mac *kalewaŋ* ‘sabre’); *jebija* ‘church’ (< Eng *service*); *bikibiki* ‘pig’ (< Eng *pig*); and so on. Adverbs and particles do not inflect for class, so these may also begin with a divergent consonant (e.g. *karrawara* ‘high up’, *biya* ‘and’, *lhaka* ‘are you ready?’).

Verbs and adjectives may begin with the abovementioned segments of the noun class markers, or a number of other consonants that constitute the first segments of the pronominal prefixes: [n], [k], [ŋ] and [p] (see Chapter 4 and Appendices J, K for the pronominal prefix paradigms on verbs). Some imperative forms (sections 4.2.1 and 4.2.2.3) take a phonologically null pronominal prefix, resulting in differing word-initial consonants: e.g. *Ø-lyengme-na* [2.IMP-lead-NP2] ‘lead!’ starts

³ This is the case in slow speech and in all written material. In fast speech, the final [a] may assimilate to a following consonant or vowel, or it may be swallowed up into the next word.

with [ʌ]; *Ø-rrakaji-ya* [2.IMP-sit-NP1] ‘sit down!’ with [ɾ]; and *Ø-rakbv-na* [2.IMP-blow.didgeridoo-NP2] ‘blow the didgeridoo!’ with [ɹ]. But such instances are comparatively rare.

The pronominal prefixes on verbs generally receive secondary stress. Whether or not the noun class prefixes on nouns receive stress depends on the vowel and on their position within the word. In disyllabic words the noun class prefix occurs in penultimate position and thus receives primary stress, as in (1a,b). In longer words it depends on the vowel that follows the noun class marker:

- | | | | | |
|-----|-----------------------|---------------------------|------------------------|-------------------|
| (1) | a. <i>arra</i> | [ˈara] | ‘NEUT.forehead’ | (anin2_pw_au_002) |
| | b. <i>merra</i> | [ˈmɛra] | ‘VEG.blood, rope’ | |
| | c. <i>miyalkwa</i> | [ˌmiˈjalk ^w a] | ‘VEG.starfish’ | |
| | d. <i>mamvka</i> | [ˈmaməkə] | ‘VEG.bandicoot’s nest’ | |
| | e. <i>dhvmakbvlha</i> | [ˌɹəˈma.ɸpəɹa] | ‘FEM.pelican’ | |
| | f. <i>dherriba</i> | [ˈɹɛɾipa] | ‘FEM.trepang’ | |

When the VEG class prefix *m-* or the FEM class prefix *dh-* are followed by a short vowel this does not receive primary stress (1c,e). If the class prefixes are followed by a long vowel this does attract primary stress, as in (1d,f).

2.3 Phonotactics of the syllable

Enindhilyakwa has a strong preference for open syllables. The only syllable-final consonants are non-occlusive apicals; syllables never end in a stop.⁴ Syllable codas are avoided by a number of phonological processes, to be described in detail further down this chapter: (i) insertion of epenthetic vowels (phonological rule P-1 in [3] below); (ii) bonding of consonants across syllable boundaries to form complex unit phonemes (sections 2.5.6 and 2.5.7); (iii) heterorganic clusters becoming long stops (section 2.5, Appendix C); and (iv) all words ending in [a].

The current section first examines the phonotactic structure of the syllable, and then turns to the restrictions on consonant clusters across syllable boundaries.

2.3.1 Phonotactic structure of the syllable

The basic syllable structure is:

- (2) C V (L_[+apical]) / (N_[+apical])

where C is any consonant (which may be complex), V is any vowel, L is a liquid (i.e., a lateral or a rhotic) and N a simple nasal. Polysyllabic words can be seen as a concatenation of syllables of this structure, with a few exceptions: (i) retroflexed consonants and complex segments cannot occur word-initially; (ii) words can also start with a vowel; (iii) intervocalic syllable onset is the only

⁴ Enindhilyakwa differs in this from for instance Bininj Gun-Wok, which exhibits a relatively high proportion of closed syllables. In a randomly chosen sample, 23% of all syllables ended in a stop (Evans 2003a: 89). However, in general stops do not tend to occur as codas in Australian languages (Dixon 1980).

position in which all consonants occur; (iv) when following another consonant, only the peripheral consonants, including the complex segments, and the laminal simple stops can occur in syllable onset. Unless otherwise indicated, data in this chapter come from the Waddy Dictionary. And unless otherwise indicated, the original orthography has been adjusted to conform to the analysis presented in this thesis.

SINGLE NUCLEUS SYLLABLES: *V* These only occur word-initially.

a	<i>a.rra</i>	‘NEUT.forehead’	
ɛ	<i>e.rra</i>	‘NEUT.vomit’	
e:	<i>ee.ka</i>	‘NEUT.tree’	
ə	<i>ə.mba</i>	‘but’	
u	<i>u.wa.yi.ji.na</i>	‘open it!’	
i	<i>i.nha.nha</i>	‘MASC.nail’	(anin2_aw_au_001)

The vowels [a] and [ɛ] are very common word-initially and always represent the NEUT noun class prefix or the negated non-past prefix for verbs (except for particles that do not inflect for class, such as *arrawa* ‘inside’, *akwa* ‘and’). The vowels [e:], [ə], [u] and [i] are very rare in word-initial position. To my knowledge, word-initial [e:] and [ə] only appear in the two words given above, whereas initial [u] and [i] only occur due to dropping of word-initial /w/ and /j/, respectively, which is rare (see section 2.5.5).

OPEN SYLLABLES: *CV* This is by far the most common syllable. It may begin with any consonant when intervocalic, and contain any vowel. When preceded by a consonant, the set of consonants in syllable onset is limited (see next section). Examples combining a representative of each manner of articulation with each vowel (where available) are:

SIMPLE STOPS: =*ba.ba* ‘because’; *bi.ya* ‘and’; -*be.ka-* ‘to drink’; -*bv.rra* ‘wide’; *bu.ngka.wa* ‘boss’

NASALS: *ma.ma* ‘nevermind’; *mi.ya.ka* ‘VEG.friend’; *me.me.ma* ‘VEG.this’; *ma.mv.ngba* ‘VEG.hair’; *a.ma.mu.wa* ‘NEUT.egg’

LATERALS: *lha.ka* ‘are you ready?’; -*ye.lhi.ya-* ‘to be ashamed’; -*ja.lhe.na* ‘hang out-NP2’; *a.lhv.ka* ‘NEUT.foot’; *nga.lhu.wa* ‘3f.PRO’

TAP/TRILL: *rra.ka.ji.ya* ‘sit down!’; *ye.rre.rra* ‘MASC.forked stick’; *yi.lyi.rri.ya* ‘MASC.crushed coral’; *a.rrv.rra* ‘NEUT.wind’; *a.bv.rru.wa* ‘3a.PRO’

NASAL+STOPS: *mi.ya.mbe.na* ‘what?’; -*a.mbi.lyv.ma* ‘two’; *ke.mbv.rra* ‘then’; -*a.mbv.ma* ‘deaf’; -*lya.ngba-* ‘go across’; -*ki.lya.ngbe.rre.kee.yi-* ‘to branch off’; *a.ngbi.lyu.wa*; ‘NEUT.sickness’; -*lyi.ngbu.wu.rrv.ma.lya.ka-* ‘make smooth’

SEMI-VOWELS: -*wa.ja-* ‘to brush away’; *we.rri-* ‘chest’; =*wi.ya* ‘pergressive clitic’; *wu.bv.rra* ‘like’

LIQUID-FINAL SYLLABLES: *CVL* These may end in an apical liquid, but only when followed by another consonant.

r	<i>a.yarr.ka</i>	‘NEUT.hand’
ɹ	<i>ar.ja</i>	‘NEUT.Green Tree frog’
l	<i>al.kwa</i>	‘NEUT.crab species’
ɭ	<i>yu.warl.ku.rra</i>	‘MASC.kneecap’

NASAL-FINAL SYLLABLES: *CVN* These may end in an apical nasal.

n	<i>men.ba</i>	‘VEG.eyeballs’
ŋ	<i>marn.ja</i>	‘VEG.bees’ eggs’

SYLLABLES STARTING WITH COMPLEX PHONEMES: *CV(L/N)* These complex units are the homorganic nasal-stop, and the heterorganic dorsal+labial complex segments.

nt	<i>e.mi.nda</i>	‘NEUT.nose’
ŋɭ	<i>dhv.rndvrr.ka</i>	‘my mother’
ɲɭ	<i>yi.me.ndha</i>	‘MASC.turtle’
ɲc	<i>-ma.nja</i>	‘locative case suffix’
mp	<i>v.mba</i>	‘but’
ŋk	<i>a.rv.ngka</i>	‘NEUT.head’
ŋk ^w	<i>e.nu.ngkwa</i>	‘NEUT.spear’
kp	<i>a.kba</i>	‘NEUT.buttocks’
ŋp	<i>ma.mv.ngba</i>	‘VEG.hair’
ŋm	<i>ma.ngma</i>	‘VEG.brain’

In sections 2.5.6 and 2.5.7 I will argue for the phonemic status of these complex segments. Thus, as in most Australian languages (Dixon 1980; Evans 2003a: 90), onsets in Enindhilyakwa are simple. Stokes (1981) and Leeding (1989) do not consider the above sequences as complex unit phonemes (though Leeding does so for the homorganic nasal+stop series). They break them up by inserting a syllable boundary between the dorsal and the labial consonant: e.g. *mang.ma* ‘brain’ (Stokes p.158); *errk.bulha* ‘Tussock Grass’ (Leeding p.62), though Leeding admits that her “syllable boundaries have been established quite arbitrarily” (p.62).

Yet speakers do not tend to break up these complex segments. My informant inserted a vowel between /r/ and /kp/ in the above example, and syllabified /kp/ in the onset: [æ.ri. kpo.ɭa] (anin2_pw_au_002). Schwa-epenthesis is a common process in Enindhilyakwa and can be formalised as phonological rule P-1 (more phonological rules follow in the discussion of the vowels in section 2.6):

(3) P-1: schwa-epenthesis: $\emptyset > \text{ə} / C _ C$ (where CC is a cluster)

A consequence of schwa-epenthesis and of syllabifying /kp/ in the onset is that stops do not occur in syllable coda, a common property of Australian languages (Dixon 1980: 159-66).

2.3.2 Consonant clusters across syllable boundaries

Consonant clusters only occur across syllable boundaries. The permitted clusters are presented in Table 2.3. A consonant cluster and its environment can be schematically represented as (...) $VC_1.C_2V$ (...); the consonants in C_1 position are indicated by the dashed line and those in C_2 by the solid line.

	apical		laminal		peripheral		
stop	<i>d</i>	<i>rd</i>	<i>dh</i>	<i>j</i>	<i>b</i>	<i>k</i>	<i>kw</i>
nasal	<i>n</i>	<i>rn</i>	<i>nh</i>	<i>ny</i>	<i>m</i>	<i>ng</i>	<i>ngw</i>
lateral	<i>l</i>	<i>rl</i>	<i>lh</i>	<i>ly</i>			
rhotic	<i>rr</i>	<i>r</i>					
homorganic nasal+stop	<i>nd</i>	<i>rnd</i>	<i>ndh</i>	<i>nj</i>	<i>mb</i>	<i>ngk</i>	<i>ngkw</i>
complex segment							<i>kb</i> <i>ngb</i> <i>ngm</i>
semi-vowel				<i>y</i>			<i>w</i>

Table 2.3: Permitted consonant clusters

C_1 in syllable coda and C_2 in syllable onset are mutually exclusive. The consonants that can occur in C_1 position are apical laterals and nasals, but not stops (the retroflex lateral is lacking in the data because of its scarceness, not because of the theoretical impossibility to occur as the first member of a cluster). Those that can occur in C_2 position are non-apical, mostly peripheral, and pre-eminently stops. The only two permitted laminals in C_2 are the two laminal stops. They can never be an apical, nor a lateral or a rhotic. Similar patterns occur in the phonotactics of other Australian languages (Dixon 1980: 161). The permitted clusters are decreasing in sonority when moving from left to right, which is also the case in many other Australian languages (Evans 2003a: 97), as well as universally.

Not all combinations in Table 2.3 are attested. For instance, nasals do not follow nasals, ruling out **nm*, **nng*, **rnm*, and so on. A vowel always intervenes between two nasals in lexical roots, such as *enungkwa* ‘spear’; *amangbala* ‘five’. When two nasals meet over a productive morpheme boundary an epenthetic vowel is inserted: *-win-v-mindh-* ‘to win’; *warn-v-mamalya* [3a.m-people] ‘Aboriginal people’. Nasals also cannot be followed by /kp/. A vowel always intervenes between the two, as in *adhvna**k**ba* ‘first’. A nasal followed by a laminal stop assimilates to the stop and is thus indistinguishable from a nasal-stop complex phoneme, which occurs in C_2 position. Apical laterals cannot be followed by a laminal stop, or by a complex segment save /kp/, ruling out **ldh*, **lj*, **lkb*, **lngk*, **lmb*, and so on. The two rhotics are the most common consonants in C_1 position. The alveolar trill or tap is the most common consonant in C_1 position and it can be

followed by all C₂ consonants in Table 2.3. The retroflex rhotic is less common. The following examples illustrate the permitted clusters across syllable boundaries.

NASAL + LAMINAL STOP ⁵ (not common)	<i>a.mvrn.dha</i> <i>marn.ja</i>	‘NEUT.shoulder’ ‘VEG.bees’ eggs’
NASAL + PERIPHERAL STOP (not common)	<i>men.ba</i> <i>karn.ba.la.ja</i> <i>an.ka</i> <i>a.warn.ka.nye.rra</i>	‘VEG.eyeb’ ‘armband(NEUT)’ (Mac) ‘NEUT.hip’ ‘naughty’
LATERAL + PERIPHERAL STOP (common)	<i>-al.ba.rra</i> <i>-wal.ka-</i> <i>al.kwa</i>	‘split’ ‘to sneak up on’ ‘NEUT.crab sp.’
LATERAL + PERIPHERAL NASAL ⁶ (not common)	<i>yi.mbal.ma</i> <i>mu.wal.nga.ra</i>	‘MASC.shell fish sp.’ ‘VEG.fish sp.’
LATERAL + DORSAL-LABIAL (not common, unstable)	<i>a.yil.kbi.yil.kba</i>	‘NEUT.desert’
RHOTIC + LAMINAL STOP (not common, unstable)	<i>-a.kbar.dha-</i> <i>-a.karr.dha-</i> <i>-bar.ja-</i> <i>-lyi.karr.ja.wa-</i>	‘to be afraid’ ‘to bark’ ‘to hit’ ‘to fall’
RHOTIC + PERIPHERAL STOP (very common, except for /ɹ/ + velar stop)	<i>yi.kar.ba</i> <i>dhvrr.bv.ra</i> <i>war.ka</i> <i>arr.ka.lha</i> <i>arr.kwa.ra</i>	‘MASC.woomera’ ‘straight’ ‘work(NEUT)’ (Eng) ‘on the other hand’ ‘NEUT.muscular pains’
RHOTIC + PERIPHERAL NASAL (common, except for /ɹ/+ velar nasal)	<i>a.wur.mv.rra</i> <i>me.mvrr.ma</i> <i>-arr.nga-</i> <i>a.mv.lhvrr.ngwa</i>	‘pretending’ ‘VEG.back of neck’ ‘to cut, break’ ‘NEUT.heel’
RHOTIC + PERIPHERAL NASAL+STOP (common, may be unstable)	<i>mar.mba</i> <i>-lharr.mba.ja-</i> <i>ar.ngka.wu.ra</i> <i>lharr.ngkwV-</i>	‘VEG.molar teeth’ ‘to knock’ ‘forever’ ‘things’
RHOTIC + DORSAL-LABIAL (/ɹ/+/kp/ is very common, all other combinations are rare and unstable)	<i>a.mvrr.kba.lya</i> <i>a.mar.ngba</i> <i>-we.rru.ku.marr.ngbi.ji-</i> <i>-nyirr.ngmv-</i>	‘soft’ ‘bold’ ‘to be friends with’ ‘to blow nose’

⁵ Hamilton (1996: 161) hypothesises that there may be two languages in Australia that do not allow nasals in C₁ position, which are Enindhilyakwa and Tharrkari (Pama-Nyungan, North-West Australia). However, although not common, these data show that Enindhilyakwa does allow nasals in this position.

⁶ Hamilton (1996: 180) suggests that Enindhilyakwa does not permit a lateral in C₁ preceding a nasal. However, although not common, these data show that this sequence is permitted in the language.

Some clusters appear to be unstable. These are rhotics followed by a laminal stop or a complex segment other than /kp/. They vary with simplified clusters, or with deletion of the coda:⁷

- | | | |
|-----|---|-------------------------|
| (4) | <i>-a.kbar.dha-</i> ~ <i>-a.kba.dha-</i> | ‘to be afraid’ |
| | <i>-a.karr.dha-</i> ~ <i>-a.ka.dha-</i> | ‘to bark’ |
| | <i>-lyi.karr.ja.wa-</i> ~ <i>-lyi.ka.ja.wa-</i> | ‘to fall’ |
| | <i>-ar.mbar.mbv.rra-</i> ~ <i>-a.mbv.mbvrr.nga-</i> | ‘NEUT.blister, measles’ |
| | <i>-lhvrr.mbv.rru.wa-</i> ~ <i>-lhv.mbv.rru.wa-</i> | ‘to crawl’ |
| | <i>-ar.ngka.wu.ra-</i> ~ <i>-a.ngka.wu.ra-</i> ~ <i>-an.ka.wu.ra-</i> | ‘forever, all the time’ |
| | <i>-nyirr.ngmv-</i> ~ <i>-nyirr.mv-</i> | ‘to blow nose’ |
| | <i>-we.rrī.kv.marr.ngbi.ji-</i> ~ <i>-we.rrī.kv.ma.mbi.ji-</i> | ‘to be friends with’ |

Schwa-epenthesis (rule P-1) is another strategy by which codas can be avoided:

- | | | | | |
|-----|------------------|-----------------------------|--------------|-------------|
| (5) | <i>-yirrama-</i> | [jir.ma ~ ji.rə.ma] | ‘to swim’ | |
| | <i>amarngka</i> | [a.ma.ɿ.ŋka ~ a.ma..ɿə.ŋka] | ‘NEUT.laugh’ | (JS1 p.157) |

Eschewing codas is a strong tendency in the language, as is also evidenced by the fact that all words end in [a]. Even the codas that are permitted - apical liquids and nasals - may be turned into an onset by schwa-epenthesis (see sections 2.5.6 and 2.5.7 for further discussion).

I propose in sections 2.5.6 and 2.5.7 that complex segments may have formed by bonding of consonants across frozen morpheme boundaries. Consequently, syllable boundaries do not have to align with (old) morpheme boundaries:

- | | | | | | |
|-----|-------------------------|------------------|---|-------------------------------|----------------|
| (6) | <i>-ngurrk+balha-</i> | ‘mouth+wide’ | > | [ŋur. k̄pa.ɿa] | ‘to yawn’ |
| | <i>-lyeng+ma-</i> | ‘head+take’ | > | [ɿε. ŋma] | ‘to lead’ |
| | <i>-lyang+bvrrukwa-</i> | ‘head+disappear’ | > | [ɿa. ŋpə.ru.k ^w a] | ‘to be filled’ |

See Chapter 5 for a discussion of complex verbs stems and the difference with productively incorporated body parts.

In sum, consonant clusters only occur across syllable boundaries. Whereas all consonant phonemes occur intervocalically in syllable onsets, those that occur in consonant clusters are highly restricted. Only non-occlusive apicals appear as the first member of a cluster, and only the peripheral consonants, and the two laminal stops, can occur as the second member. Even some permissible clusters tend to be unstable to the effect that they vary with lighter clusters.

⁷ There are examples in the dictionary of reduction of the clusters /rmp/ and /rŋk/ to /np/ and /nk/, respectively. Examples are *-lharrmbadja-* ~ *-lhanbadja-* ‘to knock’; *-lharrngkuwilyaka-* ~ *-lhankuwilyaka-* ‘to carry things’, *arrvngka* ~ *anka* ‘NEUT.hip’. I find the reduced clusters unlikely sequences, first of all because they have different places of articulation, whereas a nasal usually assimilates to the following consonant; and secondly, alveolar /n/ is very rare as a phoneme in lexical roots. We would therefore expect the reduced versions to be *-lhambaja-*, *-lhanguwilyaka-* and *angka*, respectively. In the case of /rŋ/, perhaps the nasal assimilates regressively to the alveolar (i.e. [rŋ]) and the trill is subsequently deleted. A more thorough investigation of Enindhilyakwa phonology is required to determine what is going on here.

Furthermore, some consonant clusters have become unit phonemes and syllabify as onsets, rather than ambi-syllabically. The overall pattern of the language is a strong preference for open syllables.

2.4 Stress

Stress is the most complex part of the phonology. It is also critical to understanding important phonological processes, such as vowel epenthesis, and vowel reduction to schwa (section 2.6). The rules for assigning stress are complex, and there is a lot of variation, resulting from several competing factors that determine stress. There is a general penultimate stress target, but, as in other Arnhem Land languages (Baker 2008a), stress is also quantity-sensitive - which has thus far not been described for Enindhilyakwa. The vowels /a/ and /ɛ/ tend to be longer than the other vowels (as was also noted by Heath n.d.), so they attract the stress and possibly disturb the general pattern of penultimate stress assignment. Closed syllables are also heavy and likewise attract stress. The phonetic realisation of stress is a combination of pitch and amplitude (see also Leeding 1989: 139).

The following account is preliminary only and restricted to stress in isolated word forms. In connected discourse the stress patterns may be different due to higher-level targets. A more detailed investigation is necessary to more accurately describe the prosody of the language.

The following patterns can be discerned, where bolding and apostrophy indicate primary stress (examples marked with ♪ in this chapter are accompanied by a sound recording; see the CD included with this thesis, and Appendix B):

- The penultimate syllable of words is the primary stress target (Stokes 1981; Leeding 1989):

(7)	<i>yibilyibilya</i>	[ji piɭi' piɭa]	‘MASC.lightning’	(anin2_pw_au_002) ♪
	<i>makardu-wa</i>	[, maka' tuwa]	‘VEG.sea-ALL’	
	<i>awarruwalya</i>	[, awaru' waɭa]	‘NEUT.shade’	
	<i>amvdhilya</i>	[, amə' tiɭa]	‘NEUT.cold in the chest’	
	<i>dhvnhvnha</i>	[, tɔ' nɔ' na]	‘FEM.mosquito’	

- Stress may be shifted away from penultimate to antepenultimate position if the former contains a vowel other than /a/ or /ɛ/, while the latter does contain /a/ or /ɛ/:

(8)	<i>erriberriba</i>	[, ɛri' pɛri pa]	‘NEUT.bush’	(anin2_aw_au_001)
	<i>anhvnga</i>	[' a nɔŋa]	‘NEUT.food’	
	<i>arrvrra</i>	[' a rɔra]	‘NEUT.wind’	
	<i>ekirra</i>	[' ɛkɪra]	‘NEUT.name’	
	<i>melhuwa</i>	[' mɛ ɭuwa]	‘VEG.shellfish sp.’	(anin2_pw_au_002)

- (9) *nv-lhvke-nv-ma* [nə̀ɹə'kɛnɔma] '3m-go-P2-ma'
nv-lharrv-na [nə̀ɹə'ɟarəna] '3m-fall-NP2'
n-errekbi-na [nɛ'ɹɛ kɹina] '3m-vomit-NP2'

This pattern is explained by stress being quantity-sensitive: /a/ and /ɛ/ are significantly longer than the other vowels, and thus attract stress. The last two examples in (9) constitute minimal pairs with the two verbs in (10), where the penultimate vowel is [ɛ]:

- (10) *nv-lharre-na* [nə̀ɹə'ɹɛna] '3m/NEUT-take.out.of.fire-NP2'
nv-lhekbe-na [nə̀ɹɛ'kɹɛna] '3m/NEUT-accuse-NP2'

In these two examples the stress can fall on the primary stress target, as this contains a long-ish vowel. These examples contrast with those in (9), where only the ante-penultimate syllable contains a long-ish vowel.

- Heavy syllables attract stress, where syllable weight is determined by the number of morae. Long vowels, diphthongs and closed syllables are bimoraic and are stress attractors. The examples in (8) and (9) illustrated how the long vowels /a/ and /ɛ/ diverge the stress away from penultimate position. Those in (11) show that closed syllables can also attract stress (the bimoraic vowel [e: ~ e^l] only occurs in penultimate position and thus does not provide evidence for long vowels attracting stress).

- (11) *yilherrkirra* [ɹi'ɟɛrkira] 'MASC.black mangrove' (anin2_pw_au_002)
dhimirrara [ɹi'mirraɹa] 'FEM.sandfly' (anin2_pw_au_002) ♀

When the two principles of penultimate stress assignment and heavy syllables attracting stress compete, this may result in varying stress:

- (12) *akina* ['akəna ~ a'kina] 'that'
miyamvra [mi'jaməɹa ~ miɹa'məɹa] 'VEG.digging stick tree' (anin4_dl_au_004)
dhimirrara [ɹi'mir'raɹa ~ ɹi'mirraɹa] 'FEM.sandfly' (= [11])
alhvka [a'ɹəka ~ a'ɹəka] 'NEUT.foot' (VL1 p.141)

In *miyamvra*, for example, the ante-penultimate syllable contains the longish vowel /a/, which attracts the stress, competing with the principle of penultimate stress assignment. In *dhimirrara*, the ante-penultimate is closed and therefore heavy, whereas the penultimate syllable contains /a/ which also contributes weight. In both examples, the speaker repeats the word with varying stress correlates. Positioning of stress is especially variable with certain inflectional suffixes on verbs: a tense/aspect suffix ending in /ə/ can occur in penultimate position when followed by e.g. the common suffix *-ma* (section 6.7). When the verb stem ends in /a/ or /ɛ/, stress varies between penultimate position and the antepenult due to the longish vowel:

(13) *nv-lhvke-nv-ma* [nə̌ɹəkɛ'nomɑ] (VL1 p.140) ~ [nə̌ɹə'kɛnomɑ] (anin1_dl_au_002)
 '3m-go-P2-ma'

- An epenthetic vowel (rule P-1) never receives stress, no matter where it occurs in the word. Vowel epenthesis is especially common between affixes and stems, but it also occurs within lexical words.

(14) a. /n-ɹar-na/ [nə̌'ɹarəna] '3m-fall-NP2'
 b. /mulk^wa/ ['mulk^wa ~ 'muɹuk^wa] 'VEG.stomach' (Fieldnotes, HW Dec 2008)

Even when in penultimate position, as in these examples, an epenthetic vowel never receives stress.

In summary, as in other Arnhem Land languages, stress in Enindhilyakwa is quantity-sensitive. There is a general penultimate stress target, but this can be disturbed by heavy syllables.

2.5 Consonants

The consonant inventory was given in Table 2.1 above. Stops, nasals and the unitary homorganic nasal-stop clusters all have six points of articulation, plus a labialised velar series that involves more than one articulatory gesture: /k^w/, /ŋ^w/ and /ŋk^w/. Lateral liquids have four places of articulation. There is one vibrant liquid, which is an apico-alveolar segment whose normal manner of articulation is a tap [ɾ], but which can also be realised as a brief trill [r]. There are three glides or semi-vowels (labio-velar, palatal and retroflex).

There is no phonemic length contrast in the stops (unlike most languages in Arnhem Land, including virtually all the Gunwinyguan languages, but like Wubuy). However, Enindhilyakwa does seem to have some phonetic long stops, but this difference in length is not contrastive. These long stops appear to derive from stop clusters. A preliminary investigation of these stops is presented in Appendix C.

2.5.1 Simple stops

The simple stops contrast at bilabial, velar, labio-velar, apico-alveolar, apico-retroflex, lamino-dental and lamino-palatal points of articulation (Heath n.d.; Stokes 1981; Leeding 1989). They do not contrast in length or voicing. Laminal stops, especially lamino-dental /ɬ/, tend to be phonetically voiceless and unaspirated before vowels, which is the only position in which they occur. Stops may be voiced for up to 40% of their duration following a vowel or nasal (Leeding 1989: 25). The oral portion of the prenasalised series may be voiceless or have a voiced onset. The following near-minimal pairs, most of them taken from Stokes (1981: 140), but using my orthography, illustrate the contrasts.

(15) <i>maba</i>	[ˈmapa]	‘there’
<i>yiraka</i>	[jiˈɻaka]	‘MASC.didgeridoo’
<i>makwa</i>	[ˈmak ^w a]	‘VEG.neap tide’
<i>dhvrrabada</i>	[t̪ əraˈpata]	‘FEM.spear’
<i>amarda</i>	[aˈmaɻa]	‘NEUT.grass’
<i>madha</i>	[ˈmaɻa]	‘VEG.ear’
<i>maja</i>	[ˈmaca]	‘VEG.shark’

The labialised consonant /k^w/ is treated as a unit phoneme because it is never broken up by an epenthetic vowel, whereas other heterorganic sequences can be (section 2.5.7). The labialisation can cause rounding of preceding vowels (e.g. *dhukwa* [t̪uk^wa] ‘maybe’ vs. *adhvka* [aɻt̪aka] ‘NEUT.anchovy’; *alhukwanja* [aɻt̪uk^wɻɲca] ‘NEUT.dance’ vs. *alhvka* [aɻt̪aka] ‘NEUT.foot’⁸). The phoneme /k^w/ has the same distribution as the other consonant phonemes, as it can occur word-initially:

(16) <i>kwa</i>	[k ^w a]	‘come!’
<i>kweeyina</i> ⁹	[ˈk ^w ejina]	‘send it!’

Amongst the coronal stops, apico-alveolar /t/ is a marginal phoneme, with limited distribution. It mainly occurs in loanwords, such as *dhvrrabada* ‘spear’ in (15) above (< Gupapuyngu /cutapata/ ‘spear’ [Stokes 1981: 164]; Wubuy *dhurrabada* ~ *dhudabada* ‘wire spear’ [Heath 1982]). It does not occur word-initially, with the exception of some borrowings that start with an alveolar stop in the donor language, such as *dirija* ‘dress’, *damba* ‘damper’, *dvraka* ‘truck’ and *diya* ‘tea’ from English. However, these all vary with the interdental /t̪/ in word-initial position, by analogy with the FEM noun class marker /t̪/.¹⁰ In loanwords, a word-medial alveolar stop may vary with an apico-alveolar tap:

(17) [miticina ~ miricina]	‘medicine’	(VL1 p.25)
[putpula ~ purpula]	‘football’	

The variation in the second example may also be triggered by a block on stops in coda position, whereas rhotics are allowed. The scarceness of alveolar /t/ (as well as alveolar /l/, see below) has led Leeding (1989) to believe that the alveolar series was not part of the phonological system in Traditional Enindhilyakwa. Indeed, most entries in the dictionary that involve /t/ are loanwords.¹¹ But not all of them are, which indicates that the alveolar stop should be taken as a proper

⁸ *Alhvka* ‘NEUT.foot’ may be related to Ritharrngu *rluku* ‘foot’ (pPN: **luku* [Alpher 2004]). The word ‘dance’ could derive from *alhvka* plus the verb *-wanja-* ~ *-kanja-* ‘to dance’ attested in Wubuy.

⁹ This is a constructed example based on the dictionary entry *na-kweeyi-na ayakwa* ‘send the words’. The verb stem starts with /k^w/, and the prefix of the singular transitive imperative form with NEUT object is Ø-, resulting in *kweeyi-na*.

¹⁰ Recall that the Stokes/Waddy orthography collapses the distinction *d* / *dh*, so it is not always possible to tell whether a loanword starts with an alveolar or a lamino-dental stop.

¹¹ Although the orthography used in the dictionary does not distinguish between alveolars and lamino-dentals, it does comment when the ‘uncommon’ one of the pair occurs in a word (i.e. alveolar *d* and *l*, and lamino-dental *nh*).

phoneme. Examples include (my orthography): *wiyida* ‘straight’; *ardvdarra*¹² ‘hot’; *eminda* ‘NEUT.nose’; *-mendi-* ‘to make a fire’.

2.5.2 Simple nasals

As in almost all Australian languages (Dixon 1980), there is a nasal to every stop series. The following near-minimal pairs from Stokes (1981: 142) using my orthography illustrate the contrasts.

(18)	<i>mama</i>	[ˈmama]	‘no matter’
	<i>yinanga</i>	[jiˈnaŋa]	‘MASC.grub species’
	<i>ngangwa</i>	[ˈŋaŋ ^w a]	‘daddy’
	<i>enena</i>	[ɛˈnɛna]	‘this’
	<i>yingarna</i>	[jiˈŋaŋa]	‘MASC.snake’
	<i>yinhanha</i>	[jiˈɲaɲa]	‘MASC.nail’
	<i>yarranya</i>	[jaˈraɲa]	‘MASC.cicada’

The following is a near-minimal pair with contrasting retroflex and lamino-dental nasals:

(19)	<i>amvrnvrna</i>	[aməˈŋəŋa]	‘NEUT.stingray’	(anin4_dl_au_003) ♪
	<i>amarhnvna</i>	[amaɽˈɲəɲa]	‘NEUT.ashes, coal’	(anin4_dl_au_003) ♪

Like the labialised stop /k^w/, the labialised nasal /ŋ^w/ is treated as a single phoneme. It is never broken up by an epenthetic vowel, it can round a preceding high vowel (e.g. *ajungwa* [acuŋ^wa] ‘NEUT.sickness’; *dhungwarrkwa* [ɽuŋ^wark^wa] ‘FEM.spine’), and it can occur word-initially in imperatives (see also Stokes 1981: 145):

(20)	<i>Ø-ngwadhv-na</i>	[2.IMP-cry-NP2]	[ˈŋ ^w aɽəna]	‘cry!’	(anin4_mm_au_002) ♪
	<i>Ø-ngwanja</i>	[2.IMP-stop.NP1]	[ˈŋ ^w aɲca]	‘stop!’	(anin2_dl_au_001)

Whereas in the stop series the alveolar is rare, in the nasal series the lamino-dental is rare. This is a marginal phoneme in Wubuy and Ngandi too (Heath 1978b: 36), while it is completely absent in other Gunwinyguan languages. The majority of the lamino-dental nasals appear in homorganic nasal-stop clusters where they precede a lamino-dental stop. Examples include *yimendha* [jiˈmɛɲɽa] ‘MASC.turtle’; *mandha* [maɲɽa] ‘VEG.heron’ (Wubuy: *maanha(k)* ‘heron’); and *Enindhilyakwa* [ɛniɲɽiˈlak^wa] ‘NEUT.language name’. There are, however, a handful of words with an independent lamino-dental nasal, suggesting it is a proper phoneme. Besides *yinhanha* [jiˈɲaɲa] ‘MASC.nail’ in (18), these include: *anhvnga* [ˈaɲəŋa] ‘NEUT.food’; *mvnhvnga* [ˈməɲəŋa] ‘VEG.burrawang’; *akunhvna* [akuˈɲəɲa] ‘rotten’; *amvna* [ˈaməɲa] ‘NEUT.urine’;

¹² Leeding (1989: 366) writes this word with two retroflexes (original spelling: *artirtarra*). She claims that alveolar consonants were not part of the traditional inventory and are the result of loss of retroflexion.

anhvma [ˈa.ɲəma] ‘NEUT.mangrove (tree)’ (Wubuy: *anhuma* ‘seedpod of mangrove tree’); and *dhvnhvnhha* [ɟə.ɲə.ɲa] ‘FEM.mosquito’ (see Stokes 1981: 164).

The alveolar nasal is common in grammatical morphemes such as pronominal prefixes, and tense/aspect suffixes. It is also common in demonstrative roots but it is rare in other lexical roots. Leeding (1989) proposes that the alveolar nasal results from loss of retroflexion, as it sometimes varies with the retroflex (see section 2.5.8). She claims the alveolar nasal is absent in lexical roots (p.30-1), but this is an overgeneralisation, as evidenced by the following examples: *menba* [ˈmənpa] ‘VEG.eyebush’; *yina* [ˈjina] ‘MASC.knee’; *minimbaja* [miniˈm̩paɟa] ‘VEG.white tussock grass’; *nara* [ˈnaɟa] ‘NEG’. It is nonetheless conceivable that these alveolars have developed from retroflexed nasals. In section 2.5.8 I show that front vowels are incompatible with retroflex consonants. The first three examples above maintain a front vowel, possibly at the expense of the retroflex. And regarding [naɟa], there is no word-initial contrast between apicals in Enindhilyakwa (as is common in Australian languages). The alveolar may thus have been a retroflex also, but in word-initial position the contrast is neutralised, again at the expense of the retroflex.

2.5.3 Laterals

The laterals contrast at interdental, apico-alveolar, lamino-palatal and retroflex points of articulation. The following near-minimal pairs from Stokes (1981: 142) illustrate the contrasts.

(21) <i>yimangala</i>	[jimaˈɲala]	‘MASC.woomera’
<i>marluwiya</i>	[maɭuˈwija]	‘emu(FEM)’
<i>alha</i>	[ˈa.ɭa]	‘irritant, itchy’
<i>alya</i>	[ˈa.ɭa]	‘wet’

The retroflex lateral is a marginal phoneme, which only occurs in a handful of loanwords, such as the Gupapuyngu loans *marluwiya* ‘emu’ (< *marlwiya*); *barluwurra* ‘grass species’ (< *rlawarr*); *ajarrkarla* ‘fish species’ (< *wajarrkarli*) (Stokes 1981: 143; Leeding 1989: 30). The only inherited Enindhilyakwa word that I am aware of is *yuwarlkurra* ‘MASC.kneecap, Cyrene shell’¹³, but this word varies between [juwaɭkura ~ juwalkura]. Only older speakers seem to use the retroflex lateral.

By contrast, retroflex laterals are common in the Gunwinyguan languages. In Chapter 9 I propose that the Enindhilyakwa reflex of the proto-Gunwinyguan retroflex lateral is a lamino-palatal in onset position (e.g. pGN **kurlak* > Enindhilyakwa *-ma+kulya* ‘skin’), and an alveolar in coda position (e.g. Wubuy *murlku* ‘belly’ : Enindhilyakwa *mulkwa*). The change **rl* > *ly* in Enindhilyakwa can account for the fact that this is the only language in the region with a lamino-

¹³ Polysemy of body parts and flora/fauna terms is common in Enindhilyakwa: section 3.5.1.

palatal lateral: in the Gunwinyguan languages this shift has not taken place and the retroflex lateral is preserved.

The lamino-palatal is clearly a single segment. Firstly, it contrasts with the other laterals, as shown in (21). Secondly, it corresponds to a single segment in the Gunwinyguan languages (see pGN **kurlak* : Enindhilyakwa *-ma+kulya* ‘skin’ above; many more correspondences can be found in Appendix P and Chapter 9). And thirdly, the lamino-palatal lateral can occur word-initially. This only happens for stems occurring without a prefix, as no prefix begins with *ly*. The only nominals without a noun class prefix are loanwords, such as the Macassan loans in (22) (taken from Evans 1992). The only verb stems without a prefix are intransitive imperatives, as in (23).

- (22) a. *lyelyinga* ‘knife(NEUT)’ (< *ladiŋ* ‘knife’)
 b. *lykvbvrra* ‘tin, lid’ (< ?)¹⁴

- (23) a. *Ø-lyengme-na* [IMP.2-lead-NP2] ‘lead!’ (Stokes 1982; anin2_pw_au_004)
 b. *Ø-lyikbi-na* [IMP.2-float-NP2] ‘float!’ (anin4_sml_au_002)

The alveolar lateral occurs only in syllable codas in traditional Enindhilyakwa. The lamino-dental occurs intervocally and in syllable onsets (Stokes 1981; Leeding 1989). In addition to those above, examples of the alveolar lateral in coda position include: *alkwa* [al.k^wa] ‘NEUT.bait crab’; *abalkaya* [a.pal.ka.ja] ‘upwards’; *ayilbiyilba* [æ.jil.pi.jil.pa] ‘NEUT.desert’. Examples of the lamino-dental in syllable onset are *lhaka* [ɭa.ka] ‘all right’; *alhkvra* [a.ɭə.kə.ɭa] ‘NEUT.house’; *alhvka* [a.ɭə.ka] ‘NEUT.foot’. However, in contemporary Enindhilyakwa the alveolar lateral contrasts with the lamino-dental because it can also occur intervocally in unassimilated loanwords (Leeding 1989).¹⁵ Examples include the Gupapuyngu loan *yimangala* [ji.ma.ŋa.la] ‘MASC.woomera’ (< *mangal* ‘woomera’) (Stokes 1981: 164), which also occurs in Wubuy: *mangalng* ‘woomera(MASC)’; and Macassan loans including *balanda* [pa.la.nta] ‘white fellow’ (< *balanda*, which ultimately derives from ‘Hollander’); *bajikala* [pa.ci.ka.la] ‘billycan’ (< *bassi kaleŋ*); *balangwa* [pa.la.ŋ^wa] ‘anchor’ (< *balajo* ‘anchor’); *dhymbala* [ɭʊ.mpa.la] ‘cloth, sail’ (< *sombala?* ‘sail’). English loans include *bulukwa* [pu.lu.k^wa] ‘bullock’ and *budbula* [put.pu.la] ~ *burrbula* [pur.pu.la] ‘football’. Thus, synchronically the alveolar is contrastive.

The alveolar lateral in syllable coda can assimilate to a following lamino-dental stop:

¹⁴ This word is listed in the Waddy Dictionary as being of Macassan origin. However, the dictionary does not provide sources of loanwords and there is no attested correspondence in Evans’ (1992) list of Macassan words. Nonetheless, the noun looks foreign due to its lack of a noun class prefix.

¹⁵ Leeding (1989) provides a confusing account of the distribution of the dental and alveolar laterals. On the one hand she claims that in Traditional Enindhilyakwa, the apico-alveolar is an allophone of the lamino-dental, where the latter occurs in the syllable onset and the former in the coda (p.28). However, in her discussion of consonant clusters she claims that the initial consonant in a cluster in Traditional Enindhilyakwa can be /lh/, occurring in the coda (p. 63-4). As a result of these contradictory statements the same word may be transcribed differently on different pages, such as *abalkaya* ‘upwards’ (p.29), but *abalhkaya* (p.63); and *walhkurra* ‘kneecap’ (1996: 212) but *walkurra* (1996: 198). I agree with Stokes (1981) that only the alveolar /l/ occurs in syllable coda. However, the alveolar lateral can assimilate to a following lamino-dental stop, as in (24) below.

- (24) *k-al-dhadhe-na-ma* [ka.ɭta.ɬɛnama]
 IRR.1/NEUT-grass-pierce-NP2-*ma*
 ‘I’ll make a way through grass’ (JS1 p.162)

Homorganic clusters constitute the only instances of a lamino-dental lateral as a coda.

2.5.4 Vibrants

This class contains one apico-alveolar segment whose normal manner of articulation is a tap, [ɾ], which can also be realised as a brief trill, [r]. I follow Hamilton (1996) in distinguishing vibrant liquids as a natural class, distinct from glides. This goes against Dixon’s (1980) treatment of [ɾ/r] and the glide [ɻ] as a natural class defined by the feature [+rhotic] (which is also common practise in many grammatical descriptions). Hamilton (1996), following McGregor (1988), argues that there is no evidence of these two segments acting as a natural class to the exclusion of other oral sonorant segments. For example, the articulation of liquids (laterals and vibrants) involves contact rather than approximation of the articulators (see *ibid.*: 73-4 for more arguments favouring this analysis).

Stokes (1981: 144) notes that the tap and the trill are in free variation, but that the trill tends to be used in precise speech and for emphasis. In my own recordings, the trill is rare and very distinct; it only occurs after deletion of a preceding vowel, as in (25). Both examples are repeated with the more common tap.

- (25) a. /niŋɛn-ŋɬərka n-waɬa/ [niŋɛnənrka nuwaɬa] ~ [niŋɛnəŋɬərka]
 1/3m-grab.PST 3m-dog
 ‘I grabbed the dog’ (anin4_em_au_001) 9
- b. /nəŋ-məŋɬapərə.ɬɛ-na/ [ŋəmtapərə.ɬɛna] ~ [ŋəmtapərə.ɬɛna]
 1-shake-NP2
 ‘I am shaking’ (anin4_kw_au_002)

The alveolar tap can vary with the apico-alveolar /d/, as in the loanwords *budbula* ~ *burrbula* ‘football’ and *midijina* ~ *mirrijina* ‘medicine’ in (17).¹⁶

2.5.5 Glides

Glides are oral sonorants involving articulatory approximation in the oral cavity but without contact of the articulators and without turbulence in the airstream (Hamilton 1996: 73). The three glide phonemes that are attested in the segmental inventories of almost all Australian languages also contrast in Enindhilyakwa: labio-velar [w], lamino-palatal [j] and apico-postalveolar [ɻ]:

¹⁶ Leeding treats the apico-alveolar trill/flap as a laminal consonant, partly because she claims traditional Enindhilyakwa did not have a set of apico-alveolars (1989: 28). However, it is circular reasoning to assume that /ɾ/ cannot be apico-alveolar, because the traditional language had no apico-alveolars. Also, the variation with an alveolar stop would be difficult to explain under the assumption that the trill is a laminal consonant, as laminal trills and alveolar stops do not form a natural class. I therefore see no reason for treating /ɾ/ as anything other than apico-alveolar.

(26) <i>awa</i>	[awa]	‘NEUT.liver’
<i>ayama</i>	[ajama]	‘NEUT.beard’
<i>nara</i>	[naɹa]	‘NEG’

As is common in Australian languages (ibid) the apico-postalveolar glide [ɹ] does not have a direct vowel counterpart, whereas labio-velar [w] and lamino-palatal [j] do. The latter two are closely related to the homorganic vowels [u] and [i], respectively, as they condition these vowels. As in many Australian languages (Dixon 1980: 146), word-initial [wu] or [ji] may be pronounced [u] or [i]. In Enindhilyakwa the word-initial palatal glide can be dropped when the next consonant is a laminal (Stokes 1981: 143; Leeding 1989: 124):

(27) <i>yijarra</i>	[ji'cara ~ i'cara]	‘MASC.Silver Gull’	(VL1 p.124)
<i>yinhanha</i>	[ji'na _ɹ na ~ i'na _ɹ na]	‘MASC.nail’	(anin2_aw_au_001)
<i>yilyirriya</i>	[jiɹi'rija ~ iɹi'rija]	‘MASC.crushed coral’	(anin2_hw_au_001) ♪
<i>yiya</i>	['jija ~ 'ija]	‘and’	(Fieldnotes)

Alternatively, [i] may be added in word-initial position preceding [ji]:

(28) <i>yina</i>	[i'jina]	‘MASC.knee’	(anin4_kw_tr_001) ♪
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Dropping word-initial labio-velar [w] can happen when the following consonant is labial (Leeding p.37), as illustrated in (29).

(29) <i>wu-wayiji-na</i>	[wuwajicina ~ uwajicina]	‘open it!’	(VL1 p.81)
<i>wubvrra</i>	[wupəra ~ upəra]	‘like’	(VL1 p.37)
<i>wu-mi-ya</i>	[wumija ~ umija]	‘pick it up!’	(VL1 p.37)

The words in these examples may phonetically start with [u], but this is not its underlying initial phoneme.

2.5.6 Homorganic nasal+stop segments

As in several other Arnhem Land languages (Baker 2008a), homorganic nasal+stop sequences behave like single segments in Enindhilyakwa. Leeding (1989) proposes they are complex phonemes, because they have the same distribution as other consonant phonemes: they can occur word-initially (although rare), and they occur in syllable onsets. I concur with Leeding that the homorganic nasal+stop sequences are best analysed as complex phonemes, for the following reasons:

- 1) Prenasalised stops have a similar distribution to other consonant phonemes. They can occur as the second member of a cluster, as illustrated in the following dictionary entries. The number of examples is small, due to the limited range of consonants that can occur as codas in

Enindhilyakwa, which is restricted to apical sonorants. The attested clusters all involve a liquid followed by a peripheral homorganic nasal+stop sequence.¹⁷

- | | | | |
|------|-------------------|-----------------------|-------------|
| (30) | <i>amarngka</i> | ‘NEUT.laugh’ | |
| | <i>lharrngku-</i> | ‘things’ | |
| | <i>mayalngka</i> | ‘VEG.edible root sp.’ | (JS1 p.163) |
| | <i>marmba</i> | ‘VEG.molar teeth’ | |

In contrast to consonant clusters, the prenasalised stops can occur morpheme-initially in verb stems, as in the following dictionary entries:

- | | | |
|------|---------------------|------------------|
| (31) | <i>-ngkaya-</i> | ‘to stay’ |
| | <i>-ndhadhilyi-</i> | ‘to lean over’ |
| | <i>-njawudha-</i> | ‘to put on head’ |
| | <i>-rndvrrka-</i> | ‘to grab’ |

However, when trying to elicit these stems without a prefix, my informants avoided producing these clusters word-initially. The only verb stem with a zero prefix is the imperative (Chapter 4), but when cued for such forms, they did not produce them. Instead, they opted for the other available imperative prefix *w-*:

- | | | | | |
|------|----------------------------|-----------------|--------------------------|---------------------|
| (32) | /w-ŋcawu _ɛ -na/ | [wɪŋcawu' tɛna] | ‘put it [on your head]!’ | (anin4_mm_au_002) ♪ |
|------|----------------------------|-----------------|--------------------------|---------------------|

Leeding claims that the prenasalised stops can occur in word-initial position, due to deletion of the initial syllable, although this is very rare. She lists the following examples (1989: 27).

- | | | | |
|------|-----------------|---|------------------|
| (33) | <i>yindhiyi</i> | [ji _ɪ ŋ _ɪ ti ~ ŋ _ɪ ti] | ‘oh, I’m sorry!’ |
| | <i>yindha</i> | [ji _ɪ ŋ _ɪ ta ~ ŋ _ɪ ta] | ‘let me see!’ |
| | <i>yinja</i> | [jiŋca ~ ŋca] | ‘it’s my turn!’ |
| | <i>vmba</i> | [əmpa ~ mpa] | ‘but’ |

These are all interjections or particles.

- 2) As mentioned, prenasalised stops are syllabified as onsets, whereas other consonant clusters are ambi-syllabic (apart from the three heterorganic dorsal+labial clusters discussed in the next section). Leeding (1989: 27-8) notes that this is recognised by literate speakers, who treat the nasal-stop sequence as a unit in the syllable onset, but they insert a syllable break in between two heterorganic consonants. The tightness of the nasal-stop clusters can be observed in slow speech, where the prenasalised stop units appear in syllable onsets:

¹⁷ Ngalakgan is similar in this respect: the only attested examples of a continuant followed by a homorganic nasal+stop sequence in Ngalakgan are *rrngk* and *rrmb* (Baker 2008a: 28-9), involving only peripheral nasal+stop sequences, as in Enindhilyakwa. The only other possible trisegmental clusters in Ngalakgan are *rrngm* and *rngm*. These also occur in Enindhilyakwa, but the *ngm* sequence is analysed as a complex segment, see next section.

(34) <i>yimendha</i>	[ji.mɛ.ŋ̩.t̪a]	‘MASC.turtle’	(LL Book1 audio CD)
<i>eminda</i>	[ɛ.mi.nta]	‘NEUT.nose’	(anin2_hw_au_001) ♪
<i>akambvmbarrvnga</i>	[a.ka.mpə.mpa.rə.ŋa]	‘sit down!’	(anin4_dl_au_003) ♪
<i>yibarungkwa</i>	[ji.pa.ɹu.ŋk ^w a]	‘MASC.mullet’	(anin4_kw_au_002) ♪

Baker (2008a) proposes additional evidence for the syllabification of homorganic nasal+stop clusters as onsets in Ngalakgan and other Northern Australian languages, which is that they do not contribute weight to the preceding syllable. Stress in Northern Australian languages is typically quantity-sensitive, as it is in Enindhilyakwa (section 2.4). Since the homorganic nasal+stop clusters are not ambi-syllabic (with one half associated to the preceding syllable as a coda, and the other half to the following onset), but they are syllabified as onsets, they do not make the preceding syllable heavy. This is illustrated in the following tri-syllabic word examples from Ngalakgan (Baker 2008a: 179-80). Stress in Ngalakgan normally falls on the initial syllable, as in (35). Heavy syllables with a coda disturb this pattern because they attract the stress, as shown in (36). But when the medial cluster is homorganic, the preceding syllable does not attract the stress, as in (37) (stressed syllables are indicated by bolding and by a preceding apostrophe).

(35) / picu t̪u/	[ˈbiɟuɟu]	‘big wind’
/ kamala /	[ˈgamala]	‘sky’
(36) /pu ɬol koʔ/	[bʊˈdɔlgɔ]	‘brolga’
/lu ŋur wa/	[lʊˈŋɔrwa]	‘vine sp.’
(37) / ca kanta/	[ˈɟaganda]	‘female plains kangaroo’
/ ŋur uŋt̪uc/	[ˈŋɔrɔŋdʊˈc]	‘emu’

The homorganic nasal-stop clusters in (37) behave like single segments in that they are weightless and thus must be syllabified as onsets.

Since Enindhilyakwa is also quantity-sensitive for stress the prenasalised stops are not expected to contribute weight to the preceding syllable. This hypothesis is hard to test, because there are several competing factors that determine stress, syllable codas being only one of them. Long vowels can also contribute to weight. And weight can be overruled by the default of stress falling on the penultimate syllable. In the following examples, the longish /a/ vowel diverts the stress away from the penultimate syllable, which is followed by a nasal+stop cluster:

(38) <i>arimba</i>	[ˈa.ɹi.mpa]	‘NEUT.rough-skinned stingray’	(anin4_dl_au_003) ♪
<i>yibarungkwa</i>	[ji.ˈpa.ɹu.ŋk ^w a]	‘MASC.mullet’	(anin4_kw_au_002) ♪
<i>mvlharrungkwa</i>	[ˌməˈɹaɹuŋk ^w a]	‘VEG.white berry bush’	(anin2_pw_au_002)

These examples support the claim that homorganic nasal+stop clusters do not contribute weight to the preceding syllable: if they did, we would expect the penultimate syllable to be stressed (as it would bear two stress-assigning factors: being penultimate plus being heavy). Compare the examples in (38) to those in (39), where the syllables preceding the homorganic nasal+stop segments appear in ante-penultimate position and do not shift the stress away from the penultimate position:

- (39) *mvrungkurra* [ˌməɹuˈŋkura] ‘VEG.round yam’ (anin2_pw_au_002)
minimbaja [ˌminiˈmpaca] ‘VEG.white tussock grass’ (anin2_pw_au_002)

In these examples the stress is not diverted away from the penultimate syllable, so the ante-penult does not function as a stress attractor: therefore it must be light and the homorganic cluster syllabified in the onset.

- 3) As also observed by Heath (n.d.) and Leeding (1989), the homorganic nasal+stop clusters are never broken up by epenthetic vowels, whereas heterorganic clusters frequently are. The examples in (40) illustrate the variation involving the breaking up of heterorganic clusters by an epenthetic vowel (rule P-1), whereas in (41) there is no variation and the homorganic nasal+stop clusters are not broken up.

- (40) *mulkwa* [mulk^wa ~ muˌluk^wa] ‘VEG.stomach’
-yirrama- [jirma ~ jirəma] ‘to swim’
amarngka [amaŋka ~ amaɹəŋka] ‘to laugh’ (JS1 p.157)
- (41) *yingamba* [jiŋamba] ‘MASC.groin’
yimendha [jimɛɲɪa] ‘MASC.turtle’
-angkarr- [aŋkar] ‘to run’

In productive reduplication patterns, the prenasalised stops are not broken up either. When the stem begins with a stop, the reduplication template is monosyllabic C (section 2.7). When the stem begins with a homorganic nasal+stop cluster, this cluster is reduplicated as a unit, as illustrated with the following dictionary entries:

- (42) *-rndv-rndarrka-* ‘RDP-grab’
-mbv-mbawura- ‘RDP-few’
-ngkv-ngkulha- ‘RDP-be stretched out’

When the stem begins with something other than a stop, reduplication is disyllabic C₁VC₂ when non-vowel initial (things are a bit more complicated with vowel-initial stems, see section 2.7). Again, nasal-stop clusters are never split up:

- | | | | |
|------|------------------------------|----------------------|----------------|
| (43) | <i>-rvnji-rvnjarrkv-</i> | ‘RDP-tease’ | |
| | <i>-mandhv-mandharrka-</i> | ‘RDP-point’ | (VL1 p.106) |
| | <i>-lhandhv-lhandharrka-</i> | ‘RDP-think’ | (VL1 p.113) |
| | <i>-lhvmbv-lhvmbarr-</i> | ‘RDP-force spear in’ | (‘Lionel’ i34) |

This pattern contrasts with that of heterorganic clusters such as /rk/ and /rkp/, which can be broken up when reduplicated:

- | | | | |
|------|--------------------------------|-------------------------|------------|
| (44) | <i>-merrv-merrku+wilyarra-</i> | ‘RDP-middle of the day’ | |
| | <i>-mvrrov-mvrrk+balya-</i> | ‘RDP-soft’ | (GED p.82) |
| | <i>-merrv-merrk+balhv-</i> | ‘RDP-rise of sun’ | (Ansec2) |

The argument that tightness differentiates the homorganic nasal+stop clusters from heterorganic clusters is not a strong one, because the latter can also be reduplicated as a unit (e.g. *-arrng-arrngalha-* ‘RDP-itch’). However, at least the heterorganic clusters *can* be separated, whereas the nasal+stop clusters never are.

- 4) Treating the /ŋk^w/ sequence as one unit phoneme can explain the rounding of the preceding /i/ or /ə/ vowels (represented here as V):

- | | | | | |
|------|---------------------|--------------------------|--------------------------|-----------------|
| (45) | <i>yarrungkwa</i> | /jarVŋk ^w a/ | [jaruŋk ^w a] | ‘yesterday’ |
| | <i>arnungkwaya</i> | /aŋVŋk ^w aja/ | [aŋuŋk ^w aja] | ‘tomorrow’ |
| | <i>dhungkwarrka</i> | /ɟVŋk ^w arka/ | [ɟuŋk ^w arka] | ‘my great aunt’ |

If the nasal-stop sequence were two separate phonemes, the rounding of the preceding vowels would violate the principle of locality (e.g. Padgett & Ní Chiosáin 2001).

The homorganic nasal+stop sequences are thus best regarded as unit phonemes. They occur morpheme-internally and across historic morpheme boundaries. Examples of morpheme-internal nasal+stop segments are *-ma+dhangkwa* ‘meat’ (cf. pGN **dhanku*); *-arndaka-* ‘to hunt with spear’ (cf. pGN **borndok* ‘woomera’, Wubuy *warndak* ‘spear-thrower’); *mandarra* ‘VEG.fish sp.’ (Wubuy *mandarra* ‘fish sp.’); *yembvrrkwa* ‘MASC.tusk fish’ (Wubuy *yambirrkwa* ‘tusk fish’); and so on.

Historically, some of these homorganic nasal+stop unit phonemes may have arisen from bonding over morpheme boundaries (an idea originally proposed by Heath n.d.). For example, *-manh+dharrka-* ‘to point’ and *-lhanh+dharrka-* ‘to think’ in (43) are lexicalised complex stems consisting of the incorporated body parts *mam-* ‘hand’ and (an altered version of) *lyang-* ‘head’, respectively, plus the verb *-lharrka-* ‘send’ (that is, ‘finger+send’ = ‘point’, and ‘head+send’ = ‘think’). These verb stems are clearly lexicalised, as evidenced by their non-compositional meanings, and by the fact that the final consonant of the body part has assimilated in place to the following stem-initial consonant, something that does not happen with productively incorporated

nominals (see Chapter 7). The resulting homorganic nasal+stop sequence then became a unit phoneme by bonding across the old morpheme boundary. This historical sequence is illustrated in (46) for *-mandharrka-* ‘to point’:

- (46) **-mam-lharrka-* [hand-send] > **-mam-dharrka-* (hardening of continuant to stop; see Appendix D) > **-manh-dharrka-* (assimilation of nasal to following stop) > **-manh+dharrka-* (lexicalisation of compound) > *-ma.nhdh.arrka-* (bonding of segments across frozen morpheme boundary)

The bonding of the nasal and stop is supported by the failure of the cluster to be broken up when reduplicated, as was shown in (43).

Synchronically, bonding between homorganic nasal and stop sequences does not take place across active morpheme boundaries in productive affixation processes, something that was also noted by Heath (n.d.). When a nasal and a corresponding stop meet across an active morpheme boundary, an epenthetic vowel is inserted (rule P-1). This is illustrated in the following examples by the alienable possession (ALP) prefix *ng-* in (47a) and the VEG noun class prefix *nvm-* in (47b).

- (47) a. *n-envngv-karrawara*
 3m-m.ALP-above
 ‘God’ (Lit: ‘he belonging to above’)
- b. *nvmv-bvdhv-na menba*
 VEG-swell-NP2 VEG.eye
 ‘to have swollen eyes’ (GED p.161)

The bonding that has occurred across old, currently inactive, morpheme boundaries does not happen across active morpheme boundaries. The fact that these two processes only occur at frozen morpheme boundaries and not at active ones, suggests that Enindhilyakwa phonology has undergone some dramatic changes: the archaic stems suggest that at an earlier stage in the language codas were allowed, because clusters were not broken up by vowel-epenthesis. In the modern language codas are very limited: only apical liquids and nasals are allowed and even these are relatively rare. The codas in the frozen complex stems are avoided by bonding of the homorganic nasal+stop segment across the old morpheme boundaries into a single unit, which is syllabified in the onset. Codas originating in productive affixation patterns are avoided in a different way: by vowel epenthesis.

Baker (2008a) does not analyse the homorganic nasal+stop sequences that occur in the onset in other Northern Australian languages as complex unitary phonemes, but as clusters. This is because their distribution can be described in similar terms to clusters: they cannot occur word-initially and they are reduced following other obstruents (p.47). In Enindhilyakwa, the homorganic nasal+stop sequences also fail to occur word-initially (as was shown by the choice of the prefix *w-* rather than the zero prefix in the imperative in [32]). However, impossibility of word-initial occurrence is not

a fatal impediment to phoneme status, since for instance retroflexes do not occur word-initially either. Furthermore, only in word-medial positions is the full set of consonant contrasts available, in Enindhilyakwa (section 2.3.1) as well as elsewhere in Australia (see e.g. Hamilton 1996; Baker 2008a). As in Enindhilyakwa the homorganic nasal and stop constitute such a tight unit, in a language where otherwise consonant clusters are frequently broken up by vowel epenthesis, I will continue to treat them as single complex phonemes - which presumably have arisen due to the pressure to avoid codas. These complex segments can be further reduced to a simple stop, as noted by Leeding: e.g. *miyambena* [mijampena ~ mijapena] ‘what?’ (1989: 28).

2.5.7 Heterorganic dorsal+labial segments

There are three more clusters that behave like single segments: these are the heterorganic dorsal+labial sequences /kp/, /ŋm/ and /ŋp/. Heath (n.d.) treats them as ‘true’ clusters that are never broken up by an epenthetic vowel (as opposed to ‘orthographic’ clusters such as /rk/ and /lk/, which can be). Hamilton (1996), in his study on the phonotactics of Australian languages, interprets these heterorganic clusters as complex phonemes in Enindhilyakwa. His data come from Leeding (1989), and the only reason he gives for their phonemic status is their high frequency. These clusters, and /kp/ in particular, are very common indeed. The only other common heterorganic cluster is /rk/, but this is frequently broken up by epenthetic vowels, whereas the dorsal+labial clusters are not.

Besides their high frequency and their failure to be broken up by epenthetic vowels, there are additional reasons to regard the dorsal+labial clusters as complex segments:

- 1) Their distribution is similar to that of other consonant phonemes, apart from the fact that they cannot occur word-initially. They can follow a liquid in a consonant cluster, as illustrated by the following dictionary entries:

(48)	<i>amvrrkbalya</i>	‘soft’	<i>-amarngba</i>	‘bold’
	<i>ayilkbilkba</i>	‘NEUT.desert’ (VL1 p.66)	<i>-werrikumarrngbiji-</i>	‘to be friends with’
	<i>-nyirrngmv-</i>	‘to blow nose’	<i>-errkbi-</i>	‘to throw’ (VL1 p.481)

The heterorganic dorsal+labial sequences can occur morpheme-initially in verb stems, which other consonant clusters cannot:

(49)	<i>-kbaji-</i>	‘to curse’
	<i>-kbilyaja-</i>	‘to drop’
	<i>-ngmungwV-</i>	‘to throw on the ground’

However, attempts to elicit these clusters word-initially, by means of an imperative form which takes a Ø- prefix, failed.

2) The heterorganic sequences are syllabified as onsets, as shown in (50).

(50)	<i>alhakba</i>	[a.'ɽa.kpa]	'NEUT.leg'	(anin4_dl_au_003) ⑧
	<i>mamvngba</i>	['ma.mʊ.ŋpa]	'VEG.hair'	(anin4_dl_au_003) ⑧
	<i>mangma</i>	['ma.ŋma]	'VEG.brain'	(anin2_pw_au_001)

The initial velar in /kp/ is unreleased, its constriction occurring very late so that it is co-articulated with the following bilabial. As we shall see in section 9.2.1.2.1, some /kp/ sequences correspond to long stops in Gunwinyguan languages.

To conclusively prove that the complex segments syllabify in onsets, we have to show that they fail to contribute weight to the preceding syllable. This is apparent in the following two examples.

(51)	a. <i>engbvdha</i>	[ɛ.'ŋpə.ɽ:a]	'NEUT.strong'
	b. <i>warrkv-na</i>	['war.kə.na]	[IMP.2/NEUT-sew-NP2] 'sew it!'

In (51a) stress does *not* fall on the syllable that precedes the complex segment. Instead, stress falls on the standard penultimate syllable. This contrasts with (51b), where the stress is shifted away from the penultimate to the antepenultimate syllable, which is super-heavy: it contains the long-ish vowel /a/ and it is closed.

The following minimal pair also illustrates that the complex segments do not influence the distribution of stress. In (52a), both /i/ vowels are short and the stress falls on the standard penultimate syllable. In (52b), by contrast, the vowel preceding the /kp/ segment is long and shifts the stress away from the penultimate position (these are imperatives, which have Ø-prefixes).

(52)	a. <i>errikbi-na</i>	[ɛ.ɾi.'kpi.na]	[IMP.2.throw-NP2] 'throw (it)!'	(anin2_dl_au_001) ⑧
	b. <i>errekbina</i>	[ɛ.'ɾɛ:.'kpi.na]	[IMP.2.vomit-NP2] 'vomit!'	(anin2_dl_au_001) ⑧

These examples show that /kp/ sequence does not alter stress assignment: in (52a) the long /ɛ/ attracts the stress away from the penultimate position, whereas in (52b) there are no factors that divert the stress away from penultimate position. This supports the hypothesis that the /kp/ sequence is not ambi-syllabic, but is syllabified as an onset.

3) As pointed out by Heath (n.d.), the heterorganic dorsal+labial segments are never broken up by an epenthetic vowel, whereas other heterorganic clusters can be. The tightness of the complex segment is illustrated in (53). Examples of other heterorganic clusters broken up by vowel epenthesis were given in (40).

- | | | | |
|------|-----------------|----------------|-----------------|
| (53) | <i>akba</i> | ['a.k̥pa] | ‘NEUT.buttocks’ |
| | <i>engma</i> | ['ε.ŋ̩ma] | ‘rotten’ |
| | <i>mamvngba</i> | ['ma.mə.ŋ̩pa] | ‘VEG.hair’ |

The complex segments are also never broken up in reduplication patterns, as illustrated by the dictionary entries in (54). The reduplication template for stems beginning with a vowel is complex, as the initial vowel can either be ignored or be included in the reduplicated segment (section 2.7). What is important to note here is that the complex segments form a tight unit:

- | | | |
|------|------------------------------|-----------------|
| (54) | <i>-ingm-ingmvr̩ra</i> | ‘RDP-fat’ |
| | <i>-a-ngmv-ngmakulhalhv-</i> | ‘RDP-sit’ |
| | <i>-ingb-ingbv̩dha</i> | ‘RDP-strong’ |
| | <i>-akb-akbardha-</i> | ‘RDP-be afraid’ |
| | <i>-errekb-errekbiji-</i> | ‘RDP-spit’ |

This contrasts with other heterorganic clusters, which can be broken up when reduplicated, as illustrated in the previous section.

The dorsal+labial clusters are thus best understood as single unitary segments. Such heterorganic clusters behaving as single sounds are unusual in Australia (though they are common phonemes in West Africa and northern Central Africa, and they are also found in several New Guinea languages [Ladefoged & Maddieson 1996]). These segments do however not occur word-initially. This is one of the reasons why Baker (2008a) treats homorganic nasal+stop clusters in Ngalakgan that also syllabify as onsets, as clusters rather than single segments. But, as was argued in the previous section, failure to occur in word-initial position is not considered an obstacle to phoneme status.

As with the homorganic nasal+stop segments, the heterorganic dorsal+labial segments may occur morpheme-internally and intra-morphemically. There are no attested corresponding forms in Gunwinyguan languages involving *kb*, *ngk* or *ngm* clusters. In Wubuy, velars /ŋ/ and /k/ do not occur on the surface as first members of a cluster, except in the important homorganic cluster /ŋk/ (Heath 1984: 22). Interestingly, the Enindhilyakwa /kp/ segment appears to correspond to /p/ in Wubuy, and to a geminate /pp/ in Gunwinyguan languages (e.g. Enindhilyakwa *akbal-* : Wubuy *abarla* : pGN **kabbal* ‘open plain’; see section 9.2.1.2.1 and Appendix P). As also noted by Leeding (1989: 26), [kp] may vary freely with [pp], and some speakers are aware of this variation. Younger speakers may pronounce this cluster as a single stop [p].

Intra-morphemic examples of the complex segments can be found in frozen complex stems such as those in (55). When reduplicated, these clusters stay intact, as shown in (56).

- | | | | |
|------|----------------------------|--------------------|--------------------------------|
| (55) | <i>-ngak+bvdhv-</i> | [mount+swell] | ‘to swell (of sea, wind)’ |
| | <i>-rreng+mungkwardhv-</i> | [intestines+crawl] | ‘to crawl because of sickness’ |

- (56) *-ngakbv-ngakbvdhv-* ‘RDP-swell’
-rrengmv-rrengmungwardhv- ‘RDP-crawl’

The reduplication template for stems beginning with a sonorant is C₁VC₂; the fact that the dorsal+labial cluster is not broken up indicates it is treated as a single segment. Hence the two consonants have merged across a frozen morpheme boundary and become phonemes.

Synchronically, however, the labio-dorsals do not bond anymore across active morpheme boundaries. As with the homorganic nasal+stop clusters discussed above, vowel epenthesis occurs. This is illustrated in (57a) for the nominalising (NSR) prefix *k-*; in (57b) for the alienable possession (ALP) prefix *ng-*; and in (57c) for the pronominal prefix *nvng-* ‘1’.

- (57) a. *a-kv-bi-beka*
 NEUT-NSR-RDP-drink
 ‘a drink’
 b. *envngv-menba*
 NEUT.m.ALP-eye
 ‘glasses’
 c. *nvngv-bungurrv-dhv-na*
 1-drunk-INCH-NP2
 ‘I am drunk’

The bonding that occurred across the archaic morpheme boundaries in (55) does not happen across active morpheme boundaries. This was also true for the homorganic nasal+stops discussed above. It thus appears that at an earlier stage in the language codas were allowed, as clusters were not broken up by vowel-epenthesis. Then these clusters became syllabified as onsets. The current strategy to avoid codas is vowel epenthesis (P-1), as was illustrated in (57).

2.5.8 Loss of retroflexion

Retroflexed consonants other than the glide and the stop are comparatively rare in Enindhilyakwa. Leeding (1989) proposes that this scarcity is due to a loss of retroflexion, which is a common process in the language. She claims that loss of retroflexion is responsible for the current alveolar nasal, which varies freely with the retroflex in some cases. Older speakers use the retroflexed forms more frequently than do younger speakers. The following examples illustrate this synchronic variation, for: a pronominal prefix (58a); a lexical root (58b); a tense suffix (58c); and a demonstrative root (58d).

- (58) a. *nvngkurnuwa ~ nvngkunuwa* ‘2mdu.PRO’
 b. *yimvrnrna* [jimə'nəna] ‘MASC.stingray’ (anin4_kw_au_002) ②
 c. *-lrvka-rna ~ lrvke-na* ‘go-NP2’
 d. *nvng-arna ~ nvng-ena* ‘1-this here’

The apical contrast may be accompanied by a vocalic contrast: in (58c,d) the vowel [a] precedes the retroflex, while the alveolar is preceded by [ɛ] (see also Heath n.d.). This variation occurs in the tense suffixes of two conjugational classes (e.g. [58c] and Chapter 6), and in the demonstrative *ena* ‘this here’ (58d). The retroflex nasal varies with a prepalatalised nasal, which raises the preceding vowel from [a] to [ɛ]. A similar historical path has been proposed for some prepalatalised consonants in Arandic languages (Koch 1997). The vocalic contrast that accompanies the apical contrast is expected given the compatibilities between vowel place and apical place (Flemming 2003).

Loss of retroflexion is also responsible for the scarceness of the retroflex lateral. Retroflex laterals are common in Gunwinyguan languages. They correspond to a lamino-palatal lateral in Enindhilyakwa in onset position (e.g. pGN **kurlak* : Enindhilyakwa *-ma+kulya* ‘skin’, and Wubuy *rlong* : Enindhilyakwa *lyang-* ‘head’). In coda position, Gunwinyguan *rl* corresponds to alveolar *l* in Enindhilyakwa (e.g. pGN **warlkkarra* : Enindhilyakwa *alkvrra* ‘fish sp.’, and Wubuy *murlku* : Enindhilyakwa *mulkwa* ‘belly’). The sound correspondences between Enindhilyakwa and the Gunwinyguan languages are investigated in more detail in Chapter 9.

Very occasionally, however, some (older) speakers do produce a retroflex lateral:

- (59) a. *yuwarlkurra* [juwa[kura] ‘MASC.Cyrene shell’ (anin4_dl_au_004) ②
 b. *mulkwa* [mɔ[kwa] ‘VEG.stomach’ (anin2_pw_au_001) ②

Yuwarlkurra in (59a) may relate to proto-Gunwinyguan **warlkkarra* ‘fish sp.’ mentioned above. And the example in (59b) shows that there are still some traces remaining of the retroflex lateral present in Wubuy (even though all previous authors write this word with an alveolar *l*).¹⁸

Loss of retroflexion of the nasal is a synchronic process. Speakers very frequently pronounce a dictionary entry that involves *rn*, with an apico-alveolar *n*, as in (58b) and the following.

- (60) a. *amvrndha* [‘amənta] ‘NEUT.shoulder’ (anin2_au_au_001) ②
 b. *yimvrnvrna* [jimə'nəna ~ ji.jimə'nəna] ‘VEG.stingray’ (anin4_kw_au_002) ②

The retroflex stop is a common sound. There is no attested variation between a retroflex and alveolar stop, or of Wubuy /t/ corresponding to Enindhilyakwa /t/. Wubuy /t/ usually corresponds to Enindhilyakwa /t/ (e.g. Wubuy *marda* : Enindhilyakwa *amarda* ‘NEUT.grass’; Wubuy *lhaardu* : Enindhilyakwa *yilharda* ‘MASC.mudwelk shell’).

2.6 Vowels

The vowel phoneme inventory was presented in Table 2.2 above and includes four vowels, which are all non-rounded and non-back: /i/, /ɛ/, /ə/ and /a/. There is no phonemic length distinction in the

¹⁸ Although we cannot rule out that this speaker is also fluent in Wubuy and thus pronounced it the Wubuy way.

vowels, though /a/ and /ɛ/ tend to be longer than /i/ and /ə/ (except for [a] in word-final position, which is not long).¹⁹ Since this difference in length is predictable it is not contrastive. Stress is quantity-sensitive, so these long-ish vowels are stress attractors.

The following examples illustrate the vowel contrasts in the environment ɹ __ m in (61) (but ɹ __ r for /ɛ/ due to lack of fitting data), and between two nasals in (62).

(61)	<i>arvmba</i>	[a'ɹəmpa ~ a'ɹʊmpa]	'NEUT.blister'	(JS1 p.150)
	<i>arimba</i>	[a'ɹɪmpa]	'NEUT.stingray'	(anin4_dl_au_003)
	<i>amvrāma</i>	[amə'ɹama]	'quiet'	
	<i>yingv-rerrv-ma</i>	[ji ɹə'ɹɛrəma]	'it(FEM) dried'	(anin3_em_au_002)
(62)	<i>yinhanha</i>	[ji'ɹnaɹna]	'MASC.nail'	
	<i>dhvnhvnhā</i>	[ɹə'ɹəɹna]	'FEM.mosquito'	
	<i>enena</i>	[ɛ'nena]	'this'	
	<i>eminda</i>	[ɛ'minta]	'NEUT.nose'	

The round back vowel [u], which is typically phonemic in other Australian languages, is not contrastive in Enindhilyakwa. It only occurs directly preceding the rounded dorsals /k^w/ and /ŋ^w/ (e.g. *awurukwa* [,awu'ɹuk^wa] 'NEUT.billabong', *akungwa* [,a'kuŋ^wa] 'NEUT.water'), or contiguous to labio-velar /w/ (e.g. *amamuwa* [,ama'muwa] 'round', *awurukwa* [,awu'ɹuk^wa] 'NEUT.billabong'). Alternatively, [u] may directly follow phonetic non-rounded dorsals (e.g. *amukurra* [,amu'kura] 'NEUT.face', *angura* [,a'ŋuɹa] 'NEUT.fire'). These are the only environments that [u] occurs in.

Following an idea originally suggested by Heath (n.d.), I propose that the rounding of [u] is an underlying feature of contiguous rounded dorsal consonants. This rounding can be obtained in one of two ways: (i) by assimilation to a following rounded dorsal, as in *akungwa* [,a'kuŋ^wa] 'NEUT.water'; or (ii) by absorbing the rounding of a preceding rounded dorsal, as in *angura* [,a'ŋuɹa] 'NEUT.fire'. This means that the dorsal is underlyingly rounded, i.e. /ŋ^w/, but this rounding is transferred to [u].

Evidence for the above claims comes from the minimal pairs in (63) and in (64). The former illustrates the assimilation of [u] to the following labio-velar /w/:

(63)	a. <i>alhakbv-lhangwa</i>	[aɹa kɹəɹaŋ ^w a]	'NEUT.leg-ABL'
	b. <i>alhakbu-wa</i>	[aɹa kɹuwa]	'NEUT.leg-ALL'

When followed by a non-conditioning consonant such as /ɹ/ in (63a), the underlying quality of the vowel is maintained, in this case /ə/. When followed by labio-velar /w/, by contrast, as in (63b), /ə/ assimilates in rounding and place and is realised as [u]. (In word-final position, /ə/ is realised as [a]: *alhakba* [aɹa kɹa].)

¹⁹ More research is needed to determine the quantity of these long(ish) vowels, whether they are bimoraic or not.

The examples in (64) illustrate how [u] is generated by absorbing the rounding of a preceding rounded dorsal.

- (64) a. *mamvrukwa* [mamɔ.ɹuk^wa] ‘VEG.road’
 b. *mamvrukku-lhangwa* [mamɔ.ɹukku.ɹaŋ^wa] ‘VEG.road-ABL’

In (64a) the /k^w/ segment is followed by [a] in word-final position, as all words end in [a]. This [a] is not present underlyingly because it does not show up when followed by a suffix, as in (64b) (word-final [a] is due either to epenthesis, formalised as rule P-7A in section 2.6.3.1, or to conversion of a different vowel to [a], rule P-7B). When followed by a suffix, we do not get [k^wa] but [ku], where the rounding of the consonant is transferred to the vowel [u]. A similar analysis where the rounding of [u] is interpreted as an underlying feature of consonants has been presented for Arrernte (e.g. Breen 1977; Henderson 1998; Wilkins 1989).

One question that arises is, what is the quality of the vowel underlying [u]? It cannot be /a/, because this vowel does not absorb the rounding of the preceding dorsal (cf. [64a]). It cannot be /ɛ/ either, because this vowel can also follow rounded dorsals (e.g. [muk^wɛna] ‘VEG.heat’). This leaves /i/ and /ə/ as potential candidates. Since the sequences [k^wi], [k^wə], [ŋ^wi] and [ŋ^wə] are unattested in the language (whereas we do find [k^wa], [k^wɛ], etc.), I propose in section 2.6.7 that [u] is a shared allophone of /i/ and /ə/. The underlying phoneme will be represented as /V/ in this thesis where it is impossible to decide between the two.

The hypothesis that [u] is generated by absorbing the rounding of a preceding dorsal consonant can explain why this vowel is only contrastive when following *non-rounded* dorsals, as in the following data from Stokes (1981) and the dictionary:

- (65) *makarra* [ma'kara] ‘VEG.thigh’
mvrɪŋkvrɪra [mə.ɹə'ŋkəra] ‘VEG.sinker’
awilyikerra [awili'kɛra] ‘far away’
mikirra [mi'kɪra] ‘VEG.edible root’
amukurra [amu'kura] ‘NEUT.face’

The pattern can be accounted for by assuming that the dorsal in *amukurra* is rounded in its presurface form: /amV^wk^wVra/. The first [u] is formed by assimilation to the following rounded dorsal, whereas the second [u] is formed by absorbing the rounding of the preceding /k^w/, becoming [ku]. We cannot tell whether the underlying phoneme is /i/ or /ə/. The dorsals in the other examples, by contrast, are non-round underlyingly.

Table 2.4 presents the vowel allophones in Enindhilyakwa, the locations of which are predictable. The phonetic symbols are given in bold and their orthographic representations in parentheses. In most cases, the orthographic symbol represents the underlying phoneme. The only

exceptions are *u* and *ee*, which do not represent phonemes. The underlying phonemes of these sounds are given as well.

	Front	Central	Back
High	i (i), ɪ (i)		u (u), ʊ (v) /i/, /ə/
High-mid	e (ee) /ai/		
Mid		ə (i, a, e, v)	
Low-mid	ɛ (e, a)		
Low	æ (a)	a (a)	

Table 2.4: Enindhilyakwa vowel allophones (orthographic symbols given in parentheses)

In what follows, I will first summarise the previous analyses before going into more detail of the account proposed here.

2.6.1 Previous analyses

As mentioned in the introduction, the analysis of the Enindhilyakwa vowels is controversial. The main problem appears to be that on the one hand, the distribution of the high vowels and schwa seems to be mostly predictable: [i] occurs contiguous to lamino-palatal consonants (e.g. [ˈjina] ‘MASC.knee’, [ˌaməˈɪiɫa] ‘NEUT.common cold’); [u] occurs next to labio-velars and labialised velars/rounded dorsals (e.g. [ˌawuˈɪukʷa] ‘NEUT.billabong’, [ˌaˈkuŋʷa] ‘NEUT.water’); and [ə] occurs next to retroflex consonants and the alveolar rhotic (e.g. [ˈɬəŋɬəŋɬa] ‘FEM.strychnine tree’, [ˈarəra] ‘NEUT.wind’). But on the other hand, this cannot be the full story because these vowels occur in other environments also (e.g. [mipina] ‘VEG.same’, [aˌpəŋa] ‘NEUT.food’). All authors recognise a “central indeterminate vowel” (Stokes 1981: 154), but none of them takes it to be contrastive.

The previous accounts of Heath (n.d.), Stokes (1981) and Leeding (1989) differ in: (i) the number of vowel phonemes; (ii) whether these vowels are present underlyingly or due to epenthesis; (iii) the quality of the vowels; and (iv) their orthographic representation. In his sketch grammar, Heath (n.d.) proposes that there is only one ‘real’ vowel, /a/, and two parasitic or distributionally restricted vowels, /ɛ/ and /æ/. These vowels are considerably longer phonetically than [i], [u] and [ə], which he takes to be epenthetic. For instance, [aˌpəŋa] ‘NEUT.food’ has a very brief medial [ə], and [jaˌruŋkʷa] ‘yesterday’ a very brief medial [u]. Heath represents these words as *anhnga* and *yarrngkwa*, respectively, with vowel epenthesis breaking up the underlying consonant clusters. He notes that the epenthetic vowels are all rather brief and indistinct, and that fluctuation between [i], [u] and [ə] is common, even in repeating the same word. Clear [u] vowels,

on the other hand, consistently occur adjacent to the labialised velars /w/, /k^w/ and /ŋ^w/, and to phonetic velars [k] or [ŋ] for which an underlying representation as a labialised velar is possible (p.1-9). Heath proposes that epenthetic vowels may absorb the labialisation of an adjacent labialised consonant, so that [k^w] plus an epenthetic vowel becomes [ku], and /ŋ^wV/ becomes [ŋu].

Stokes (1981) proposes four vowel phonemes: /a/, /e/, /i/, /u/, with only a marginal contrast between the two high vowels.²⁰ She does not discuss any difference in length between these vowels. She presents several (sub-)minimal pairs that contrast these vowels, such as:

- (66) a. *marra* [mara] ‘VEG.tree sp.’ *merra* [mɛra] ‘VEG.blood’
 b. *m-ibina* [mipina] ‘VEG-same’ *mebina* [mɛpina] ‘VEG.wattle sp.’
 c. *arimba* [aɹɪmpa] ‘NEUT.stingray sp.’ *arumba* [aɹɪmpa] ‘NEUT.blister’²¹

The contrast between the high vowels is evidenced by pairs such as the following:

- (67) a. /mikira/ [mikɪra] ‘VEG.edible root’ (JS1 p.151)
 b. /amukura/ [amukura ~ amuk^wura] ‘NEUT.face’ (JS1 p.151)

Stokes proposes that the high vowels form a phonetic continuum from /i/ to /u/. An /u/ vowel contiguous to /m/ or /p/ may vary between [ʊ] and [u], as in /aɹuma/ [aɹʊma ~ aɹuma] ‘big’.

The “central indeterminate vowel [...] which is difficult to identify with either end of the continuum” for native speakers (p.153-4), is assigned to /u/ when contiguous to /m/ or /p/, as in (68a), and to /i/ elsewhere, as in (68b):

- (68) a. /arupuɹa/ [arupuɹa ~ aripiɹa] ‘strong’ (JS1 p.154)
 b. /aɹikiɹa/ [aɹukuɹa ~ aɹikiɹa] ‘NEUT.house’ (JS1 p.154)

In short, /u/ is taken to be phonemic because of the marginal contrast attested when contiguous to a bilabial or a velar consonant.

Leeding’s (1989) account comprises only two vowel phonemes: high central /i/ and low central /a/. She does not mention any difference in length between these two vowels. The two phonemes have a rich inventory of allophones, conditioned by the surrounding consonants and vowels by numerous phonological rules for fronting, rounding, backing and lowering. These phonological rules are often optional, which is one of the reasons for the huge free variation in vowel quality

²⁰ Stokes uses the symbol /e/ for the ‘non-high front vowel’, where I use /ɛ/. It is however unclear in her paper whether /e/ stands for phonetic [ɛ] or [e]. Only [e] is included in her list of allophones (1981: 176), but in many of her transcriptions, /e/ is realised as [ɛ] (e.g. /era/ [ɛra] ‘vomit’ and /memə/ [mɛmə] ‘this’ (p.151)). In other cases it is realised as [e] (e.g. /ekira/ [ekira] ‘name’ (p.153)). I conclude that in Stokes’ transcriptions, the vowel /e/ represents either [e] or [ɛ]. Interestingly, Leeding appears to suffer from the same confusion, as pointed out in fn22 below.

²¹ It is also often unclear how the phonetic realisation of /u/ should be interpreted in Stokes (1981). It is often transcribed as [ʊ], as in [aɹʊmpa] here. However, [ʊ] is not listed as a possible allophone in the list on p.176 of her paper. Moreover, elsewhere /u/ is transcribed as [u], as in /jiɹurma/ [jiɹurma] ‘fish sp.’ (p.150), without providing any explanation for this variation. Since [ʊ] is not listed as an allophone of /u/, I conclude that [ʊ], in fact, stands for [u]. I will therefore use [u] where Stokes uses [ʊ]. Stokes’ phonetic transcriptions of /u/ as [i ~ u] or [ʊ ~ u], as in the examples below, will be left unchanged.

that is observed in the language. Many rules can be applied iteratively, and most rules are strictly ordered. The vowel [ɛ] is not phonemic in Leeding’s account, but an allophone of /a/.²² It is generated by a high front vowel in the following syllable:

(69) /ji_ɽarpi/ [ji_ɽɛrpa] ‘MASC.Livingstone Palm’ (VL1 p.43)

Due to the lack of /ɛ/, Stokes’ minimal pairs in (66) are homographs in Leeding’s analysis: *marra* (66a), *mibina* (66b), and *arimba* (66c). The phonetic differences arise because these words differ in their underlying structure according to Leeding: *merra* ‘VEG.blood’ for example is underlyingly /m^w{i}+ara/, while *marra* ‘VEG.tree species’ is /m^wara/.

Leeding also notes that a clear [u] only occurs contiguous to rounded consonants, and it is generated from /i/ by either a following rounded consonant (Vowel Rounding Rule 1) or by a preceding rounded consonant (Vowel Rounding Rule 2).

Table 2.5 lists the different treatments of the Enindhilyakwa vowels by the previous authors, plus the one proposed in this thesis. Table 2.6 illustrates these different treatments with some examples, using the original orthographies and transcriptions.

	[a]	[ɛ]	[æ]	[ə]	[i]	[u]	[ʊ]
Heath (n.d.)	phoneme /a/	parasite /ɛ/	parasite /æ/	epenthetic [ə]	epenthetic [i]	epenthetic [u]	epenthetic [ʊ]
Stokes (1981)	phoneme /a/	phoneme /e/	allophone of /a/ [æ]	allophone of /a/ [ə]	phoneme /i/	phoneme /u/	allophone of /u/ /u/
Leeding (1989)	phoneme /a/	allophone of /a/ [e]	allophone of /a/ [æ]	allophone of /i/ [ə]	allophone of /i/ /i/, [i]	allophone of /i/ [u]	allophone of /i/ [ʊ]
This thesis	phoneme /a/	phoneme and allophone of /a/ /ɛ/, [ɛ]	allophone of /a/ [æ]	phoneme and epenthetic and allophone /ə/, [ə]	phoneme and allophone of /ə/ /i/, [i]	allophone of /i/ and /ə/ [u]	allophone of /i/ and /ə/ [ʊ]

Table 2.5: Overview of different previous analyses of Enindhilyakwa vowels

²² It is unclear which vowel Leeding refers to with [e]. This transcription is used for phonetic [e], [ɛ], and [æ]. For instance, Vowel Fronting Rule 2 generates “the low front allophone [æ]” from /a/, but this vowel is often transcribed as [e] (see e.g. pp.42-4). She also transcribes the same word with different vowels on different pages (e.g. [e’ka] ‘tree’ (p.47) vs. [æ’ka] (p.87)). I conclude that in Leeding’s transcription, [e] represents either [e], [ɛ] or [æ].

	Heath (n.d.)	Stokes (1981)	Leeding (1989)	This thesis
face	<i>amk^wrra</i> /amk ^w ra/ [amukura]	<i>amukwurra</i> /amukwura/ [amukwura ~ amukura]	<i>amwikwirra</i> /amwikwira/ [amukwura]	<i>amukurra</i> /amVkwVra/ [amukura]
herring	<i>alkrra</i> /alkra/ [alkəra]	<i>alkirra</i> /alkira/ [alkira ~ alkura]	<i>alkirra</i> /alkira/ [alkəra]	<i>alkvrra</i> /alkəra/ [alkəra]
name	<i>ekrra</i> /εkra/ [εkəra]	<i>ekirra</i> /εkira/ [εkira]	<i>akirra</i> /akiri/ [εkira]	<i>ekirra</i> /εkira/ [εkira ~ εkura]
house	<i>alhkra</i> /a _ɹ kɹa/ [a _ɹ əkəɹa]	<i>alikirra</i> /a _ɹ ikiɹa/ [a _ɹ ikiɹa ~ a _ɹ ukɹa]	<i>alhikira</i> /a _ɹ ikiɹa/ [a _ɹ ukɹa ~ a _ɹ ikiɹa]	<i>alhkvra</i> /a _ɹ əkəɹa/ [a _ɹ əkəɹa]
big	<i>arma</i> /aɹma/ [aɹəma ~ aɹuma]	<i>aruma</i> /aɹuma/ [aɹuma ~ aɹuma]	<i>arimwa</i> /aɹimwa/ [aɹumwa]	<i>arvma</i> /aɹəma/ [aɹəma ~ aɹuma]

Table 2.6: Examples of different analyses and transcriptions by the different authors

As can be seen from these tables, the different authors sometimes propose different vowel qualities in the same word. The transcriptions of the non-low vowels in ‘house’, for example, range from mid-central [ə] (Heath) to high-central [i ~ u] (Stokes) to high-back [u] (Leeding). This variation could be due to the different underlying qualities that they assume: Stokes and Leeding take it to be an underlying high vowel, and therefore the allophone remains high. Heath believes this vowel to be an epenthetic schwa, which can obtain rounding from the following bilabial.

There are problems with each of the previous accounts. Firstly, [i], [ə] and [u] are not always short and indistinct, as Heath claims them to be, but they can also be full, non-reduced vowels that receive primary stress. This makes them unlikely to be epenthetic. Secondly, [i] and [ə] also appear in non-conditioning environments: in fact, [i] occurs everywhere except preceding retroflex consonants and rounded velars; and [ə] occurs everywhere except preceding lamino-palatals and rounded velars. This suggests that /ə/ and /i/ are both phonemic, with the contrast neutralised preceding retroflexed consonants (where only [ə] occurs), and preceding lamino-palatals (where only [i] occurs). The vowel [ε] also occurs in virtually every environment, except preceding retroflexes. It contrasts with all other vowels, so there is no reason to analyse it as an allophone, as Leeding claims. The environments in which [u] occurs, on the other hand, are limited, and its distribution is fully predictable. Following Heath and Leeding, but contrary to Stokes, I analyse it as an allophone. The next sections present a revised analysis of Enindhilyakwa vowels.

2.6.2 A four-vowel system

Table 2.7 (p.53) and Table 2.8 (p.54) lay out the distribution of the Enindhilyakwa vowels (due to space limitations the glosses of the frozen noun class markers are omitted here). Table 2.7 displays

the various vowels that can be found preceding the existing consonants (disregarding the complex segments), and Table 2.8 the vowels that follow the consonants. The tables only include inherited words, as loanwords may be phonologically aberrant. Most examples involve open syllables, as these are by far the most common.

For vowels preceding /l/, /l̥/, /ɺ/, /t/ and /n/, which are the only permitted codas, two examples are given where available: in the first one the apical occurs in the onset (i.e. the syllable is open), and in the second example the apical is a coda and the syllable is closed. Alveolar /l/ can only occur in coda position. Alveolar /t/ and retroflex /l̥/ are very rare.

Several things stand out from Table 2.7. First of all, /a/ is the only phoneme that occurs in every environment. All other vowels are restricted in their distribution. Secondly, apart from [a], only [u] can precede labio-velar /w/ and labialised velars /k^w/ and /ŋ^w/; [i] and [ə] cannot, and [ɛ] is rare here (there are only a few examples of [ɛk^w], and no *[ɛw] or *[ɛŋ^w]). Thirdly, [ə] never appears before a palatal consonant. And fourthly, [ɛ] and [i] never appear before a retroflex. In the other environments all vowels occur; the gaps in the data preceding /t/ is presumably due to the scarcity of this consonant, which can also be said of the absence of [ə] preceding /l/.

These observations suggest that some of the contrast [a], [i], [u], [ɛ] and [ə] are neutralised in certain environments: preceding the labio-velar and labialised velars only [a] and [u], and perhaps also [ɛ] occur, preceding palatals only [a], [i], [u], and [ɛ] occur; and preceding retroflexes only [a], [ə], and [u].

Having a closer look at [u] reveals that when this vowel precedes consonants other than /w/, /k^w/ or /ŋ^w/, it always follows a velar or /w/. This velar can be shown to be underlyingly labialised. Consider the following pairs:

- | | | | |
|------|------------------------------|------------------------------|------------------------|
| (70) | a. <i>yu-ku-na</i> | [jukuna] | ‘1/2-give-NP2’ |
| | b. <i>yu-kwa</i> | [juk ^w a] | ‘1/2-give.PST’ |
| (71) | a. <i>na-jungu-na</i> | [nacujuna] | ‘NEUT-die-NP2’ |
| | b. <i>narri-jungwa-ji-na</i> | [naricuj ^w acina] | ‘3a/NEUT-die-CAUS-NP2’ |

In the (a) examples we find a velar consonant followed by [u]. In the (b) examples this velar is labialised and followed by [a]. Besides contiguous to /w/, this is the only environment where [u] can occur: following phonetic velars with an underlying representation as a labialised velar, as in the (a) examples, or preceding labialised velars.

		a ~ æ	ɛ	ə ~ ʊ	i ~ ɪ	u
labio-velar	— k ^w	a'jak ^w a 'word'	ju'wɛk ^w a 'mudskipper'			'ʔuk ^w a 'maybe'
	— ŋ ^w	ŋa'ŋaŋ ^w a '1.PRO.POSS'				a'kuŋ ^w a 'water'
	— w	a'rawa 'inside'				ama'muwa 'round'
velar	— k	ji'ʔaka 'didgeridoo'	ɛka'ɟaɟa 'burnt bush'	'maməka 'bandicoot nest'	mama'ɟika 'east wind'	muku'muk ^w a 'deep sea'
	— ŋ	mici'jaŋa 'ship'	ɛŋe'mina 'breast'	a'ʔəŋka 'head'	mama'ciŋa 'murder'	-cu'ŋu-na 'die-NP'
palatal	— c	ja'ʔaca 'goanna'	mi'jɛca 'paddle'		a'wica 'mist'	'kuca 'look!'
	— ɲ	ak ^w a'ŋɛra 'soft'	ɛ'ŋɛra 'runny nose'		ji'nijna 'bristle worm'	a'ŋuŋa 'pus'
	— ʎ	a'k ^w aʎa 'fish'	mici'jɛʎa 'beach'		amə'ɟiʎa 'a cough'	ama'kuʎa 'skin'
	— j	'ŋajuwa '1SG.PRO'	'jɛja 'footsteps'		ja'mpija 'throat'	
retroflex	— ʈ	ma'kaʈa 'sea'		'jəʈa 'supplejack'		akuʈu'kuʈa 'taboo'
	— ɳ	ji'ŋaŋa 'snake'		amə'ŋəŋa 'stingray'		ju'kuŋa 'bailer shell'
	— ʌ	maʌ'u'wija 'emu' juwaʌ'kura 'kneecap'		ama'rəʌa 'heron'		'mɔʌk ^w a 'belly'
	— ɖ	ɛka'ɟaɟa 'burnt off bush' ma'maɟmpa 'bold'		a'ʔə'ʔəɟa 'bone' a'məɟɟa 'dark'		a'ŋuɟa 'fire' awuɟ'məra 'pretending'
bilabial	— p	eni'ŋapa 'good'	ɛ'mɛpa 'song'	a'ʔə'nəpa 'soon'	a'ɟipa 'dry land'	aŋa'kupa 'over there'
	— m	ji'ɟama 'bug'	'mɛma 'this'	a'ɟəma 'big'	'jima 'faeces'	apɔl'kuma 'creek lily'
interdental	— ʈ	'ma ʈa 'ear'	'ɛ ʈɛra 'mouth'	-i'ŋpə ʈa 'strong'	-i'ɟ ʈa- 'to chop'	juku ʈu'ku ʈa 'chest'
	— ɳ	ji'na ɳa 'nail'	ji'mɛ ɳ ʈa 'turtle'	ʈə' ɳə ɳa 'mosquito'	ji'na ɳa 'nail'	
	— ɟ	a'ŋ ^w a ɟa 'crab'	'mɛ ɟuwa 'shell sp.'	'mamə ɟa 'gills'	ji'ɟaca 'half moon'	ju'ŋu ɟa 'trepang'
alveolar	— t	ʈəra'pata 'spear'			wi'jita 'straight'	
	— n	'anka 'hip'	ʈəli'ŋɛna 'salt' 'mɛnpa 'eye'	-ɟarə-na 'fall-NP'	ɛŋe'mina 'breast'	-cu'ŋu-na 'die-NP'
	— l	mi'jalk ^w a 'low tide'			jilpi'jilpa 'desert'	apul'kuma 'creek lily'
	— r	'mara 'wattle tree' a'karŋa 'teeth'	'mɛra 'blood' mɛ'mɛrpa 'calf'	'alkəra 'herring' ʈəŋ ʈərka 'my mother'	'ɛkira 'name' mə'ɟirpa 'back'	a'ŋura 'very' maŋ'kurk ^w a 'pandanus'

Table 2.7: Vowel distribution in Enindhilyakwa by following consonant

		a ~ æ	ɛ	ə ~ ʊ	i ~ ɪ	u
labio-velar	k ^w ___	a'k ^w aɫa 'fish'	mu'k ^w ɛna 'heat'			
	ŋ ^w ___	a'ŋ ^w aɫa 'tears'	məɬu'ŋ ^w ɛna 'jungle'			
	w ___	a'wanɫa 'rock'	wuru'wɛba 'parrot'		a'wica 'mist'	awu'raɫija 'bad'
velar	k ___	a'kaɾa 'teeth'	-'keruwa- 'to try'	aɫə'kəɾa 'house'	ɫaɫ'ŋkija 'daughter in law'	a'kuŋ ^w a 'water'
	ŋ ___	a'ŋaɫa 'place'	ɛŋɛ'ŋkuwa 'life'	a'ŋəŋɫa 'chin'	jini'ŋiɫa 'sand bar'	a'ŋuŋa 'pus'
palatal	c ___	-pi'caŋa- 'to jump'	jɛ'ncɛra 'this way'	acə'ɾəŋka 'ground'	-cu'ŋ ^w aci-na 'kill-NP2'	-cuŋ ^w a'cu-wa 'kill-P2'
	ɲ ___	a'ɲaɾŋ ^w a 'tame'	aɫ'ɲɛra 'salty'	ɛ'ɲəra 'runny nose'	ɫi'ɲija 'eyeball'	-a'ɲuŋ ^w a '1pl.KIN.POSS'
	ʎ ___	'ʎaŋ- 'head'	mi'ʎɛɫa 'armband'	aɫa'ʎəma 'river'	mama'ʎi'kpa 'peritoneum'	je'ʎuk ^w a 'rain'
	j ___	ja'mpija 'throat'	-'jɛŋpi- 'to speak'	'jəɫa 'supplejack'	'jina 'knee'	'ŋajuwa '1.PRO'
retroflex	ɬ ___	ma'ɬawa 'cooking stone'	-wa'ɬɛmi- 'to cry out'	-'ŋɬəka- 'to grab'	-waɬi-ji- 'hit-RECP'	akuɬu'kuɬa 'taboo'
	ɳ ___	aŋa'ŋara 'necklace'	wa'ŋɛɲa 'quickly'	'ŋaŋəŋka 'again'		aŋu'ŋk ^w a 'tomorrow'
	ʎ ___					maɫu'wija 'emu'
	ɬ ___	ji'ɬaka 'didgeridoo'	-ŋa'ɬɛ-na 'howl-NP'	mə'ɬəŋa 'backbone'	a'ɬipa 'dry land'	awu'ɬuk ^w a 'billabong'
bilabial	p ___	a'mpaka 'later'	-'pɛki-na 'drink-NP'	a'ɬapəɾa 'coolamon'	'mɛpina 'wattle tree'	ji'mpuk ^w a 'self'
	m ___	'mara 'wattle tree'	'mɛra 'blood'	-mɛra 'INSTR case'	'mikira 'plant sp.'	muku'muk ^w a 'deep sea'
interdental	ɬ ___	ama'ɬaŋk ^w a 'meat'	jini'ɬɛna 'coral'	aɬə'ɬəɾa 'bone'	-aɬi'kpa '3f.POSS.KIN'	'ɬuk ^w a 'maybe'
	ɲ ___	ji'ɲa'ɲa 'nail'		a'ɲəŋa 'veg food'		
	ɬ ___	ji'ɬaca 'half moon'	-ca'ɬɛ-na 'hang-NP'	-pə'ɬəra 'unfinished'	muŋku'ɬija 'sleep!'	'mɛɬuwa 'shell sp.'
alveolar	t ___	aɬə'tara 'hot'			-menti- 'to make a fire'	
	n ___	naŋa'ɬija 'baby boy'	ɛ'nɛna 'this'	nəŋ- '1'	ɛni'ɲɬi'ʎak ^w a 'language name'	nɛ'nuk ^w a 'son'
	l ___	<i>only in loanwords</i>				
	r ___	ma'ra'k ^w a 'coral'	jɛ'rɛra 'ladder'	-rəŋka- 'to look at'	wu'riŋma 'cockroach'	mɛ'ruŋ ^w a 'yellow clay'

Table 2.8: Vowel distribution in Enindhilyakwa by preceding consonant

Following Heath (n.d.) and Leeding (1989), I propose that [u] is not a phonemic vowel in Enindhilyakwa, but is generated by surrounding round consonants. When following a labialised velar, this labialisation is absorbed by [u]. This claim is supported by the data in Table 2.8: [u] only occurs following non-labialised velars, where it contrasts with all other vowels. [u] is absent after [k^w] and [ŋ^w]. The fact that [i] and [ə] are also absent here suggests that these are the underlying phonemes from which [u] is generated. Only [a] and [ɛ] can follow [k^w] and [ŋ^w]. The semi-vowel /w/, however, is different: firstly, it preserves its rounding when followed by [u]. And secondly, it can be followed by [i] - but only when followed by a conditioning palatal consonant. Thus, whereas *[k^wi] and *[ŋ^wi] are unattested combinations in Enindhilyakwa, the sequence [wi] is possible.

Table 2.8 also shows that [ɛ] and [i] can *follow* retroflex consonants (whereas they cannot precede them in Table 2.7). The gap in the data following /l/ is due to this consonant being extremely rare. However, [i] after a retroflex is rare, and only happens when a palatal consonant is involved. The semi-vowel /ɹ/ is different, because here [i] can occur without a conditioning factor.

2.6.2.1 Distinctive features

These complex patterns are expressed in the following sections as phonological rules. Here it is helpful to represent the phonemes involved in terms of units below the level of the phoneme: distinctive features. A phoneme can be represented as a bundle of features in a feature matrix, as first formalised by Jakobson (1941) and further elaborated in Chomsky & Halle (1968). These features are needed so that rules can make reference to classes of sounds (Carr 1993: 154). The matrices with the required features for the Enindhilyakwa rules are presented in Table 2.9 (vowels) and Table 2.10 (consonants) on the next page. The vowel table includes both phonemes and allophones. The most relevant features for the phonological rules are place features. Concerning the consonants, no distinction is needed between dentals and alveolars.

Labio-velar /w/, the labialised velars /k^w/, /ŋ^w/, /ŋk^w/, and the complex segments /kp/, /ŋp/, /ŋm/ are a problem, because they have the dual articulation labial+velar, so they are [-anterior] and [+anterior]. These segments are distinguished from /kp/, /ŋp/, /ŋm/ by making the latter [+anterior, +high], to reflect their dual nature where neither place of articulation is primary. The labialised velars are labelled [-anterior, +high], which mirrors the principle that the velar stop is the primary articulation, with labialisation being secondary (the rounding is represented for both sets of consonants by an additional feature [+labial]). Although this overlaps with the feature [+anterior], it is necessary to distinguish between the rounded velars /k^w/, /ŋ^w/, /ŋk^w/ and the unrounded velars /k/, /ŋ/, /ŋk/). Labio-velar /w/, then, is labelled [-anterior, +high] as well, on a par with the labialised velars.

	high	low	front	labial	back	long
i	+	-	+	-	-	-
e	-	-	+	-	-	+
u	+	-	-	+	+	-
ʊ	+	-	-	+	-	-
ə	-	-	-	-	-	-
ɛ, æ	-	+	+	-	-	+
a	-	+	-	-	-	+

Table 2.9: Distinctive features: vowels

	coronal	anterior	labial	high	consonantal
p, m, mp	-	+	+	-	+
ɸ, ɱ, ɲ, ɲɸ t, n, l, nt, r	+	+	-	-	+
ʈ, ɳ, ʂ, ʂɳ, ɳʈ	+	-	-	-	+
c, ɲ, ʎ, ɲc	+	-	-	+	+
j	+	-	-	+	-
k, ŋ, ŋk	-	-	-	+	+
k ^w , ŋ ^w , ŋk ^w	-	-	+	+	+
w	-	-	+	+	-
kp, ŋp, ŋm	-	+	+	+	+

Table 2.10: Relevant distinctive features: consonants

The phonological system treats the vowels /a/, /ɛ/ and [e] as long, because they attract the stress. The feature [long] is also needed for the phonological rules, to distinguish /i/ and /ə/, which are [-low, -labial, -long], from /e/, which is [-low, -labial, +long]. Some phonological rules apply to the former but not to the latter. Note that the vowel feature [front] is equivalent to the consonant feature [anterior].

With the distinctive features in place, the rounding of [u] can be expressed as the following two rules:

(72) P-2: vowel rounding and backing 1

$V_{[-low, -labial, -long]} > V_{[+labial]} / _ C_{[-anterior, +high, +labial]}$

i.e. /i/ and /ə/ assimilate in place to a following labialised velar consonant

(73) P-3: vowel rounding and backing 2

$C_{[-anterior, +high, +labial]} V_{[-low, -labial, -long]} > C_{[-anterior, +high, -labial]} V_{[+labial]}$

i.e. /i/ and /ə/ absorb the labialisation of a preceding labialised velar consonant, which loses its rounding

For example, the underlying form of [amukura] ‘NEUT.face’ is /amVk^wVra/, where /V/ represents /i/ or /ə/. The first /V/ assimilates to the following rounded velar (P-2) and is realised as [u], while the second /V/ absorbs the rounding of /k^w/, which loses its rounding (P-3): /k^wV/ > [ku].

Before rounded dorsals, only [u] occurs; before unrounded dorsals only [i] and [ə] occur, as illustrated in (74). The vowels [a] and [ɛ] are the only vowels that can precede rounded and non-rounded consonants:

(74)	<i>ayakwa</i>	[ajak ^w a]	‘NEUT.word’	<i>ambaka</i>	[ampaka]	‘later’
	<i>ekwa</i>	[ɛk ^w a]	‘NEUT.head support’	<i>akvbibeka</i>	[akəpɪpɛka]	‘NEUT.drink’
	<i>mamvka</i>	[maməka]	‘VEG.bandicoot’s nest’			
	<i>mamarika</i>	[mamaɪika]	‘VEG.southeast wind’			
	<i>mamukwa</i>	[mamuk ^w a]	‘VEG.spirit’s eye’			

There are some complications to the rounding and backing rules, namely when there are also palatal consonants involved. These complications are addressed in section 2.6.5.

2.6.3 The phoneme /a/ and its allophones [æ], [a^u], [ə], [ɛ]

Low-central [a] is the only vowel that occurs in every environment. The distribution of all the other vowels is restricted. [a] may vary with [æ] when adjacent to a lamino-palatal consonant (see also Leeding 1989: 46):

(75)	<i>ayakwa</i>	[ajak ^w a ~ æjak ^w a]	‘NEUT.word’
	<i>yaraja</i>	[jaɪaca ~ jæɪaca]	‘MASC.goanna’
	<i>awinyamba</i>	[awɪnampa ~ awɪnæmpa]	‘NEUT.anger’

This variation is expressed as vowel-fronting rule P-4:

(76)	P-4: vowel fronting rule 1 (optional)
	$V_{[+low, -front]} > V_{[+low, +front]} / _ C_{[+coronal, +high]}; C_{[+coronal, +high]} _$
	i.e. /a/ is fronted to [æ] by an adjacent lamino-palatal consonant

Furthermore, [a] may also assimilate in place to a following labio-velar or labialised velar and produce the offglide [a^u].

(77)	<i>Enindhilyakwa</i>	[ɛni _n ɪ _ɪ ɪlak ^w a ~ ɛni _n ɪ _ɪ ɪla ^u k ^w a]	‘NEUT.language name’
	<i>jarrangwa</i>	[caraŋ ^w a ~ cara ^u ŋ ^w a]	‘horse(NEUT)’ (< Mac <i>jarrang</i>)
	<i>arawa</i>	[arawa ~ ara ^u wa]	‘inside’

The assimilation of /a/ to following labialised velars supports the unit phoneme status of the latter. Several authors transcribed the language name with the offglide: *Andiljaugwa* (Capell 1942), *Enindiljaugwa* (Worsley 1954a,b), *Anindilyaugwa* (Moody 1954), *Änindiljaugwa* (Turner 1974).

When /a/ appears in an unstressed syllable, it may be reduced to [ə]. However, since /a/ is rather long and thus functions as a stress attractor, this is rare; it only happens when two consecutive syllables both contain /a/ and one attracts the stress.

- (78) *a-m+akulya* [,ama'kuʎa ~ ,amə'kuʎa] 'NEUT-INALP+skin'
mamarika [,mama'ɰika ~ ,mamə'ɰika] 'VEG.south east wind'

The [ə] vowels in these examples do not obtain rounding from the contiguous consonants, as they are an underlying /a/, and not /ə/.

An /a/ vowel may be conditioned by a high front vowel in the next syllable and raise to become [ɛ]. This is especially common in the pronominal prefixes (79), but also happens in lexical words, as in (80):

- (79) /*nara-pi-na*/ [nɛɾɛpina] '3a-argue-NP2' (anin4_mm_au_002)
 /*ma-mɛrkwV-wiʎara*/ [mɛmɛɾkuwiʎara] 'VEG-sun-middle'
 /*na-pɛki-na*/ [nɛpɛkina] '3a-drink-NP2'
 /*a-ɰɛkba-ŋəma*/ [ɛɰɛ kpaŋɔma] 'NEG-argue-NP3' (anin4_dl_au_005)
 /*ma-m-ikira*/ [mɛmikira] 'VEG-INALP-name' (GED p.87)
- (80) /*ampiʎəma*/ [ɛmpɪʎəma] 'NEUT.two' (anin4_dl_au_005)
 /*kampɪra*/ [kæmpɪra ~ kɛmpɪra] 'then' (LL Book1)

This pattern is expressed as i-umlaut rule P-5 (reminiscent of Leeding's Vowel Fronting Rule 2):

- (81) P-5: i-umlaut: (optional)
 $V_{[+low, -front]} > V_{[+low, +front]} / _ C(C)V_{[+front]}$
 i.e. /a/ is fronted by [i] or [ɛ] in the next syllable

There is another variation between [a] and [ɛ], which is accompanied by an apical contrast (section 2.5.8). The tense/aspect suffixes of some conjugational classes vary between ...a-ŋa and ...ɛ-na, where the retroflex nasal is preceded by a low vowel, and the alveolar nasal by a front vowel (these vowels are analysed as belonging to the verb stem rather than to the suffix - see Chapter 6). Both variants exist alongside each other, such as *-lɰvka-rna* ~ *-lɰvke-na* 'go-P2'. It is impossible to tell what the underlying phoneme is, but we can observe that the vowel contrast [a] - [ɛ] that accompanies the apical contrast is expected given the compatibilities between vowel place and apical place (i.e. anterior coronals may condition vowel fronting and retroflex coronals may condition vowel retraction; Flemming 2003).

When /a/ comes into contact with /i/ across a morpheme boundary, the two vowels merge to become [ɛ] or [e: ~ e^l]. There is some variation between the two, but the choice between them appears to be primarily dependent on stress: [e: ~ e^l] mostly occurs in penultimate position, which receives primary stress, and [ɛ] mostly occurs in prefixes, which have secondary stress. The contraction of the two vowels can be best observed for stems starting with /i/ with flexible prefixes, such as verbs, demonstratives and adjectives. The stem forms change when the NEUT noun class prefix *a-* is involved, compared to the stem form when combined with the other noun classes or gender prefixes: the NEUT prefix merges with stem-initial /i/ to become [ɛ], whereas the

stem-initial /i/ is maintained for the other prefixes. This is illustrated here for the demonstrative *-ibina* ‘that (unseen)’ (see section 3.4.1 for the noun class and gender prefixes paradigms).

(82)	NEUT:	/a-ipina/	['ɛpina]	FEM/3f:	/ɫ-ipina/	['ɫipina]
	VEG:	/m-ipina/	['mipina]	COLL/3a:	/wur-ipina/	[wu'ripina]
	MASC:	/j-ipina/	['jipina]	3m:	/n-ipina/	['nipina]

The NEUT class stem contrasts with stems starting with /a/, as this is unchanged for NEUT class nominals. This is illustrated in (83) for the adjective *arvma* ‘big’:

(83)	NEUT:	/a-aɾəma/	[aɾəma]
	VEG:	/m-aɾəma/	[maɾəma]
	MASC:	/j-aɾəma/	[jaɾəma]
	et cetera		

To account for these data, I propose the following phonological rules (cf. Heath n.d.):

- (84) a. /a + a/ > [a]
 b. /a + i/ > [ɛ] (to be modified in [89] below)

These rules also apply to nouns. The noun class prefix on a noun is lexicalised and cannot be replaced or omitted. However, there are some pairs of nouns that formally differ only in their class marker. Usually they have a related meaning. In the following sets of examples the NEUT class nouns involve [ɛ] and the VEG class nouns [mi].

(85)	<i>ekirra</i>	[ɛkɪra]	‘NEUT.name’	(i.e. /a+ikɪra/)
	<i>mikirra</i>	[mikɪra]	‘VEG.spike rush’	(i.e. /m+ikɪra/)

(86)	<i>engeemina</i>	[ɛŋemina]	‘NEUT.breast’	(i.e. /a+iŋemina/)
	<i>mingeemina</i>	[miŋemina]	‘VEG.undeveloped breast’	(i.e. /m+iŋemina/)

The underlying stem forms of these nominals are analysed as involving a stem-initial /i/. Although synchronically the noun class prefix is inseparable from the stem, historically the initial [ɛ] of some NEUT class nouns results from a merger of the class prefix /a/ plus stem-initial /i/.

Further evidence for the rule in (84b) comes from prefixes on the verb. For example, the intransitive ‘1’ and ‘3a’ pronominal prefixes are /nəŋ/ and /na/, respectively. As usual, an epenthetic vowel is inserted when two consonants meet at the boundary between a prefix and a stem, as in (87a). This does not happen for prefixes ending in a vowel (87b). For some verbs, however, the ‘3a’ prefix becomes [nɛ], as in (88b).

(87)	a. /nəŋ-ɫəkaca/	[nəŋəɫəkaca]	‘I am going’
	b. /na-ɫəkaca/	[naɫəkaca]	‘they are going’

- (88) a. /nəŋ-iŋkarŋa/ [niŋiŋkarŋa] ‘I broke’
 b. /na-iŋkarŋa/ [nɛŋkarŋa] ‘they broke’

The stem *-ingkarŋa* ‘break’ in (88) has an initial /i/ vowel. When combined with the prefix *nɔŋ-* this /i/ is preserved and triggers raising of the central vowel in the prefix to [i] (i-umlaut P-5). When following the prefix *na-*, the two vowels combine and become [ɛ].

There is one noun that behaves differently in that its prefix is [e¹ ~ e:], not [ɛ]. This is [e¹ka ~ e:ka] ‘NEUT.tree, wood, log’. To my knowledge this is the only nominal that has a word-initial diphthong [e¹] varying with a long vowel [e:], rather than an [ɛ]. Interestingly, Tindale (1926) writes this word as *eiga*, Heath (n.d.) as *ayika*, while Stokes notes that the word *eka* [e¹ka] has a permissible but rare alternative [e¹jika] (1981: 155). I suggest that these alternative pronunciations in fact confirm the phonological rule in (84b) above, if one refinement is made:

- (89) P-6: merger of /a/ and /i/
 a. /a + i/ > [ɛ] (in secondary stress position, e.g. prefixes)
 b. /a + i/ > [e¹ ~ e:] (in penultimate, primary stress position)

The noun [e¹ka ~ e:ka], although synchronically frozen, historically derives from the noun class marker /a/ plus the stem /ika/. The long vowel/diphthong [e: ~ e¹] always occurs in a primary stress position. Compare *eeka* to *ekalhara* ‘NEUT.burnt off bush’, which presumably contains the same morpheme /ika/:

- (90) *eeka* [‘e¹ka ~ ‘e:ka] ‘NEUT.tree, wood, log’
ekalhara [,ɛka ‘ɹaɹa] ‘NEUT.burnt off bush’

The first syllable of [ɛkaɹaɹa] receives secondary stress and is realised as [ɛ]. The alternative representations [ajika] (Heath) and [e¹jika] (Stokes) support the analysis of /a+ika/ [e¹ka ~ e:ka], because these may represent the same word before merging of the two vowels. In other words, Heath’s and Stokes’ informants did not yet apply this rule. The semi-vowel /j/ is often put between two vowels in the orthographies of all authors, but in some cases it is almost inaudible. It seems that /j/ is only present to show that the two vowels do not form a diphthong, but that they are two individual vowels. [ajika] and [e¹jika] then both represent /a+ika/, without application of the phonological rule. In Stokes’ transcription [e¹jika] the noun class marker /a/ is raised by the following /i/. This would then be an intermediate stage between [ajika] and [eika].

The incorporated nominal *ika-* ‘fire, firewood’ (Wubuy: *yika-* ‘fire’) further confirms the existence of the morpheme [ika]:

- (91) a. ...*warnv-k-ika-waraki=yadha*...
 3a.m-NSR-fire-carry=PURP
 ‘...so they could carry the fire [with them]’
 (GED p.198)

- b. *yirri-ikeka-ngamba-ju-wa-ma* *angura*
 1a/NEUT-RDP.fire-bathe-CAUS-P2 NEUT.fire
 ‘we put out the fire with water’ (‘Awurukwa’ w40)

In the last example, the morpheme *ika-* is reduplicated /ika-ika/ [ikɛka].²³

The morpheme [ika] is also attested as the ‘emphatic’ clitic =*ika* (see Stokes 1982; Leeding 1989; WD). This clitic can be added to any type of word, and creates the diphthong [e¹] or long vowel [e:], as in (92).

- (92) a. /aɹəma=iKa/ [aɹəmeika ~ aɹəme:ka] ‘very big’ (anin3_dl_au_001)
 b. /amakwVləməɸ:a=iKa/ [amakuɹəməɸ:eiKa ~ ...e:ka] ‘enormous’ (anin3_dl_au_001)

Stokes (1982: 134-5) interprets this clitic as =*ka*, where the /k/ raises and fronts the preceding /a/ to [e:].²⁴ However, /a/ vowels are not normally raised and fronted when followed by a [-coronal, +high] consonant, but merely when followed by [+coronal, +high] consonants (rule P-4). I propose that the emphatic clitic is =*ika*, and that the contraction of /a/ and /i/ applies here as well. The diphthong/long vowel occurs in penultimate position and receives primary stress.

To summarise, the phoneme /a/ has five allophones:

- [a] in all environments
- [æ] when preceding [+coronal, +high] consonants (P-4: e.g. [ajakwa ~ æjakwa] ‘word’)
- [a⁰] when preceding [-anterior, +labial, +high] consonants (e.g. [eni ɲ ɸiɹak^wa ~ eni ɲ ɸiɹa⁰k^wa])
- [ə] in unstressed syllables (e.g. [,ama'kuɹa ~ ,amə'kuɹa] ‘skin’)
- [ɛ] by i-umlaut (P-5: /na-pɛki-na/ [nɛpɛkina] ‘3a-drink-NP2’)

These allophones are represented as their underlying quality in the orthography. When /a/ is followed by /i/ these vowels coalesce, resulting in *e* [ɛ] (non-primary stress) or *ee* [e¹ ~ e:] (primary stress) (P-6).

2.6.3.1 Word-final [a]

Since all words end in [a], we need a rule that adds [a] for words ending in a consonant (P-7A). We also need a rule that converts underlying different word-final vowels to [a] (P-7B).

- (93) P-7A: Ø > a / C __ #

i.e., epenthetic [a] occurs where words would otherwise end in a consonant
 e.g. /ɸaɹ/ [ɸara] ‘fall.NP1’

²³ This word is interpreted and glossed differently in the original material. What I take to be a reduplicated form *ikeka-/ika-ika/* [ikɛka], is interpreted as *kek-*, which is glossed as ‘light source’. The vowels at both sides of *kek-* are interpreted as epenthetic vowels, so that in the original material this verbal word is written as *yirri-keki-ngambajuwama*, with both *i* vowels being epenthetic (*i* can stand for [ə] in the Stokes/Waddy orthography). In my analysis the incorporated morpheme is *ikeka-*, where the final /a/ vowel is unstressed and can be realised as [ə].

²⁴ Again, it is unclear whether *e* stands for [e] or [ɛ] in the Stokes/Waddy orthography. I presume here it means [e].

(94) P-7B: V > a / __#

i.e., a word-final vowel is converted to [a]
 e.g. /ŋampɛ-nə/ [ŋampɛna] ‘bathe-P2’

The existence of these rules receives some support from Tindale’s (1926) list of about 500 vocabulary items (mostly nouns).²⁵ Most of these end in [a], but not all. Some end in a consonant, such as (original orthography): *matt* ‘ear’ (current spelling: *madha*) and *iyungder* ‘backbone’ (current spelling: ?). These words support the existence of rule P-7A that inserts word-final [a] in the modern language. Other items in Tindale’s list end in a vowel other than [a]: e.g. *ilyaku* ‘honey’ (current spelling: *yilyakwa*), *towateru* ‘white cockatoo’ (currently: *dhuwedhvrra*), *mempe* ‘eye’ (currently: *menba*), and *yokoroko* ‘frogmouth’ (currently: *yukurrkwa*). These vocabulary items support the existence of rule P-7B that converts word-final vowels to [a].

The underlying status and quality of the word-final [a] is often hard to determine, which may be expected given that it can be epenthetic. We can investigate this by looking at the behaviour of the vowel when followed by a suffix. If it is underlying /a/, it is not expected to assimilate to a following consonant, or only just slightly (e.g. /a/ may be realised as [a^u] when followed by /w/); whereas non-low vowels are expected to fully assimilate in place. The suffix needs to be monosyllabic, because the vowel in question should receive primary stress (in unstressed positions, any vowel may be realised as [ə]). Primary stress usually falls on the penultimate syllable of the word, never on word-final [a].²⁶

There are only two monosyllabic suffixes: the common ‘1st person focalisation marker’ *-ma* on verbs (section 6.7), and the allative case suffix *-wa*. The underlying quality of the suffix-final vowel is relatively straightforward for the verbal tense/aspect suffixes: an underlying /a/ is preserved when followed by *-ma*, whereas an underlying /ə/ may assimilate to [o]. This is illustrated in (95) for the form *-ngambe-na* [ŋampɛ-na], which is ambiguous between a non-past and a past reading. However, when followed by the *-ma* suffix, these tense suffixes are distinct:

- | | | |
|---------------------------|--------------------------|----------------|
| (95) a. <i>-ngambe-na</i> | [ŋampɛna] | ‘bathe-TENSE’ |
| b. /ŋampɛ-na-ma/ | [ŋampɛnama] | ‘bathe-NP2-ma’ |
| c. /ŋampɛ-nə-ma/ | [ŋampɛnəma ~ ŋampɛnoɱma] | ‘bathe-P2-ma’ |

For the NP2 suffix [a] quality is preserved, whereas the underlying quality for the P2 suffix turns out to be /ə/. This is the approach taken in Chapter 6, which examines the tense/aspect suffixes.

²⁵ Tindale makes no orthographic distinction between apico-alveolars and lamino-dentals, or between the retroflex and apico-alveolar rhotic. Furthermore, it is unclear whether his *o* represents [o] or [u]. The Wubuy correspondence to Tindale’s *yokoroko* ‘MASC.frogmouth’ (current spelling: *yukurrkwa*) is *yikurrku* ‘owl’, suggesting Tindale’s *o* could represent [u].

²⁶ Or more precisely: stress rarely falls on word-final [a]. There are some di- or tri-syllabic words where the final [a] may have some energy, but only when the preceding vowels are /i/ or /ə/. Examples are *dhvrrvkba* [ɟərəkpa] ‘FEM.plover’ and *yikba* [ji’kpa] ‘MASC.pheasant’ (anin2_pw_au_002). Note that both final [a] are preceded by the complex consonant *kb*.

The situation is less clear for nominals, because there is a lot of variation (as also noted by Stokes 1981 and Leeding 1989). Whereas in lexical roots [a] readily appears before a labio-velar, as in [awa] ‘NEUT.liver’, which possibly exhibits only minor assimilation (i.e. [a^uwa]), in word-final position [a] is not so stable. When followed by the ALL suffix *-wa*, the final [a] of a noun stem often varies between [a ~ a^u] and [u], as in the following data.

- (96) a. /a_ɹakpV-wa/ [a_ɹa' kpa^uwa ~ a_ɹa' kpuwa] ‘NEUT.leg-ALL’ (anin4_dl_au_004)
 b. /mɛrV-wa/ [mɛ'ra^uwa ~ mɛ'ruwa] ‘VEG.blood-ALL’ (anin4_dl_au_004)
 c. /aŋaʌV-wa/ [aŋa'ʌawa ~ aŋa'ʌuwa] ‘NEUT.place-ALL’ (JS1 p.174)
 d. /ma_ɹV-wa/ [ma'ɹawa ~ ma'ɹuwa] ‘VEG.ear-ALL’ (VL1 p.56)

For a handful of nouns, however, my informant only approved of one form (anin4_dl_au_004):

- (97) a. /makarV-wa/ [maka'ruwa] ‘VEG.sea-ALL’ (*[makara^uwa])
 b. /jinV-wa/ [ji'nuwa] ‘MASC.knee-ALL’ (*[jina^uwa])
 c. /ama_ɹŋk^wV-wa/ [ama_ɹa'ŋkuwa] ‘NEUT.meat-ALL’ (*[ama_ɹŋk^wa^uwa])

This pattern, of some stem-final vowels varying between [a ~ a^u ~ u] when followed by a suffix starting with /w/, while others only show [u], is difficult to explain, because the vowel /a/ normally does not assimilate to a following round consonant. My guess is that the nouns that show the variants have an underlying /a/ vowel, which can optionally - and exceptionally - assimilate to the following /w/ and become [u]. Those nouns that only show [u] when followed by the *-wa* suffix have a different underlying vowel, probably /i/ or /ə/, which always assimilates to [u].

For the forms ending in a labialised velar plus a vowel, such as [ama_ɹŋk^wa] ‘meat’ in (97c), this hypothesis is confirmed by corresponding forms in other languages, which also do not end in [a]. The Wubuy form of ‘meat’ is [ɹaŋku], and the reconstructed proto-Gunwinyguan form is *[ɹaŋku] (Alpher, Evans & Harvey 2003) (*[ɹ] > [ɹ] in Wubuy is a regular sound change; see Chapter 9). The final /ku/ in the Gunwinyguan languages has been reanalysed as /k^wV/ in Enindhilyakwa: when word-final, it becomes [k^wa], due to rule P-7B, but elsewhere it is invariably realised as [ku] due to rule P-3 (e.g. [ama_ɹŋkuwa]). In non-final position [ku] contrasts with [kə ~ kɔ] and [ka]:

- (98) a. /ama_ɹŋk^wV-maŋça/ [ama_ɹŋkumaŋça] ‘NEUT.meat-LOC’
 b. /a_ɹəkə-maŋça/ [a_ɹəkəmaŋça ~ a_ɹəkəmaŋça] ‘NEUT.foot-LOC’
 c. /e:kə-maŋça/ [e:kəmaŋça] ‘NEUT.tree-LOC’ (‘Crabs’ d36)

It has however not been tested whether [a_ɹəkəmaŋça] and [e:kəmaŋça] are also accepted by speakers. I conclude that, except for words ending in [k^wa], [ŋ^wa] and [ŋk^wa], where the surface [a] does *not* represent the underlying quality, it is often impossible to tell whether the word-final phonetic [a] is also its underlying quality. There are three possibilities: (i) the surface vowel could

represent the underlying quality; (ii) it could be an epenthetic vowel inserted by rule P-7A; or (iii) it could be a different vowel converted to [a] by rule P-7B. I will thus represent this vowel as *a* in word-final position, and as its surface quality when followed by a suffix.

2.6.4 The phoneme /ɛ/

The vowel /ɛ/ is the least common of all phonemes. This vowel was argued above to be an allophone of /a/ due to i-umlaut (rule P-5), or to result from a merger of /a/ + /i/ (P-6). However, [a] and [ɛ] also contrast, as noted by all previous authors (data are from JS1 p.152; VL1 p.61):

(99)	<i>marra</i> <i>merra</i>	[maɾa] [mɛɾa]	‘VEG.pale-barked wattle tree (<i>Acacia auriculiformis</i>)’ ‘VEG.blood, string, rope’
(100)	<i>arra</i> <i>erra</i>	[aɾa] [ɛɾa]	‘NEUT.forehead’ ‘NEUT.vomit’
(101)	<i>mandha</i> <i>yimendha</i>	[ma _ɲ ɬa] [jimɛ _ɲ ɬa]	‘VEG.heron’ ‘MASC.turtle’
(102)	<i>adhvrra</i> <i>edhvrra</i>	[a _ɬ ɾa] [ɛ _ɬ ɾa]	‘NEUT.some’ ‘NEUT.mouth’
(103)	<i>karra</i> <i>kerra</i>	[kaɾa] [kɛɾa]	‘do you agree?’ ‘oh, you’re hurt!’
(104)	<i>angamba</i> <i>angemba</i>	[aŋampa] [aŋɛmpa]	‘where?’ ‘NEUT.place’

[ɛ] also contrasts with the other vowel phonemes, and with [u]:

(105)	<i>mebina</i> <i>m-ibina</i>	[mɛpina] [mipina]	‘VEG.wattle tree’ ‘VEG-that.same’
(106)	<i>e-memberrkwa</i> <i>mabarrkwa</i> <i>membvrrkwa</i> <i>mangkurrkwa</i>	[ɛmɛ'mpɛrk ^w a] [ma'pɛrk ^w a] [mɛ'mpɛrkwa] [ma'ŋkɛrkwa]	‘NEUT-ten’ ‘VEG.fighting stick’ ‘VEG.ironwood tree’ ‘VEG.pandanus’
(107)	<i>yuwekwa</i> <i>dhukwa</i>	[juwɛk ^w a] [ɬuk ^w a]	‘MASC.mudskipper’ ‘maybe’

These minimal pairs suggest that /a/ and /ɛ/ are contrastive phonemes, which is the approach taken here. The contrast is neutralised preceding retroflex consonants, where only [a] occurs (Table 2.7).

Leeding proposes a different analysis, in which [ɛ] is an allophone of /a/ due to i-umlaut (her Vowel Fronting Rule 2). In Leeding’s account, an [ɛ] vowel is always followed by a syllable containing [i] in the presurface form. For example, [ɛɾa] ‘NEUT.vomit’ is underlyingly /aɾi/. The final central vowel is first fronted to [i] by a rule that fronts morpheme-final /i/. Then /a/ in the

preceding syllable harmonises and becomes [ɛ]. Finally, the word-final high vowel is converted to [a]: /ari/ > /ari/ > /ɛri/ > [ɛra]. The word-initial surface contrast between [ɛra] ‘NEUT.vomit’ vs. [ara] ‘NEUT.forehead’ thus in effect involves an underlying word-final contrast in Leeding’s analysis: /ari/ vs. /ara/, respectively.

Such derivations are however highly hypothetical. Leeding claims that [a] and [ɛ] vary freely throughout a sizeable proportion of the data (1989: 62), but this is only true in environments where my (optional) i-umlaut rule P-5 applies, as was described in section 2.6.3. It is not true for all of the above examples; there is no variation [mɛra ~ mara] ‘VEG.blood’, for example. There is also no synchronic evidence in the language for the existence of morphemes such as /ari/ ‘NEUT.vomit’ or /mari/ ‘VEG.blood’, from which respectively [ɛra] and [mɛra] would be derived. These are phantom morphemes that Leeding postulates to account for the presence of the surface [ɛ]. It is also unlikely that the contrast involved pertains to the final vowels (e.g. /ari/ - /ara/), because this contrast is always neutralised on the surface, at least in word-final position. Finally, the word-final /i/ posited by Leeding does not always pan out. For example, [mɛra] ‘VEG.blood’, which Leeding assumes is underlying /mari/, is realised as [mɛra^owa ~ mɛruwa] when followed by the ALL case suffix *-wa* (see [96b] above). The first variant suggests that the underlying form ends in /a/ (which I have proposed can exceptionally assimilate to the following labio-velar and become [u]). Leeding cannot account for this form.

A more plausible view is to take /ɛ/ as a contrastive phoneme in Enindhilyakwa, as Heath (n.d.) and Stokes (1981) also do. Yet Leeding’s account may provide an interesting possible *historical* scenario, because there is evidence that suggests that the phoneme /ɛ/ may have developed from /a/ through vowel harmony. This evidence comes from Wubuy, which lacks /ɛ/. Wubuy correspondences to Enindhilyakwa [ɛ] often involve *aC(C)i*. An example is Wubuy *mandhabi*, which corresponds to Enindhilyakwa *mendheba* ‘sedge sp.’. The word-final /i/ present in Wubuy could then have caused the preceding /a/ vowels to raise and front in Enindhilyakwa. Word-final /i/ was subsequently converted to [a] in Enindhilyakwa. Further evidence for the diachronic vowel harmony hypothesis comes from older previous work, which sometimes has *a* for what is currently *e*. For example, Tindale (1926) writes *abinga* ‘termite nest’ for what is synchronically *ebinga*.²⁷ The vowel harmony hypothesis is worked out in more detail in section 9.2.2.2.1.

²⁷ In his sketch grammar, Heath also sometimes writes *a* where Stokes/Waddy write *e* and Leeding posits [ɛ]. An example comes from the pronominal prefixes on verbs; where these synchronically involve [ɛ], as in 3m/12a *ngarren-* or 3m/3a *nen-*, Heath posits [a] (i.e. *ngarran-* and *nan-*, respectively). During his brief fieldwork in the 1970’s with only one Enindhilyakwa speaker, Heath hypothesised that [æ ~ ɛ] was “in the process of splitting away from /a/ as a phoneme” (p.1-4). This could mean that i-umlaut affecting /a/ already existed in Heath’s time, but it had not fully permeated the speech of his informant.

The orthographic representation of the language name [ɛni_ɪɲi_ɪlak^wa] confirms the diachronic i-umlaut hypothesis. Even though the previous scholars agree on the phonetics, they all represent this word with an initial *a*. This is curious, for Heath and Stokes/Waddy include /ɛ/ in their vowel inventories (Stokes/Waddy: *e*, Heath: *ā*). Perhaps this

To summarise, contra Leeding (1989), I propose that /ɛ/ is a contrastive vowel phoneme of Enindhilyakwa. However, although synchronically contrastive, this vowel may be the result of a variety of comparatively recent developments, summarised in Table 2.11.

Process	Diachronic examples	Synchronic examples	Section
i-umlaut (P-5)	Tindale (1926): <i>abinga</i> ‘termite nest’; currently <i>ebinga</i>	/ma-m-ikira/ [memikira] ‘VEG-INALP-name’	2.6.3
	Wubuy <i>malhiwu</i> : Enindhilyakwa <i>melhuwa</i> ‘shellfish sp.’	(cf. /ma-m-ajarka/ [mamajarka] ‘VEG-INALP-hand’)	9.2.2.2.1
merger of /a/ + /i/ (P-6)	/a+ikira/ [ɛkira] ‘NEUT+name’ (cf. /m+ikira/ [mikira] ‘VEG+spike rush’)	/a-ipina/ [ɛpina] ‘NEUT-that.unseen’ (cf. /m-ipina/ [mipina] ‘VEG-that.unseen’)	2.6.3
loss of retroflexion	* <i>narr-en-</i> [ʒa-m] > * <i>narn-</i> > <i>nen-</i> [nen] ‘3mdu’ (cf. <i>narr-ng-</i> [ʒa-f] ‘3fdu’)	<i>nvng-arna</i> ~ <i>nvng-ena</i> ‘1-this’	2.5.8, 4.2.1

Table 2.11: Overview of synchronic and diachronic processes that can generate [ɛ]

All processes that may have generated [ɛ] diachronically, are also synchronically productive. This does not mean that [ɛ] is synchronically always an allophone of /a/, for these vowels also contrast (e.g. *marra* ‘VEG.wattle tree’ - *merra* ‘VEG.blood’), and in many cases [ɛ] is a stable vowel that does not vary with [a]. Furthermore, there often is no conditioning [i] vowel left on the surface. Leeding’s synchronic vowel harmony analysis will be proposed in section 9.2.2.2.1 to be more plausibly viewed as a diachronic scenario.

2.6.5 The phoneme /i/ and its allophone [ə]

The vowel [i] contrasts with [a], [ɛ], [ə] and [u] in stressed positions, as was illustrated in (65) and (74) above, as well as in the following examples.

- (108) *yinhanha* [ji'na:na] ‘MASC.nail’
dhvlhingena [tə:li'ɲena] ‘FEM.salt’
engeemina [ɛɲe'mina] ‘NEUT.breast’
- (109) *a-wilyaba* [awi'ɫapa] ‘NEUT-one’
emeba [ɛ'mɛpa] ‘NEUT.song’
ariba [a'ɹipa] ‘NEUT.dry land’
angakuba [aŋa'kupa] ‘that(over there)’
- (110) *marrakba* [ma'ra kpa] ‘please’
-erreki- [ɛ'rɛ kpi] ‘to vomit’
-errikbi- [ɛ'ri kpi] ‘to throw’

orthographic anomaly is due to older work, when the current [ɛ] may still have been [a]. Capell (1942) writes *Andiljaugwa*, with an initial *a* (though Worsley [1954] writes *Enindiljaugwa*, which suggests there may have some fluctuation already then). The old spelling of the language name could have made its way into the current spelling. I will, however, represent the name as as phonetically realistic as possible, and hence write *Enindhilyakwa*.

These data indicate that /i/ is a vowel phoneme of Enindhilyakwa, the distribution of which cannot be predicted. This phoneme resists conditioning by surrounding bilabial consonants in lexical words: *emimba* [ɛ'mimpa] 'NEUT.blind'; *ariba* [a'ɪpa] 'NEUT.dry land'. These examples also show that [i ~ ɪ] cannot be epenthetic, as suggested by Heath, because it receives primary stress. It also does not have the expected quality of an epenthetic vowel, because in that case we would expect some rounding due to the adjacent bilabials. In addition, [i] in penultimate position can be drastically elongated and receive a very high pitch, a stylistic device to indicate continuity of action (Leeding 1989: 138-9). An example is *bi...ya* [pi::ja] 'and then...'. It is unlikely that [i] is due to epenthesis here.

As observed by all previous scholars, a clear [i] most frequently occurs contiguous to lamino-palatal consonants:

- | | | |
|----------------------|-----------------------|--------------------------|
| (111) <i>yambiya</i> | [ja'mpija ~ jæ'mpija] | 'MASC.throat' |
| <i>amvdhilya</i> | [amə'ɪɪla] | 'NEUT.cold in the chest' |
| <i>yininya</i> | [ji'nija] | 'MASC.bristle worm' |
| <i>awija</i> | [a'wica] | 'NEUT.mist' |

Its pervasiveness in this environment has led Leeding to believe that [i] is an allophone of /i/. But, as demonstrated above, [i] can also occur in non-conditioning environments.

/i/ is the only vowel that can occur stem-initially in pre-surface form. This was already mentioned in section 2.6.3 above, where it was shown that this /i/ merges with /a/ of the prefix, and becomes [ɛ] (rule P-6). Some more examples are presented below.

- | | | |
|--|------------------------------------|--------------------------------|
| (112) a. /na-ikpɪlaŋa/ | [nɛkɪlaŋa] | 'NEUT-fall.NPST' |
| b. /ŋ-ikpɪlaŋə-ŋəma/ | [ŋɪkɪlaŋəŋəma] ~ /a-ikpɪlaŋə-ŋəma/ | [ɛkɪlaŋəŋəma] 'NEGNP-fall-NP3' |
| (113) a. /na-ikpəŋV ^w V-na/ | [nɛkpəŋukuna] | '3a-disappear-NPST' |
| b. /a-ɪŋm-ɪŋməŋa/ | [ɛŋmiŋməŋa] | 'NEUT-RDP-fat' |
| c. /na-ɪŋpəɟ:ə-ɟ:ə-na/ | [nɛŋpəɟ:əɟ:əna] | '3a-strong-INCH-NP2' |

However, speakers do not tend to produce an [i] vowel word-initially, i.e. with a zero prefix. The only possible verb stem with a zero prefix is the imperative form, but for stems starting with /i/, speakers opt for the alternative *w-* available for transitive imperatives, as in (114a), and they insert /j/ for intransitive imperatives, as in (114b).

- | | | | |
|------------------------|---------------|--------------------------------------|-------------------|
| (114) a. /w-ɪŋpici-ja/ | [wi ɪŋpicija] | 'IMP.2/NEUT-lick-NP1' (= 'lick it!') | (anin4_dl_au_005) |
| b. /Ø-ikpɪlaŋa/ | [ji kɪpɪlaŋa] | 'IMP.2-fall.NP1' (= 'fall!') | (anin4_dl_au_005) |

When asked if [ɪŋpicija] was acceptable, the speaker repeated it as [jiŋpicija] 'lick me!' (underlyingly /j-ɪŋpici-ja/ 'IMP.2/1-lick-NP1'). Thus she eschewed word-initial [i].

The vowels /i/, /ə/ and /ɛ/ do not contrast preceding retroflex consonants, where only [ə] (and [a]) occur (Table 2.7). Backing of front vowels in a retroflex environment is common cross-linguistically (Flemming 2003). Vowels of [i]-quality following retroflex consonants are also rare in Enindhilyakwa: this is only possible when following the semi-vowel /ɹ/, as in [aɹipa] ‘NEUT.dry land’ (Table 2.8). It is possible for [i] to follow a retroflex stop, but this needs to involve a further conditioning palatal consonant, as in *-wardi-yi-* [waɹijji] ‘hit-RECP’. There are no attested examples of a retroflex nasal or lateral followed by [i], but this may be due to the scarceness of these consonants: /ɹ/ is rare in general, and /ŋ/ is rare in environments where it can be followed by a palatal consonant in the next syllable (e.g. in stem-final position, where it can be followed by a suffix such as RECP *-yi-*).

The contrast between /i/ and /ə/ is also neutralised preceding lamino-palatal consonants, where only [i] occurs. Both vowels can follow a lamino-palatal, but for [ə] this needs to be followed by a conditioning retroflex consonant or /r/, as in *enyvrra* [ɛnəra] ‘NEUT.runny nose’.

In unstressed syllables, /i/ is frequently realised as [ə]. The underlying phoneme can be heard in slow speech. For example, the demonstrative *akina* ‘that there’ is most often heard as [‘akəna], where the initial /a/ attracts the stress, but in slow speech this is [akina].

In sum, following Stokes/Waddy, but contra Heath and Leeding, I propose that /i/ is a vowel phoneme of Enindhilyakwa, the distribution of which cannot (fully) be predicted based on the surrounding consonants.

2.6.6 The phoneme /ə/ and its allophones [ɔ], [u] and [i]

The vowel [ə] contrasts with [a], [ɛ], [i] and [u] in stressed positions, as was illustrated in e.g. (74) above, and the following.

(115)	<i>angwarnda</i>	[a'ŋ ^w an̥t̪a]	‘NEUT.stone’
	<i>angvrnda</i>	[a'ŋəŋt̪a]	‘NEUT.chin’
	<i>angurnda</i>	[a'ŋun̥t̪a]	‘NEUT.ankle’
(116)	<i>adharrba</i>	[a'ɹarpa]	‘NEUT.short’
	<i>memerrba</i>	[mɛ'mɛrpa]	‘VEG.calf’
	<i>memvrrma</i>	[mɛ'mərma]	‘VEG.back of neck’
	<i>mvrirrba</i>	[mə'ɹirpa]	‘VEG.back’
(117)	<i>yinhanha</i>	[ji'ɹaɹa]	‘MASC.nail’
	<i>akena</i>	[a'kɛna]	‘but’
	<i>dhvnhvnhha</i>	[ɹə'ɹəna]	‘FEM.mosquito’
	<i>angubina</i>	[aŋu'pina]	‘NEUT.cloud’
	<i>-buku-na</i>	[pu'kuna]	‘blow-NP2’

- (118) *madha* [ˈma.ɬa] ‘VEG.ear’
yukudhukudha [juku.ɬuˈku.ɬa] ‘MASC.chest’
engbvddha [ɛˈŋpə.ɬa] ‘NEUT.strong’
- (119) *lhaka* [ˈɭaka] ‘are you ready?’
mamarika [mamaˈɭika] ‘VEG.south east wind’
alhvka [ˈa.ɭəka ~ aˈɭəka] ‘NEUT.foot’

Based on these data, and in contrast to all previous work, I propose that /ə/ is a vowel phoneme of Enindhilyakwa. The allophone [u] is generated from this vowel by adjacent labio-velars and labialised velars, as will be demonstrated in the next section. Schwa can also optionally obtain some rounding from contiguous bilabial consonants, and be realised as [ʊ]. This variation is illustrated in (120) and formalised in (121) as rule P-8.

- (120) /aɤma/ [aɤma ~ aɤoma] ‘NEUT.big’
 /mərə/ [mərə ~ mura] ‘INSTR case suffix; first person focalisation marker’

(121) P-8: vowel rounding and backing 3 (optional)

$V_{[-high, -front, -labial, -back]} > V_{[+high, +labial, -back]} / __ C_{[+labial, -high]}; C_{[+labial, -high]} __$

i.e. /ə/ may assimilate in rounding to a contiguous bilabial consonant and become [ʊ]

The mid-central vowel is highly susceptible to vowel harmony. This is especially true for the pronominal prefixes.

- (122) a. /nəŋ-ɭəka-ca/ [ˌnəŋə.ɭəˈkaca] ‘1-go-NP2’
 b. /nəŋ-wuɤ-na/ [ˌnəŋu.wuˈɤna ~ ˈnuŋu.wuˈɤna] ‘1-climb-NP2’
 c. /nəŋ-jika-ca/ [ˌnəŋjiˈkaca ~ ˌniŋjiˈkaca] ‘1/NEUT-fetch-NP2’

The vowel between the prefix and the stem is epenthetic (rule P-1), as also suggested by Heath and Stokes/Waddy. This vowel is short and never receives stress. In non-conditioning environments, such as when followed by a lamino-dental in (122a), it surfaces as its underlying quality [ə]. In conditioning environments epenthetic schwa always assimilates: it is realised as [u] when followed by a labio-velar or labialised velar, as in (122b) (rule P-2), and as [i] when followed by a lamino-palatal in (122c). The latter process can be formalised as rule P-9:

(123) P-9: vowel fronting 2:

$V_{[-high, -front, -back]} > V_{[+high, +front]} / __ C_{[+coronal, +high]}; C_{[+coronal, +high]} __$

i.e. /ə/ obligatorily assimilates to a contiguous lamino-palatal and becomes [i]

As epenthetic schwa always assimilates it is represented in the orthography with its phonetic quality. By contrast, the schwa inside the /nəŋ/ prefix in (122) is phonemic. This /ə/ optionally harmonises to the epenthetic vowel in the next syllable, either by i-umlaut or by regressive vowel

harmony. An i-umlaut rule was presented above as rule P-5 to account for the fronting of /a/. We can adjust this rule to account for the fronting of /ə/ as well:

(124) P-5: i-umlaut: (optional)

$V_{[-\text{front}]} > V_{[+\text{front}]} / __ C(C)V_{[+\text{front}]}$

i.e. a vowel is fronted by a front vowel in the next syllable

Regressive vowel harmony is formalised as rule P-10:

(125) P-10: regressive vowel harmony: (optional)

$V_{[-\text{high}, -\text{low}, -\text{front}]} > V_{[+\text{high}, +\text{round}]} / __ C(C)V_{[+\text{high}, +\text{round}]}$

i.e. /ə/ is raised and rounded to [u] by a round vowel in the next syllable

Harvey (2003b: 483) notes that vowel harmony involving affixal vowels is much more common cross-linguistically than of root vowels being harmonised to affixal vowels. He claims this “reflects the universal preference for maintaining the integrity of phonological material in the root over phonological material in the affixes”. Vowel harmony is also common in Enindhilyakwa for pronominal prefixes involving the vowel /a/.

The contrast between /i/ and /ə/ is neutralised preceding lamino-palatals, as only [i] occurs here (Table 2.7), due to rule P-9 in (123). The contrast between /i/ and /ə/ is also neutralised preceding retroflex consonants, as only [ə] occurs here. There is no evidence for a synchronic underlying /i/ vowel that becomes [ə] through assimilation. That is, there are no affixes with a retroflex consonant that could generate [ə] from /i/. Therefore, I will not express this neutralisation as a phonological rule.

However, /ə/ could *historically* be an allophone of /i/. The surrounding languages, including most of the Gunwinyguan languages, lack /ə/. Wubuy correspondences to Enindhilyakwa [ə] may involve an /i/-vowel followed by a retroflex or tap/trill. An example is Wubuy *yambirrkku* ‘tusk fish’ vs. Enindhilyakwa *yembvrrkwa* ‘MASC.tusk fish’. It is therefore possible that Enindhilyakwa /ə/ developed from /i/ in a conditioning retroflex/rhotic environment. This analysis will be worked out in section 9.2.2.2.2.

Some [ə] vowels in apparent non-conditioning environments sometimes seem to involve a retroflex. That is, some words are written in the previous work without a retroflex, but occasionally some retroflexion can be heard. Examples are *dhvnhvnha* ‘FEM.mosquito’ (Stokes, Leeding: *dhinhinha*)²⁸ and *mvnhvnga* ‘VEG.burrawang’ (Stokes: *munhinga*, Leeding: *mwinhinga*).

- (126) a. [ɞ̠ə̠nə̠na ~ ɞ̠ənə̠na] ‘FEM.mosquito’ (anin2_pw_au_002) ⑨
 b. [mə̠ɞ̠nə̠ja ~ mə̠nə̠ja] ‘VEG.burrawang’ (anin2_pw_au_002) ⑨

²⁸ It is unclear to me whether this word involves a lamino-dental or an alveolar nasal; Stokes and Leeding write a lamino-dental, but in (126a) I hear an alveolar.

Some retroflexion can be heard on the first [ə] of each word when the speaker first says the word, but less so when she repeats it. This may suggest that the occurrence of the schwa vowel in the first syllable is in fact due to conditioning by a following retroflex. Retroflexion subsequently neutralised with the alveolar.

Conversely, some words are represented with a retroflex consonant by the previous authors, where I only hear a non-retroflex consonant preceded by a clear [ə]. An example is the long stop [ɬ:], which is represented as involving a retroflex of some sort by all previous authors (a detailed analysis of Enindhilyakwa long stops is beyond the scope of this thesis, but some discussion can be found in Appendix C).

(127) *marrvngmvrɬa* [marəŋməɬ:a] ‘VEG.bush currant’ (anin2_pw_au_002) ♪

Preceding the phonetically long lamino-dental stop is a clear [ə]. This goes to show that /ə/ as a phoneme may derive historically from a different vowel that occurred contiguous to a retroflex consonant. Retroflexion can be lost in the current language. A traceable source of /ə/ in terms of a conditioning environment may be expected, as Enindhilyakwa is one of the few languages in the region to have a mid-central vowel phoneme; Rembarrnga and Dalabon are the only other languages to display a phonemic central vowel (which is schwa in Rembarrnga, but a high central vowel in Dalabon). The central vowels in these languages are also strongly conditioned by retroflex environments (Alpher, Evans & Harvey 2003; Baker 2004). See section 9.2.2.2.2 for further discussion.

2.6.7 The allophone [u]

As can be seen in Tables 2.7 and 2.8, [i] and [ə] are in partial complementary distribution with [u]. Of these three vowels, only [u] precedes labio-velar /w/ or labialised velars /k^w/ and /ŋ^w/, as in (128), or phonetic velars [k] or [ŋ] for which an underlying representation as a rounded velar is possible, as in (129). [i] and [ə] never occur here.

(128) <i>dhukwa</i>	[ɬuk ^w a]	‘maybe’
<i>akungwa</i>	[akʉŋ ^w a]	‘NEUT.water’
<i>nungkuwa</i>	[nuŋkuwa]	‘2.PRO’

(129) <i>mukumukwa</i>	[mukumuk ^w a]	‘VEG.deep sea’	
<i>munguna</i>	[muŋuna]	‘VEG.morinda tree’	(anin2_pw_au_002)

When an [u] vowel is followed by a consonant other than a round velar, it is always preceded by a phonetic unrounded velar, or by /w/:²⁹

²⁹ Stokes and Leeding often transcribe a clear [u] as preceded by a rounded velar (e.g. [akwuŋwa] ‘water’; [jukwuɬukwuɬa] ‘chest’; [aŋwura] ‘very’. However, this [w] is often inaudible. Leeding calls the rounding of

- (130) *yukudhukudha* [juku_ɹtuku_ɹʔa] ‘MASC.chest’
angurra [aŋura] ‘very’
mamawura [mamawu_ɹʔa] ‘VEG.sun’

There is no other environment in which a clear [u] occurs. These data suggest that [u] is an allophone that obtains its rounding from contiguous consonants, as expressed by rules P-2 and P-3, respectively. The question of what is the underlying quality of this vowel is often unanswerable. Since neither [i] nor [ə] occur in the environments depicted above, it appears that [u] is a shared allophone of /i/ and /ə/.

The rounding and backing rules are synchronically active. In other words, it is not the case that, while [u] can be traced back to an historical source, it is now a phonemic vowel (as I hypothesised in the preceding sections for the phoneme /ɛ/ and perhaps also /ə/). That these rules are productive can be seen in reduplication patterns, and in some verb stems when followed by a suffix. When stems ending in [k^wa] and [ŋ^wa] are reduplicated, the reduplicated segments end in [ku] and [ŋu], respectively.

- (131) *a+mangu+mangwa* [amaŋumaŋ^wa] ?’NEUT.girls’
muku+mukwa [mukumuk^wa] ‘VEG.deep sea’
juku-jukwa [cukucuk^wa] ‘RDP-chicken(NEUT)’ (anin2_dl_au_001)

Since all words end in [a], and since this vowel does not absorb the labialisation of the preceding velars, the rounding of the velars is preserved word-finally. Note that this means that rule P-7B, which converts word-final vowels into [a], must apply before P-3, which allows a non-low vowel to absorb the labialisation of a preceding velar.

Similar *-kwa# ~ -ku-* and *-ngwa# ~ -ngu-* alternations can be observed in verb stems. The rounding of the velars is preserved word-finally, as in the following (a) examples. When followed by a tense/aspect suffix, however, the rounding is absorbed, as in the (b) examples.

- (132) a. *-warrukwa* [waruk^wa] ‘go across.PST’
 b. *-warruku-na* [warukuna] ‘go across-NP2’
- (133) a. *a-ki-jungwa* [akicuŋ^wa] ‘NEUT-NSR-die’ (= ‘death’)
 b. *-jungu-na* [cuŋuna] ‘die-NP2’

consonants that occur before a rounded vowel ‘simultaneous’ rounding, which is “very short” and “hard to hear”. This is opposed to ‘sequential’ rounding which is long and easy to hear (1989: 32). The first [w] in [akwuŋwa] is an instance of ‘simultaneous’ rounding in her account, and the second [w] an instance of ‘sequential’ rounding. Stokes notes that [k] may vary with [kw] when preceding [u], as in [amukwura ~ amukura] ‘face’ (1981: 150-1). I suspect that Stokes includes a [w] in her transcriptions of [u] to distinguish this vowel from the central vowel that she also assigns to /u/. So the [w] in *amukwurra* ‘face’ serves to distinguish the clear [u] vowels from e.g. the second *u* in *wuburra* [wubura] ‘like’ in her system, which is centralised. These words are represented as *amukurra* and *wubvrra*, respectively, in my system.

I interpret these data as involving the sequences /k^wV/ and /ŋ^wV/, where V represents /i/ or /ə/. Vowel-conversion to [a] applies in word-final position and the rounding of the velar is preserved. In non-final position P-3 applies and the underlying /V/ absorbs the rounding of the preceding velar and is realised as [u].

[u] contrasts with [i] and [ə] only following phonetic velars (data from Stokes 1981: 150-1):

(134)	<i>amakulya</i> <i>alyakilya</i>	[ama'kuɫa] [aɫa'kiɫa]	'NEUT.skin' 'NEUT.fish sp.'
(135)	<i>amukurra</i> <i>mikirra</i>	[amu'kura] ['mikira]	'NEUT.face' 'VEG.edible root'
(136)	<i>yukurna</i> <i>w-angkv-rna</i>	[ju'kuŋa] ['waŋkəŋa]	'MASC.baler shell' 'IMP.2/NEUT-fetch-NP2'
(137)	<i>murungkurra</i> <i>mrvngkvrra</i>	[mɔru'ŋkura] [mərə'ŋkəra]	'VEG.yam sp.' 'VEG.sinker'

When followed by [i] or [ə], the velars are taken to be underlyingly unrounded, whereas when followed by [u] they are assumed to be underlyingly rounded.

The above analysis predicts that phonetic [wV], [k^wV] and [ŋ^wV], as well as [Vw], [Vk^w] and [Vŋ^w], will not occur in Enindhilyakwa (where [V] represents [i] or [ə]).³⁰ This prediction is borne out, except for [wi], which does occur:

(138)	= <i>wiya</i> <i>awija</i> <i>-wilyaba</i> <i>awinyamba</i>	[wija] [awica] [wiɫapa] [awijampa]	'pergressive clitic' 'NEUT.mist' 'one' 'NEUT.anger'
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[i] is followed by a lamino-palatal consonant here, which prevents P-3 from applying.

We find the reverse for the rounded velars. When /V/ is preceded by /k^w/ or /ŋ^w/ and followed by a lamino-palatal, it is only affected by the former:

(139)	<i>angunya</i> <i>amakulya</i> <i>-ngujvra</i>	/aŋ ^w Vɲa/ /amak ^w Vɫa/ /ŋ ^w Vjəɫa/	[aŋɲa] [amakuɫa] [ŋujəɫa]	'NEUT.blister' 'NEUT.skin' 'deep, hollow'
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³⁰ Stokes, however, lists [iw], [ikw] and [iŋw] in her inventory of vowel + consonant sequences (1981: 166). The only examples in her data that exhibit one of these sequences are [jiŋwa] 'crow' (p.153), and /mamuɫikwa ~ mamuɫukwa/ 'road' (p.174). In a later paper, however, she transcribes the latter as /mamuɫukwa/ only (1982: 149). This is also how I know this word, so I do not consider it a problem for my analysis. The word [jiŋwa] 'crow' is potentially problematic, as my analysis predicts it to be [juŋwa]. Indeed, Leeding gives two alternative pronunciations for this word: [jiŋwa ~ juŋwa] (1989: 58). When I elicited this word, my speakers said [yijuwa], with an epenthetic vowel between [ŋ] and [w]. This way, the /i/ preceding the velar nasal does not need to assimilate and can stay [i]. Hence I do not consider this word to be a problem either.

These two sets of examples show that we need to distinguish /w/ from /k^w/ and /ŋ^w/: for the latter two consonants, the rounding is *always* absorbed by the following non-low vowel to create [u], regardless of the consonant that follows. Whereas /w/ does not round [i] when this is followed by a conditioning lamino-palatal consonant.

2.6.8 Summary of vowels

The different phonemes and their allophones are summarised in Table 2.12.

phoneme	allophones	environment
/a/	[a]	everywhere
	[æ]	___ j (e.g. [æjakwa ~ ajakwa] ‘NEUT.word’; /na-jama/ [næjama] ‘3a-say’) j ___ (e.g. [jaɹaca ~ jæɹaca] ‘MASC.goanna’) jiC ___ (e.g. [ji _ɹ na _ɹ na ~ ji _ɹ næ _ɹ na] ‘MASC.nail’)
	[ɛ]	___ Ci (i-umlaut) e.g. /kampira/ [kempira] ‘then’ ___ Cɛ (vowel harmony) /na-pɛki-na/ [nɛpɛkina] ‘3a-drink-NP2’
	[a ^u]	___ /k ^w /, /ŋ ^w / or /w/ e.g. [ara ^u wa] ‘inside’; [ɛni _ɹ ɲ _ɹ ti _ɹ ʌ ^u k ^w a]
	[e:] ~ [e ^l] ~ [ɛ]	/a/ + /i/ → [e: ~ e ^l] (primary stress, e.g. suffixes on verbs) e.g. /aɹɔma=ika/ [aɹɔ ^l me ^l ka] ‘big=EMPH’ /a/ + /i/ → [ɛ] (secondary stress, e.g. prefixes) e.g. /na-iŋkarŋa/ [nɛ ^l iŋkarŋa] ‘NEUT-break.PST’
	[ə]	in unstressed positions (but rare because /a/ attracts stress) e.g. [mama ^l ɹika ~ mamə ^l ɹika] ‘VEG.south east wind’
	/ɛ/	[ɛ]
[ə]		in unstressed syllables (but rare because /ɛ/ attracts stress) [ɛmɛ ^l mpɛrk ^w a ~ ɛmə ^l mpɛrk ^w a] ‘ten’
/i/	[i]	everywhere, except before retroflexed consonants and /w/, /k ^w / and /ŋ ^w /. Common before lamino-palatals (e.g. [jiɹiɹija] ‘MASC.crushed coral’)
	[ə]	in unstressed positions e.g. /akina/ [a ^l kina ~ akəna] ‘that’
	[u]	___ labio-velars, labialised velars (assimilation)
/ə/	[u]	e.g. /ɹV ^w a/ [ɹuk ^w a] ‘maybe’; /aŋɹVwa/ [aŋɹuwa] ‘NEUT.bloodwood’ velars ___ (absorbing labialisation of rounded velars) e.g. /jV-k ^w V-na/ [jukuna] ‘1/2give-NP2’
	[u]	___ C _[-round] u (vowel harmony) [nəŋu-wuɹɛ-na ~ nuŋu-wuɹɛ-na] ‘1-climb-NP2’
	[ə]	everywhere, except before lamino-palatals, or contiguous to /w/, /k ^w / and /ŋ ^w /. Common before retroflexes and rhotics
	[ʊ]	contiguous to /m/ or /p/ e.g. [maməka ~ maməka] ‘VEG.bandicoot’s nest’
	[i]	___ Ci (i-umlaut) e.g. /nəŋ-jika-ca/ [nəŋijikaca ~ niŋijikaca] ‘1-bring-NP2’

Table 2.12: Summary of vowel phonemes and allophones

The distribution of the four vowel phonemes in Enindhilyakwa, /a/, /ɛ/, /i/ and /ə/, can often not be predicted based on the surrounding consonants, though some observations can be made:

- /a/ is the only vowel that occurs in every environment
- /ɛ/ is much less common than /a/, and also occurs in every environment, except before retroflexed consonants
- /i/ also occurs in every environment, except before retroflexed consonants and round(ed) velars
- /ə/ also occurs in every environment, except before lamino-palatals and round(ed) velars; it is also used as an epenthetic vowel

To account for the distribution of the vowels, this chapter proposed the following phonological rules:

- P-1: schwa-epenthesis: $\emptyset > \text{ə} / C _ C$ (where CC is a cluster)
- P-2: vowel rounding and backing 1: $V_{[-\text{low}, -\text{labial}, -\text{long}]} > V_{[+\text{labial}]} / _ C_{[-\text{anterior}, +\text{labial}, +\text{high}]}$
i.e. a non-low vowel obligatorily assimilates in height and rounding to a following labialised velar
- P-3: vowel rounding and backing 2:
 $C_{[-\text{anterior}, +\text{labial}, +\text{high}]} V_{[-\text{low}, -\text{labial}, -\text{long}]} > C_{[-\text{anterior}, -\text{labial}, +\text{high}]} V_{[+\text{labial}]}$
i.e. a non-low vowel obligatorily absorbs the rounding of a preceding labialised velar
- P-4: vowel fronting rule 1 (optional):
 $V_{[+\text{low}, -\text{front}]} > V_{[+\text{low}, +\text{front}]} / _ C_{[+\text{coronal}, +\text{high}]} ; C_{[+\text{coronal}, +\text{high}]} _$
i.e. /a/ is fronted to [æ] by an adjacent lamino-palatal consonant
- P-5: i-umlaut (optional):
 $V_{[-\text{front}]} > V_{[+\text{front}]} / _ C(C) V_{[+\text{front}]}$
i.e. a vowel is fronted by a front vowel in the next syllable
- P-6: merger: /a/ + /i/ > [ɛ] or [e: ~ e']
- P-7: word-final [a]
 - P-7A: word-final [a] epenthesis: $\emptyset > \text{a} / C _ \#$
 - P-7B: word-final vowel conversion: $V > \text{a} / C _ \#$
- P-8: vowel rounding and backing 3 (optional):
 $V_{[-\text{high}, -\text{front}, -\text{labial}, -\text{back}]} > V_{[+\text{high}, +\text{labial}, -\text{back}]} / _ C_{[+\text{labial}, -\text{high}]} ; C_{[+\text{labial}, -\text{high}]} _$
i.e. /ə/ may assimilate in rounding to a contiguous bilabial consonant and become [ʊ]
- P-9: vowel fronting 2:
 $V_{[-\text{high}, -\text{front}, -\text{back}]} > V_{[+\text{high}, +\text{front}]} / _ C_{[+\text{coronal}, +\text{high}]} ; C_{[+\text{coronal}, +\text{high}]} _$
i.e. /ə/ obligatorily assimilates to a contiguous lamino-palatal and becomes [i]

- P-10: regressive vowel harmony (optional):

$V_{[-high, -low, -front]} > V_{[+high, +round]} / _ C(C)V_{[+high, +round]}$

i.e. /ə/ is raised and rounded to [u] by a round vowel in the next syllable

Some of these phonological rules are illustrated here with the neutral past (P2) tense suffix *-nv* of the verb *-lharr-* ‘to fall’ (data from *anin4_dl_au_005*).

(140) a.	/ɬar-nə/	P-7B:	[ˈɬarəna]	‘fall-P2’
b.	/ɬar-nə-ma/	P-8:	[ˌɬarəˈnəma ~ ˌɬarəˈnəma]	‘fall-P2- <i>ma</i> ’
c.	/ɬar-nə=jaɬa/	P-9:	[ˌɬarəniˈjaɬa]	‘fall-P2=PURP’
d.	/ɬar-nə-wa/	P-2:	[ˌɬarəˈnuwa]	‘fall-P2-ALL’
e.	/ɬar-nə-ɬaŋ ^w a/		[ˌɬarənəˈɬaŋ ^w a]	‘fall-P2-ABL’

In all examples epenthetic [ə] is inserted between the two consonants of the affix and the stem according to rule P-1. Being epenthetic, this vowel does not receive stress. When word-final, the tense suffix /nə/ is realised as [na] (P-7B) in (140a). When followed by the suffix *-ma* (section 6.7), /ə/ optionally assimilates to the following bilabial and varies with [o] (P-8) in (140b). When followed by the purposive clitic =*yadha* (Appendix H), /ə/ obligatorily assimilates to the following palatal and is invariably realised as [i] (P-9) in (140c). The preceding epenthetic schwa in this example presumably undergoes i-umlaut, but this vowel is so short and indistinct that this is hard to hear. When followed by the allative case suffix *-wa* in (140d), /ə/ obligatorily obtains rounding from the following labio-velar consonant (P-2) and is invariably realised as [u]. Finally, in non-conditioning environments, such as when followed by /ɬ/ of the ablative suffix *-lhangwa*, /ə/ surfaces with its underlying quality (140e).

2.7 Reduplication

Reduplication occurs at the beginning of stems, with verbs for prolongation, repetition or intensification of the event, and with nouns for plurality (Heath n.d.; Leeding 1989). The reduplication template depends on the stem-initial sound: for stems beginning with a stop the template is monosyllabic, and for stems beginning with a sonorant it is disyllabic (Heath n.d.). The point where the reduplicated segment goes is determined by morphology and characteristically directly follows the inflectional prefix.

The reduplication template for stems beginning with a stop is C₁, where C can be simple or complex. An epenthetic /ə/ appears between the two consonants of the reduplicated segment and the stem. Data in this section come from Leeding (1989) and the dictionary.

- (141) *wurrv-bu-bungkawa* ‘3a-RDP-boss’
a-mbv-mbawura ‘NEUT-RDP-few’
a-ji-jirrku-wilyarra ‘NEUT-RDP-river-middle’
-dhv-dhvrrvrnda- ‘RDP-descend’
-rndv-rndarrka- ‘RDP-grab’
-ku-kura- ‘RDP-hook.fish’

For stems beginning with a stop, reduplication applies at a lower level than the syllable: for example, the first syllable of the ‘grab’ verb is *rndarr*, with a coda, but reduplication only applies to the onset.

The reduplication template for stems beginning with a sonorant consonant is $C_1V_1C_2(C_3)$. In this case, the reduplicated segment may include a consonant cluster. The examples in (142) illustrate reduplicated segments involving C_2 only (which may be a complex phoneme), and those in (143) with the cluster C_2C_3 :

- (142) *mv-lhvk-lhvkarrku-wilyarra* ‘VEG-RDP-road-middle’ (VL p.106)
-miji-mijikeeyi- ‘RDP-search’
-marndv-marndarrka- ‘RDP-point’
-lyikbi-lyikbi- ‘RDP-float’
-rrengmv-rreng+mungkwardhv- ‘RDP-intestines+crawl’ (= ‘crawl due to sickness’)
-wilyu-wilyaka- ‘RDP-carry’
- (143) *-ngurrkbv-ngurrk+balha-* ‘RDP-mouth+wide’ (= ‘yawn’)
-murrkv-murrkulha- ‘RDP-lie.down’

The consonant clusters in (143) involve an apical liquid+stop, which, together with an apical nasal+stop, are the only permitted consonant clusters (section 2.3.2). One reason for regarding homorganic nasal+stop sequences and heterorganic dorsal+labial sequences as unit phonemes is their failure to be broken up in reduplication patterns (sections 2.5.6 and 2.5.7). This argument is weakened by the existence of some clusters that also stay intact when reduplicated, as those in (143). However, in contrast to the complex segments, these clusters *can* be broken up when reduplicated, as illustrated in (144), showing the regular C_1VC_2 reduplication pattern for sonorant-initial stems. This contrasts with the complex segments, which are never broken up, as shown in (145).

- (144) *wurrv-mvrrv-mvrrk+balya* ‘3a-RDP-soft’ (GED p.82)
me-merrv-merrku-wilyarra ‘VEG-RDP-sun-middle’
- (145) *-ingm-ingmvrra* ‘RDP-fat’
-akb-akbardha- ‘RDP-be.afraid’

The reduplication pattern for stems beginning with a vowel is more complex. The initial vowel can either be ignored, or be included in the reduplicated segment. In both cases, the template is

monosyllabic when the consonant following the vowel is a stop, and bi-syllabic elsewhere. The following examples illustrate reduplicated segments that ignore the initial vowel. In (146) the consonant following the stem-initial vowel is a stop and the reduplication template is C_1 . In (147) this consonant is a sonorant and the template is $C_1V_1C_2(C_3)$.

(146)	<i>-abarumv-</i>	‘search’	<i>-a-bv-barvmv-</i>	‘a-RDP-search’
	<i>-ambarr-</i>	‘sit’	<i>-a-mbv-mbarr-</i>	‘a-RDP-sit’
	<i>-ardhvrra-</i>	‘spear’	<i>-a-dhv-dhvrra-</i>	‘a-RDP-spear’
(147)	<i>arakba=wiya</i>	‘compl.act=PRG’	<i>a-rakbv-rakba=wiya</i>	‘a-RDP-compl.act=PRG’
	<i>n-angariya</i>	‘3m-baby’	<i>wurr-a-ngarv-ngariya</i>	‘3a-a-RDP-baby’
	<i>-awinyamba-dhv-</i>	‘angry-INCH’	<i>-a-winyu-winyamba-dhv-</i>	‘a-RDP-angry-INCH’
	<i>-arvmv-dhv-</i>	‘big-INCH’	<i>-a-rvmv-rvmv-dhv-</i>	‘a-RDP-big-INCH’

Given that the stem-initial vowel is excluded from the reduplicated segment, we may expect a morpheme boundary between the initial vowel and the remainder of the stem. But the available evidence in fact points to the contrary: the initial vowel belongs to the root. The reason for excluding the stem-initial vowel from the reduplication template is, as of yet, unclear.

The following examples illustrate reduplicated segments that do include the stem-initial vowel. The template is $V_1C_1(C_2)$ when the first consonant of the stem is a stop, as in (148), and $V_1C_1V_2C_2(C_3)$ elsewhere, as in (149).

(148)	<i>-ingbv dha</i>	‘strong’	<i>-ingb-ingbv dha</i>	‘RDP-strong’
	<i>-akuma-</i>	‘to put’	<i>-ak-akuma</i>	‘RDP-put’
	<i>-ambilya-</i>	‘to stay’	<i>-amb-ambilya-</i>	‘RDP-live’
	<i>-akbardha-</i>	‘to be afraid’	<i>-akb-akbardha</i>	‘RDP-be afraid’
(149)	<i>amvrndvrra</i>	‘slowly’	<i>amvrnd-amvrndvrra</i>	‘RDP-slowly’
	<i>-errebiji-</i>	‘spit’	<i>-erreb-errebiji-</i>	‘RDP-spit’
	<i>-iminingka</i>	‘different’	<i>-imin-iminingka</i>	‘RDP-different’

There are some exceptions to the above rules. These involve irregular mono-syllabic reduplicated segments where we would expect them to be di-syllabic:

(150)	<i>-alyvbar-</i>	‘eat’	<i>-a-lye-lyvbar-</i>	‘a-RDP-eat’
	<i>-miji-</i>	‘wait’	<i>-mv-miji-</i>	‘RDP-wait’
	<i>-nyirrngmv-</i>	‘sneeze’	<i>-nyi-nyirrngmv-</i>	‘RDP-sneeze’
	<i>-ngayindha-</i>	‘want’	<i>-ngv-ngayindha-</i>	‘RDP-want’
	<i>-lhvka-</i>	‘go’	<i>-lhv-lhvka- ~ -lha-lhvka-</i>	‘RDP-go’
	<i>-lharrdha-</i>	‘walk close together’	<i>-lhv-lharrdha-</i>	‘RDP-walk close together’

Other instances of reduplication that depart from the above rules involve the insertion of a consonant which is absent in the stem:

(151)	<i>-rrvngka-</i>	‘to look’	<i>-rrvby-rrvngka</i>	‘RDP-look’
	<i>-angkarr-</i>	‘to run’	<i>-angkidikarr- ~ -angkidingkarr-</i>	‘RDP-run’

The last example is highly irregular; *-angkarr-* ‘run’ is a common verb, but I have never heard it being reduplicated. It is therefore represented here as it occurs in the Dictionary (which means that the *i*’s could represent [ə], and *d* could represent [ɟ]).

Another irregular reduplication pattern for verbs involves inclusion of the tense suffix. This happens with a few common verbs; the nasal of the tense suffix induces hardening of the following continuant.

(152)	<i>-yamv-na</i>	‘say-NP2’	<i>-yaminjamv-na</i>	‘RDP.say-NP2’
	<i>-yirrme-na</i>	‘swim-NP2’	<i>-yirrminjirrme-na</i>	‘RDP.swim-NP2’
	<i>-lharrme-na</i>	‘chase-NP2’	<i>-lharrmvndharrme-na</i>	‘RDP.chase-NP2’

In sum, the shape of the reduplicated segment can be predicted to a large degree, but there are some irregularities. These idiosyncratic reduplications are possibly archaic and frozen.

The reduplication template in Wubuy is very similar, with a monosyllabic template for stop-initial stems and a disyllabic one elsewhere (Heath 1984). In no other language in the region is the reduplication template dependent on whether the stem starts with a stop or not.

2.8 Summary

Enindhilyakwa exhibits close to the maximum Australian inventory of consonants, with six places of articulation for both stops and nasals, a lateral in each coronal series, one apico-alveolar tap or trill, and three glides (labio-velar, palatal and retroflex). In addition, the consonant inventory includes three series of complex consonants: (i) two labialised velars /k^w/ and /ŋ^w/; (ii) six homorganic nasal+stop sequences (one for each stop/nasal); (iii) three heterorganic dorsal+labials /kp/, /ŋm/ and /ŋp/.

The four-vowel phoneme inventory /a/, /i/, /ɛ/ and /ə/ diverges from the common Australian pattern of three cardinal vowels, as well as from the typical Arnhem Land inventory of five cardinal vowels. Although the quality of the high vowels and schwa largely depends on the surrounding consonants - which has caused some controversy in the previous work as to the number of vowel phonemes - it was shown that /i/ and /ə/ are also proper phonemes of Enindhilyakwa. The rounding of [u], on the other hand, was argued to be an underlying feature of the surrounding consonants. Although the four vowel phonemes are clearly contrastive synchronically, there are some indications that /ɛ/ and /ə/ may have evolved rather recently from other vowels, /ɛ/ by i-umlaut, and /ə/ due to conditioning retroflex consonants. This hypothesis will be elaborated in Chapter 9, where I will look at correspondences of these vowels in other languages.

Another feature that sets Enindhilyakwa phonology apart from the surrounding languages is the pressure to avoid codas, as is evidenced by: (i) all words ending in [a]; (ii) frequent vowel epenthesis to break up consonant clusters; and (iii) syllabification of the homorganic nasal+stop segments and heterorganic dorsal+labial segments in the onset, rather than ambi-syllabically. The only permitted codas are apical liquids and nasals. It was proposed that the constraints on syllable structure resulted in the formation of the complex segments, which have bonded across morpheme boundaries that are synchronically frozen. Such bonding does not occur across synchronically active morpheme boundaries - here, codas are avoided by vowel epenthesis.

Homorganic nasal+stop clusters behaving like single segments is not unique to Enindhilyakwa: Baker (2008a) argues that these clusters are syllabified as onsets in several Arnhem Land languages, including some Gunwinyguan languages. The heterorganic dorsal+labial sequences behaving as single sounds is typologically more unusual.

The Enindhilyakwa consonant inventory (though not the vowels) is very similar to the Wubuy inventory. One thing that stands out is the shared lamino-dental lateral, which is absent in all other Arnhem Land languages. In Chapter 9 I propose that the sharing of the lamino-dental lateral, which has not been noted in the literature before, constitutes important evidence for a shared phonological innovation between Enindhilyakwa and Wubuy.

Chapter 3: Nominals

3.1 Word classes

As is common in Australian languages (e.g. Dixon 1980), two major word classes can be identified in Enindhilyakwa along the traditional lines of the affixational potential of the individual lexemes: nominals and verbs. These two classes are differentiated by taking distinct sets of inflectional and derivational affixes. The lexemes in both classes can be used as semantic predicates. A third class of words can be identified as being non-inflecting and non-predicational, which I will refer to as particles. Examples include: *akwa* ‘and’, *vmba* ‘but’, *ngawa* ‘continuing action, still’, *arakba* ‘completed action, already’, *kajungwa* ‘so that’, *dhukwa* ‘maybe’, and the negation particle *nara*. They will not be discussed any further in this thesis (the reader is referred to Leeding 1989: Chapter 8 for details). The current chapter is concerned with nominals only. Discussion of the verbal word class runs over Chapters 4 to 6.

A fourth word class in many Northern Australian languages is coverbs (Schultze-Berndt 2000; McGregor 2002; Dixon 2002; Harvey 2003a: 206-7; Amberber, Baker & Harvey 2007). Coverbs convey nearly all the lexical verbal meanings, but they are distinguished from verbs in that they do not inflect for tense or mood. They differ from nominals in that they cannot, by themselves, be predicational: they need to be combined with an inflecting verb to construct a predicate. Coverbs have thus far not been described for Enindhilyakwa, but in Chapter 5 I will argue that the majority of verb stems in this language are historically complex and appear to have their origin in coverb+verb compounds. However, these complex compound stems are lexicalised and synchronically unanalyseable (as they are in a number of languages from the Gunwinyguan family [Schultze-Berndt 2000: 538]), so I do not treat coverbs as an individual word class, synchronically.

3.2 The nominal word class

The class of nominal words includes at least six subclasses: nouns, adjectives, pronouns, demonstratives, kinship terms, and adverbs. They are grouped together under the label ‘nominals’ based on their morphological properties: they all take noun class prefixes, albeit with varying flexibility, and they take case and number suffixes. This chapter focuses on nouns and adjectives, and their derivational possibilities. Many of the morphological possibilities that apply to nouns and adjectives also extend to the other subclasses, but statements in this chapter should be taken to refer just to nouns and adjectives, unless otherwise indicated. The other nominal subclasses will only be briefly discussed below, and I refer the reader to the work of Stokes (1982); Leeding (1989); and Waddy (n.d.) for more details.

Table 3.1 presents the structure of the nominal word, with optional elements in parentheses.¹ Plus and minus signs before the slot number give the direction with respect to the stem. Slots marked * may be reduplicated, to express plurality or intensification.

-6	(-5)	(-4)*	(-3)	(-2)	(-1)*	0*	(+1)	(+2)	(+3)
Pronominal / gender / noun class prefix	Trial number	Quantifier	Inner gender	Inalienable / alienable possession	Body part / generic nominal	Stem	Number	Adnominal case	Semantic case

Table 3.1: Structure of the nominal word

The only obligatory elements in the nominal word are the noun class/gender/pronominal prefix in slot [-6], and the stem in [0]. The sole exception is loanwords, which do not take an overt noun class marker. Not every element in this template occurs in every nominal subclass: body parts and generics, for instance, can only be incorporated into adjectives (including numerals) and adverbs, but not into nouns, demonstratives, pronouns or kinship terms. The latter three subclasses do not take derivational prefixes either. And the inner gender prefixes in slot [(-3)] only co-occur with the inalienable and alienable possession derivational prefixes in slot [(-2)], and with the nominaliser prefix *k-* that derives nominals from verbs. Even though deverbalised nominals may take the full range of nominal prefixes in slots [-6] to [(-2)], the nominaliser prefix is not included in this template because its base is a verb. As nominalised verbs formally behave like nominals, the nominaliser prefix will nevertheless be discussed in this chapter (section 3.4.6).

This chapter focuses on the prefixes in the nominal template, apart from the incorporation of body part and generic nominals in slot [(-1)]. Noun incorporation, which occurs with both adjectives and verbs, is the topic of Chapter 7. The current chapter only briefly touches on the stem in slot [0] and the number suffixes in [(+1)]. The two types of case suffix in [(+2)] and [(+3)] are discussed in Chapter 8.

Examples showing the expansion of each of these slots are presented in (1).²

- (1) a. *m-akina m-ingbvdha merra?*
 VEG-that VEG-strong VEG.rope
 ‘Is that rope strong?’

(JW1 p.31)

¹ This structure is different from the one proposed by Leeding (1989). The differences will be discussed throughout this chapter.

² Recall from Chapter 2 that prefixes often end in, and stems begin with, a consonant. The vowels *i*, *u*, and *v* between prefixes and stems are epenthetic (rule P-1), and their quality depends on the surrounding consonants. The only attested underlying prefix-final and stem-initial vowels are *a* and *e* - apart from a handful of stems that begin with *i*, such as *-imimba* ‘blind’. Stem-initial *i* merges with the *a* of the NEUT class prefix and becomes *e*: /a-imimpa/ ‘NEUT-blind’ [emimpa] (rule P-6) (cf. /n-imimpa/ ‘3m-blind’ [nimimpa]).

- b. *ngayuwa nvng-ena nvngv-dharrvngka*
 1.PRO 1-this 1-woman
 ‘I am a woman.’ (anin3_dl_tr_002)
- c. *Dhv-miyambena dh-adhv-kadhuwa? Dhi-yarrmiyarrma dh-akina.*
 3f-what.kind.of? 3f-f-new 3f-thin 3f-that
 ‘What kind of new woman is that? That is a thin woman.’ (LL Book 5 p.22)
- d. *ngarrv-bvkv-dhv-dhiyara*
 12a-tri-RDP-girl
 ‘we three girls’ (VL1 p.225)
- e. *wurru-wurra-eningaba*
 3a-many-good
 ‘many good people’ (VL1 p.227)
- f. *yi-nv-m-eminda yilyarra*
 MASC-m-INALP-NEUT.nose MASC.pipe
 ‘bowl of Macassan pipe’ (VL2 p.212)
- g. *wurri-yukwayuwi=yadha warnv-kv-lhvki=yadha ekalhara-manja*
 3a-little.PL=PURP 3a.m-NSR-go=PURP NEUT.burnt.off.bush-LOC
 ‘(we burn off the bush) for children to walk on the burnt ground’ (‘Ekalhara’ g24)
- h. *yi-lhakkak-ambilyvma yikarba*
 MASC-short.and.upright-two MASC.woomera
 ‘two woomeras standing up’ (Ansec1)
- i. *m-alh-angamba miyeja-kiya?*
 VEG-du-where VEG.paddle-du
 ‘Where are the two paddles?’ (LL Book 6 p.15)
- j. *wurrendhindha-lhangwa-manja warnv-m-edhvrra*
 COLL.mouse-POSS-LOC COLL.m-INALP-NEUT.mouth
 ‘in a mouse hole’ (GED p.63)

The examples in (1a-c) illustrate the obligatory pronominal/gender/noun class prefix in slot [-6]. The VEGETABLE noun class marker *m-* in (1a) is one of five noun classes classifying non-humans. The other classes are: NEUTER *a-* or *e-*, MASCULINE *y-*, FEMININE *dh-* and COLLECTIVE *wurr-*. Pronominal prefixes, such as *nvng-* ‘1’ in (1b), refer to 1st and 2nd person humans. Gender prefixes, such as *dh-* ‘3f’ in (1c), are used for 3rd person humans. The distinctions between the three types of prefix will be justified in section 3.4.1. As can be seen in these three examples, adjectives and demonstratives obligatorily agree in prefixation with their heads in adnominal use, and with their subjects in predicative use. In other words, adjectives and demonstratives show agreement for all persons.

Trials number (slot [(-5)]) is exemplified in (1d). The example in (1e) illustrates one of the quantifier prefixes in slot [(-4)]. An example of inner gender in slot [(-3)] is given in (1f), where it co-occurs with the inalienable possession (INALP) derivational prefix in slot [(-2)]. An example of the nominaliser (NSR) prefix *k-* is presented in (1g), where it derives a non-finite verb from a verb root. (1h) illustrates the incorporation of a generic nominal into a numeral (which are adjectives in Enindhilyakwa). An example of the dual suffix *-kiya* in slot [(+1)] is given in (1i). Finally, (1j) illustrates both types of nominal case suffix: adnominal and semantic. The latter indicates the

semantic role of a nominal in a simple clause, such as location in this example. Adnominal cases, on the other hand, such as POSSESSIVE *-lhangwa*, indicate relations between nouns. Adnominal case suffixes can be followed by semantic case suffixes, as illustrated here, and only the latter have an additional function as complementising cases on verbs. Case is the topic of Chapter 8.

As will become clear from this chapter and Chapter 7, body part nouns play a major role in the language. They are virtually the only noun roots that can be marked for INALP, and they constitute the majority of noun roots that can be incorporated into verbs and adjectives. In both cases, they have extended their meaning: when marked for INALP, a body part noun no longer refers to a body part, but to a part of an inanimate item that resembles the body part in some way (e.g. *eminda* ‘NEUT.nose’ in [1f] refers to the bowl of a pipe, and *edhvrra* ‘NEUT.mouth’ in [1j] is used for ‘hole’). When incorporated into a verb or adjective, body part nouns frequently have developed into generic nouns that classify external specific nouns in terms of their shape (e.g. the incorporated body part *lhakbak-* in [1h] means ‘leg’, but here it is used as a generic that classifies objects as being ‘short and upright’; see Chapter 7). And finally, many body part nouns are polysemous: these have an additional flora or fauna meaning, most likely based on a perceived likeness (e.g. *yuwalkurra* ‘MASC.kneecap’ is also the name for ‘Cyrene shell’, and *memvrrkura* ‘VEG.ribs’ has the additional meaning ‘potato bean’). Body parts nouns have permeated most of Enindhilyakwa grammar and are one of the principal ways to express shape.

3.2.1 Organisation of chapter

This chapter is structured as follows. The remainder of this section first summarises the nominal subclasses that will not receive any further detailed attention in this thesis: pronouns (3.2.2), demonstratives (3.2.3), numerals (3.2.4), kinship terms (3.2.5), and adverbs (3.2.6). Most of this summary is based on the previous work of Stokes (1982); Leeding (1989); and Waddy (n.d.-a), supplemented by my own research. Section 3.3 then turns to nouns and adjectives and outlines the distinctions between the two nominal subclasses, which lies in the flexibility of their noun class prefix: for most nouns, their class prefix is frozen to the stem, whereas adjectives agree in noun class with the noun they modify. Section 3.4 investigates the nominal prefixes (slots [-6] to [(-2)] in Table 3.1). The obligatory noun class, gender and pronominal prefixes are examined in section 3.4.1, which also explores the semantics of the noun classes (section 3.4.1.2). Section 3.4.2 discusses the trial number prefix, section 3.4.3 the quantifier prefixes, and section 3.4.4 the inner gender prefixes. These morphemes co-occur with the three derivational prefixes: inalienable possession (section 3.4.5.1), alienable possession (section 3.4.5.3), and nominaliser (section 3.4.6). The inalienable possession construction is used to express the part-whole relation for non-humans. The part-whole relation for humans, i.e. human body parts, is expressed by different means

examined in section 3.4.5.2: possessive case on the whole or possessor. Section 3.5 then describes the various nominal stems, and section 3.5.1 outlines their somewhat unusual polysemy. This is followed by a brief mention of the number suffixes in section 3.6. Section 3.7 finishes this chapter with a summary.

3.2.2 Pronouns

The free pronoun system comprises 22 different forms distributed over 24 categories. They are listed in Table 3.2. The same categories are distinguished in the pronominal prefixes on other nominals and on verbs (Table 3.3).

	Minimal	Augmented	Dual	Trial
1	<i>ngayuwa</i>	<i>yirruwa</i>	<i>yinuwa</i> (m) <i>yirrvnguwa</i> (f)	<i>yirrvbvkrruwa</i>
2	<i>nvngkuwa</i>	<i>nvngkurruwa</i>	<i>nvngkv(r)nuwa</i> (m) <i>nvngkvr(r)nguwa</i> (f)	<i>nvngkvr(r)rvbvkrruwa</i>
12	<i>yakuwa</i>	<i>ngakurruwa</i>		<i>ngarrvbvkrruwa</i>
3	<i>enuwa</i> (m) <i>ngalhuwa</i> (f)	<i>abvrruwa</i>	<i>abv(r)nuwa</i> (m) <i>abvrrvnguwa</i> (f)	<i>abvrrvbvkrruwa</i>
MASC	<i>(yi)ngalhuwa</i>			
FEM	<i>ngalhuwa</i>			
COLL	<i>abvrruwa</i>			
VEG	<i>(mv)ngalhu-wa</i>			
NEUT	<i>(a)ngalhu-wa</i>			

Table 3.2: Enindhilyakwa free pronouns

Number is distinguished in the pronouns for humans only; non-human pronouns are number neutral (the same holds for the pronominal prefixes). There is an inclusive/exclusive distinction in the first person: ‘12’ stands for ‘first person inclusive’, i.e. speaker and addressee, whereas ‘1’ denotes ‘first person exclusive’, i.e. speaker only. Related to the inclusive/exclusive distinction is the minimal/augmented number architecture. ‘Minimal’ number is the logically minimum set, and ‘augmented’ number is one or more greater than the minimum set. The use of minimal/augmented analyses for Australian languages goes back to McKay (1978), who showed that the pronominal paradigms of Rembarnga were more perspicaciously described in these terms, rather than in the ‘classic’ terms of singular, dual and plural. ‘Minimal’ corresponds to ‘singular’ for all persons except the 1st inclusive, where it corresponds to ‘dual’. ‘Augmented’ corresponds to ‘plural’ for all persons. First person inclusive behaves like a singular number in Enindhilyakwa: it does not take the augmented number morpheme *rr-* present in the augmented forms.

There appear to be two number subsystems in Enindhilyakwa: next to the minimal/augmented system, we find a dual/trial system. This subsystem serves as a specification of the augmented category: when speakers want to be very specific (Leeding 1989), dual forms may be generated by adding gender morphemes to the augmented forms: the feminine prefix *ng-* creates feminine dual, and masculine *n-* makes masculine dual. Trial number is formed by adding the trial prefix *bvkvrr-* to the augmented forms, without a distinction in gender. Hence while ‘augmented’ means one or more beyond the minimum, this can optionally be made more specific by the addition of separate morphemes to denote dual or trial number.³

Pronouns with non-human referents, as are attested in Enindhilyakwa, are a rare phenomenon in Australia (Sands 1995: 261). The non-human pronouns are morphologically transparent: they consist of the human forms plus a noun class prefix, which is given in parentheses in Table 3.2 (the FEM pronoun could underlyingly be *nga-ngalhuwa*, which includes the feminine gender prefix *nga-*, which has disappeared due to haplology [Leeding 1989: 328]. The COLL form is identical to the 3a form). The noun class prefixes occur in parentheses because the formal human - nonhuman distinction is in the process of being lost: distinct non-human pronouns are only used by the older generation of speakers, and are not known by the younger speakers (Leeding 1989: 328). Hence in modern Enindhilyakwa there is only a contrast in the third person pronouns between ‘3m’ *enuwa*, ‘3a/COLL’ *abvrruwa*, and *ngalhuwa* used for ‘3f’ and the other noun classes.

The pronouns can be subdivided into a direct, oblique and emphatic series (cf. Evans 2003a for Bininj Gun-Wok). The direct series bears the *-wa* suffix, as in Table 3.2, which Leeding (1989) calls a ‘stem-formative’ (though very occasionally this suffix is omitted). The direct series can

³ Many minimal-based systems in Australia have three number-type terms (Dixon 2002: 70): minimal, unit-augmented (one person added to the minimal set) and augmented (more than one added). The Enindhilyakwa system is not unit-augmented because ‘12a’ does not correspond to ‘first inclusive trial’ (hence not to ‘first inclusive plus one’), but to ‘first inclusive plural’. However, since trial forms can be constructed by adding the morpheme *bvkvrr-* to the augmented forms, the ‘12tri’ form fills this gap in the paradigm. In other words, combining the minimal/augmented and the dual/trial systems roughly results in a unit-augmented system, as illustrated in the following table.

	Minimal	“Unit-augmented”	Augmented
1	<i>ngayuwa</i>	<i>yinuwa</i> (mdu) <i>yirrvnguwa</i> (fdu)	<i>yirrvbvkvruruwa</i> (tri) <i>yirruwa</i> (pl)
12	<i>yakuwa</i>	<i>ngarrvbvkvruruwa</i> (tri)	<i>ngakvruruwa</i> (pl)
2	<i>nvngkuwa</i>	<i>nvngkvrnuwa</i> (mdu) <i>nvngkvrnvnguwa</i> (fdu)	<i>nvngkvrnvbvkvruruwa</i> (tri) <i>nvngkvruruwa</i> (pl)
3	<i>enuwa</i> (m) <i>ngalhuwa</i> (f)	<i>abv(r)nuwa</i> (mdu) <i>abvrrvnguwa</i> (fdu)	<i>abvrrvbvkvruruwa</i> (tri) <i>abvrruwa</i> (pl)

This is however not a perfect unit-augmented system, as there are some asymmetries in the paradigm: the “unit-augmented” category lacks a feminine/masculine distinction in the first inclusive, which also has only one augmented form. And in terms of the forms of the morphemes, it conceals certain regularities by showing the formative *bvkvrr* in a different number category in the inclusive. See e.g. Dixon (2002: 69-70) and Evans (2003a: 260-2) for more discussion of the different types of number systems in Australia.

have subject and object function. A ‘direct’ pronoun as a subject is illustrated in (2a), and as a direct object in (2b). Since these are core arguments of the verb, they are caseless and they are indexed by the pronominal prefixes on the verb. The oblique series is used to express possession, and the *-wa* suffix is replaced by the POSS case suffix, as in (2c). The first person minimal oblique pronoun has a special form: *nganyangwa* [1.PRO.POSS] ‘my’ in (2d) (compare this to e.g. the composite form *yirra-lhangwa* [1a.PRO-POSS] in [2c]). In the emphatic series the *-wa* suffix on the pronoun is replaced by the ‘Change of Referent’ suffix *-aja*, as in (2e).

- (2) a. *Lionel, nvngk-angmadhv-ma yelhakwa yikarba nungkuwa?*
 L. 2-steal.P1-*ma* here MASC.woomera 2.PRO
 ‘Lionel, have you stolen the woomera that was here?’ (‘Lionel’ i1)
- b. *nvng-env-lhakbv-lhakba-rnv-ma enuwa*
 1-3m-RDP-blame-P2-*ma* 3m.PRO
 ‘I used to blame him.’ (anin4_dl_tr_005)
- c. *yirra-lhangwa yikarba yirr-arvma-lhangwa*
 1a.PRO-POSS MASC.woomera 1a-big-POSS
 ‘woomeras are for us adults’ (‘Lionel’ i14)
- d. *akinu=wiya nganyangwa*
 NEUT.that=PGR 1.PRO.POSS
 ‘all this is mine’ (VL1 p.355)
- e. *Ngalh-ajee=ka nara kvngi-yengbi-na.*
 3f.PRO-CofR=EMPH NEG IRR.3f-speak-P2
 ‘(He told his wife.) She didn’t speak.’ (‘Search’ z143)

The examples in (2c,d) show that pronouns can be used predicatively.

The main function of the ‘Change of Referent’ suffix *-aja* (Leeding 1989; WD) is discourse related: it emphasises a change of referent in an important grammatical relation from one clause to another. This suffix is restricted to pronouns. It occurs mostly on subjects, which are often intransitive, but they can be transitive as well:

- (3) *Kenu-warde-na-manja, nungkw-aja kvnu-warde-na arrkalha.*
 IRR.3m/2-hit-NP2-LOC 2.PRO-CofR IRR.2/3m-hit-NP2 on.the.other.hand
 ‘If he hits you, you can hit him back.’ (‘Children’ h15-6)

A formally and semantically similar discourse-related “contrastive” suffix *-ayung* occurs in Wubuy (Heath 1984: 254).

Free pronouns are not required for the grammaticality of a sentence, because most often all arguments are identified on the verb. Pronouns perform important discourse functions of emphasis, contrast and referentiality. When not all arguments are identified in the verb’s prefixes, such as the direct object of ditransitive verbs, or oblique arguments of verbs such as ‘say to’ in (4a), a pronoun may appear (an alternative is a demonstrative, see next section). For humans, pronouns are frequently used in apposition to a demonstrative pronoun, as illustrated in (4a,b).

- (4) a. *Ni-yama ngalhuwa-wa, “Ngayuwe=ka nvng-ena nu-ngw-ena-lhangwa*
 3m-say.P2 3f.PRO-ALL 1.PRO=EMPH 1-this 3m-father-2.KIN-POSS
nvng-abvrr-enikba.
 1-nephew-3m.KIN
 ‘He said to her, “I am your father’s nephew”.’ (Angurugu Linguistics)
- b. *Nungkuwa nvngk-akina akwalya.*
 2.PRO 2-that NEUT.fish
 ‘you are a fish’ (anin3_dl_tr_002)

Appendix E lines up the pronominal prefixes on pronouns, adjectives and intransitive verbs, for comparison. The first and second person morphemes are formally very similar in the various word (sub)classes: for example, ‘2 minimal’ is always *nvngk-*, whether in pronouns, nominals or verbs. The third person morphemes, by contrast, differ substantially: for example, ‘3 feminine minimal’ as a free pronoun is *ngalhuwa*, as a nominal prefix it is *dh-*, and on intransitive verbs it is *ying-*. The recurrent morphemes that can be identified in the pronominal system, such as *rr-* ‘augmented’, are also included in Appendix E.

3.2.3 Demonstratives

Enindhilyakwa has six distinct sets of demonstrative roots, which differentiate locations in relation to the speaker or addressee, and visibility (Leeding 1989: 337). They are listed in Appendix F. Demonstratives have the same person, number, gender prefixes as nouns and adjectives, and an additional dual prefix *alh-* in slot [(-4)] (Leeding 1989: 352-4), as illustrated in (5).

- (5) *wurrvng-alh-angakba*
 3fdu-du-that.over.there
 ‘those two females over there’ (VL1 p.341)

As mentioned, demonstratives are frequently used in apposition to free pronouns, as in (4) above. They can also be used alone with human reference instead of a pronoun, which appears to be restricted to two demonstratives: *ena* ‘this here’ and *akina* ‘that there’. The former seems to be used most often for first person, as in (6a), while the latter seems to be most common for second person, as in (6b).

- (6) a. *kvm-angkv-rna memvrrerra nvng-ena*
 IRR.1/VEG-fetch-NP2 VEG.flathead 1-this
 ‘I will fetch the flathead’ (LL Book 5, p.7)
- b. *kvm-angkv-rna mvnhvnga nvngk-akina*
 IRR.2/VEG-fetch-NP2 VEG.burrawang 2-that
 ‘you will fetch the burrawang’ (LL Book 5, p.7)

Reid et al. (1983, Book 7: 5) propose that *akina* ‘that there’ is used with human reference when speaking of the past time, or when looking at a projected image such as a photo (*nvng-akina* ‘I, that one’). They claim that *ena* ‘this here’, on the other hand, is used concerning the present and

the future (*nvng-ena* ‘I, this one’). This prediction is however not borne out in (6), and the issue of which demonstratives are used in what context clearly requires more research.

3.2.4 Numerals

Numerals are adjectival in Enindhilyakwa, agreeing with their heads:

- (7) *wulka yirrv-mangbalha yirr-ambilyvma yarnv-mamalya akwa wurr-ambilyvma*
 only 1a-five 1a-two 1a.m-people and 3a-two
wurri-yukujiya-kiya yirri-jawudhi-na m-akina-manja dhvraka
 3a-small-two 1a-get.into-P2 VEG-that-LOC truck(VEG)
 ‘Only seven of us people and two children fitted into the car.’ (anin1_dl_tr_004)

Enindhilyakwa has a base-five number system, with number names: *awilyaba* ‘one’, *ambilyvma* ‘two’, *abiyakarbiya* ‘three’, *abiyarbuwa* ‘four’, *amangbalha* ‘five’, *ememberrkwa* ‘ten’, *amabvrrkwakbalha* ‘fifteen’, and *wurrakvriyabvhangwa* ‘twenty’ (Stokes 1982: 38-41). Counting after five continues 5+1, 5+2, and so on, up to ten, as illustrated in the above example for ‘seven’. A system beyond ‘one-two(-three)-many’ is typologically uncommon for an Australian language (Dixon 1980: 107-8). Worsley (1954a: 368) suggested that contact with the Macassans accounted for the development of number names beyond five.⁴

The number for ‘twenty’ is invariable and does not show agreement. Stokes notes that since the introduction of English, English counting words are used almost exclusively for numbers above five. However, my informant used the traditional words for ‘seven’ in the above example.

Being adjectives, numerals can incorporate body part and generic noun roots:

- (8) *Awilyaba=ma angalya akena a-ngurrkw-ambilyvma narrv-ngurrkw-arrnga-rnv-ma*
 one=EMPH NEUT.place but NEUT-hole-two 3a.NEUT-hole-split-P2-ma
dhvrranda-ma.
 wire(FEM)-INSTR
 ‘There was one cage, but they had divided it into two enclosures with wire netting.’ (JS2 p.124)

More examples of numerals incorporating body parts and generics can be found in Chapter 7.

3.2.5 Kinship terms

Kinship nouns take the same prefixes in slot [-6] as other nominals, but they have extra morphological possibilities. A set of specific possessive suffixes, unique to kin relationships, follows the root and denotes the possessor of the kin term. They are listed in Appendix G, taken

⁴ Based on Stokes (1982), Butterworth et al. (2008) and Butterworth & Reeve (2008) state that Enindhilyakwa number names are borrowed (presumably from Macassan), and that children do not know them. However, Stokes does not claim this. Rather, she refers to Worsley suggestion that Macassan contact may have triggered development of number names beyond five. However, as Stokes notes (p.39), the number names themselves are not considered by speakers to be of Macassan origin. This is confirmed by the morphological transparency of the word for ‘five’: *a-mang-balha* [NEUT-hand-wide] ‘spread out hand’.

from the dictionary and Leeding (1996). Examples are *-arrka* ‘1.KIN’, as in *nu-ngw-arrka* [3m-father-1.KIN] ‘my father’, and *-enikba* ‘3m.KIN’ in *nvng-abvrr-enikba* [1-nephew-3m.KIN] ‘I, his nephew’ in (4a) above.

3.2.6 Adverbs

Adverbs do not take prefixation and thus do not show agreement. However, most adverbs begin with a segment that elsewhere represents a noun class: this can be *a-* or *e-* (which normally designate NEUT noun class), *y-* (MASC), *dh-* (FEM) or *m-* (VEG). Examples include: *abalkaya* ‘above’, *arrawa* ‘inside’; *arakba* ‘now, already, completed action’; *ambaka* ‘later, still’; *errekba* ‘outside’; *yelhakwa* ‘here’; *yangkurrangwa* ‘to here’, *dhvrrbvra* ‘straight’, *miyambena* ‘what?’. Some examples of adverbs that do not begin with a segment that otherwise functions as a noun class marker are: *karrawara* ‘above’ and *lhukwakwa* ‘on the way’. Apart from their lack of agreement, adverbs behave much like nominals: they can take case suffixes (9a), derivational prefixes (9b), they can incorporate nominals (9c,d), they can be verbalised (9d), and be used predicatively (9e,f).

- (9) a. *Kwa, lhvka-ja arrawu-wa.*
 come 2.IMP.go-NP2 inside-ALL
 ‘Come, go inside.’ (LL Book 5 p.23)
- b. *dh-adhv-ng-arrawa dhvmbala*
 FEM-f-ALP-inside clothing(FEM)
 ‘underclothes’ (VL2 p.221)
- c. *a-ngurrkw-errekba*
 NEUT-hole-outside
 ‘empty hole’ (Ansec2)
- d. *karra-mungkurrkv-dhvrrbvra-kv-ni=yadha*
 IRR.3a/3a-eye-straight-FACT-P2=PURP
 ‘for them to teach them the right way’ (Ansec1)
- e. *n-eniyuwangkwa adhadhibina vmba ni-yukujiya alhalhvba*
 3m-old.man on.this.side but 3m-small on.the.other.side
 ‘the old man is on this side but the little boy is on the other side’ (JS2 p.104)
- f. *ekbarra ambaka*
 NEUT.headache still
 ‘the headache is still there’ (JS2 p.86)

Another property shared by adverbs and other nominals is that some roots are defective, which means that they require a noun to attach to (section 3.4.5.1). Examples include *+bidjina* ‘on this side’ and *+warra* ‘other side’, as in *a-yaku+warra* [NEUT-river+other.side] ‘on the other side of the river’ (Stokes 1982: 106).

3.3 Nouns and adjectives

Nouns and adjectives roughly show the same syntactic and morphological possibilities: they take the same inflectional and derivational prefixes and case and number suffixes, and they are able to be used predicatively. There is however one criterion that distinguishes nouns from adjectives: an adjective can occur with every available pronominal/gender/noun class prefix, whereas the noun class prefix of a noun is frozen to the stem and hence cannot be omitted or substituted. For example, *dhvngarrbiya* ‘FEM.crocodile’ is FEM noun class, as indicated by the initial *dh* segment, irrespective of the sex of the crocodile. The FEM noun class prefix cannot be replaced by say, a MASC prefix to represent a male crocodile. The sex of a crocodile needs to be expressed by an additional nominal: *dh-enungkwarba dhvngarrbiya* ‘FEM-man FEM.crocodile’ (Waddy 1987: 34).

The prefixes on adjectives, by contrast, are flexible and always agree with the noun they modify (10a-c), or with their subject when used predicatively (10d):

- (10) a. *y-arvma yaraja*
 MASC-big MASC.goanna
 ‘big goanna’
 b. *dh-arvma dhuwalya*
 FEM-big FEM.curlew
 ‘big curlew’
 c. *arvma akwalya*
 NEUT.big NEUT.fish
 ‘big fish’
 d. *ngayuwa nvng-arvma akwa nungkuwa nvngki-yukujiya*
 1.PRO 1-big and 2.PRO 2-small
 ‘I am big and you are small’ (anin3_dl_tr_002)

Since the noun class marker on adjectives is variable, and the stem without a prefix is meaningful, the noun class prefix on adjectives is represented as separated from the stem by a morpheme boundary (see also Waddy 1987, 1988; Leeding 1989). By contrast, the noun class marker on a noun is inflexible and the word without the prefix is meaningless (Waddy 1988). The noun class prefix on a noun is part of the lexeme and represented in the gloss as a lexicalised morpheme boundary.⁵ When the adjectival stem starts with *a*, as is the case in for instance *-arvma* ‘big’ in (10) above, the NEUT class form is identical to the bare stem. This is taken to be due to the merger of the NEUT class prefix *a-* with the stem: *a-arvma* > *arvma* ‘NEUT.big’ (see section 2.6.3). The NEUT class is included in the gloss, separated from the stem by a full stop.

Some common nouns, however, have flexible prefixes. These include kinship terms and other nouns with human referents, as well as domesticated animals.

⁵ Leeding (1989) separates the noun class prefix from the stem by a morpheme boundary.

- (11) a. *ngarrv-rnd-arringba*
 12a-mother-3a.KIN
 ‘us, their mothers’ (GED p.13)
- b. *dhv-rnd-rrrka*
 3f-mother-1.KIN
 ‘my mother’ (JW1 p.44)
- (12) a. *N-enibv-dhv-ma amandhangwa Nv-bungkawa!*
 3m-alive-INCH.NP1-*ma* truly 3m-boss
 ‘The Lord really is alive!’ (Akarrikarra 1990, Vol.10.2)
- b. *wunv-bungkawa*
 3mdu-boss
 ‘two male bosses’ (VL1 p.269)
- (13) a. *wurr-angamba wurru-warda*
 COLL-where? COLL-dog
 ‘where is the dog?’ (LL Book 4 p.3)
- b. *n-akina nu-warda*
 3m-that 3m-dog
 ‘he is a dog’ (anin3_dl_tr_002)

These examples show that the morphological distinction is not so much between ‘noun’ and ‘adjective’ per se, but between various subcategories of noun. Nouns referring to humans and domesticated animals differ from non-human nouns in the flexibility of their prefix. The noun class prefix of the latter is frozen to the stem, whereas the former take a variety of prefixes. See section 3.4.1 for further discussion.⁶

Any nominal, allowing for its meaning, can be used predicatively in Enindhilyakwa, a common property of Australian languages first noted by Hale (1983: 33-4; see also Simpson 1991: 32). Due to their semantics, however, adjectives and nouns with human reference are much more common as the predicate of a clause than are other nouns. This may be because it is hard to construe a context for an inanimate noun to be used predicatively, a point also made by Heath (1978a: 34). Yet informants do produce them and examples can be found in the texts, such as those in (14). Due to the inflexible nature of the noun class of inanimate nouns, such examples may involve an agreement mismatch.

⁶ Following Dixon (1980: 490) for Diyari, Leeding (1989: 144-5) lists the following criteria that distinguish nouns from adjectives: (i) only adjectives can receive verbalising derivational suffixes (save one or two exceptions); (ii) only adjectives can take the diminisher prefix *warrngk-*; (iii) the intensifying clitic =*ika* mostly occurs on adjectives; (iv) when an adjective modifies a noun, only the former takes a case marker; (v) only adjectives take first and second person prefixes; and (vi) the adjectiviser prefix (*ng*)/*ki-* derives adjectives and the nominaliser (*ng*)/*kwi-* (Leeding’s spelling) derives nouns. However, in this chapter I argue that the distinction is between subclasses of nouns, rather than between nouns and adjectives per se. This is because nouns with human reference *can* take first and second person prefixes. Furthermore, some of Leeding’s criteria are unfounded: both nouns and adjectives can take factitive and inchoative (section 5.4.1.1) verbalising suffixes, and the existence of an “adjectiviser” prefix is unmotivated (see fn38 below). The fact that only adjectives receive the diminisher prefix and intensifying clitic may be for semantic reasons, as it is hard to construe a context for modifying a noun with ‘rather’ or ‘very’. Moreover, only when the adjective and noun are adjacent is just the adjective marked for peripheral case; when they are discontinuous, both the adjective and the noun bear case (section 8.9).

- (14) a. *ngayuwa nvng-ena akwalya*
 1.PRO 1-this NEUT.fish
 ‘I am a fish’ (anin3_dl_tr_002)
- b. *Nvngi-lyangki+yama angbilyuwa dh-akina*
 1-head+say.P2 NEUT.sickness 3f-that
 ‘I thought she was sick’ (LL Book 7 p.12)
- c. *Nvngi-lyangki+yama awiyemba n-akina*
 1-head+say.P2 NEUT.anger 3m-that
 ‘I thought he was angry.’ (LL Book 7 p.12)
- d. *y-akina yinvkarrnungkwardha yi-nu-kw-alyvbara, akwalya⁷ y-akina*
 MASC-that MASC.little.hermit.crab MASC-m-NSR-eat NEUT.flesh.food MASC-that
 ‘those little hermit crabs are edible, they are flesh food’ (JW p.69)
- e. *Nenv-mvny-ngaja n-akina alhakba-manja kemba merra⁸ alhakba n-akina*
 3m/3m-BENE-hit.P2 3m-that NEUT.leg-LOC therefore VEG.blood NEUT.leg 3m-that
 ‘He hit him on the leg and therefore he has a red leg.’ (VL1 p.484)

Simple non-human nouns that are used semantically as predicates and that take an argument of a different noun class are one of the rare cases of agreement mismatch in Enindhilyakwa (i.e. **dh-angbilyuwa dh-akina* [14b]).⁹ The standard is that modifiers agree with their heads, and predicates agree with their arguments. This rather unusual dis-agreement in a language where human participants normally show agreement throughout the clause, supports the view that simple nouns with non-human referents are rigid units that do not allow a change in class marker.

More evidence for the noun class markers being frozen to the stem comes from the derivational prefixes. Nouns can take an inalienable possession prefix (INALP, section 3.4.5.1) or an alienable possession prefix (ALP, section 3.4.5.3), which allows them to agree with another nominal in the clause. The nouns to which the derivational prefixes attach maintain their inherent class marker, such as *amarda* ‘NEUT.leaves’ in (15a), or *makarda* ‘VEG.sea’ in (15b).

- (15) a. *warnumamalya ... narrv-ma-ma-ngv-ma ma-m-amarda ...*
 3a.people 3a-VEG-take-P2-ma VEG-INALP-NEUT.leaves
 ‘people took the leaves of these trees [*mabalba* ‘VEG.peanut tree’]...’ (GED p.15)
- b. *envngv-makarda akwalya*
 NEUT.m.AL-VEG.sea NEUT.fish
 ‘saltwater fish’ (VL2 p.220)

When marked for INALP or ALP, nouns with an inflexible class prefix obtain an additional, flexible, prefix that agrees in noun class with an external nominal.

⁷ Waddy (1988: 67-8) notes that the noun *akwalya* is highly polysemous: in its most common usage it means ‘fish’, as in (14a), or ‘flesh of fish’, but it can also mean ‘(flesh of) bony fish’ (in contrast to cartilaginous fish); ‘(flesh of) fish’ (in contrast to other animals in the sea); ‘animals in the sea’ (in contrast to animals on the land); animals (in contrast to plants); and ‘flesh food’ (in contrast to non-flesh food), as it does in (14d).

⁸ Enindhilyakwa does not have true colour words: *merra* ‘VEG.blood’ is used for ‘red’, *amarda* ‘NEUT.grass’ for ‘green’ and *makarda* ‘VEG.sea’ for ‘blue’, amongst others.

⁹ Another case is found with the POSS case suffix, which occurs on the noun denoting the possessor, and shows no pronominal agreement with the possessed noun (see sections 3.4.5.2 and 8.3).

There is no formal distinction between class markers on nouns and agreement markers on modifiers in Enindhilyakwa. The language differs in this from for instance Bininj Gun-Wok, where ‘noun classes’ on nouns are distinct from what Evans (2003a) labels ‘gender’ markers on modifiers. In most Bininj Gun-Wok dialects there is a morphological distinction: nouns fall into one of five categories on the basis of the prefixes they normally take, whereas the agreement system on modifiers differentiates only four ‘genders’. There is also a theoretical need to treat them as separate phenomena, Evans argues, because a ‘noun class’ is part of the noun lexeme, whereas ‘gender’ is an obligatory, governed agreement category on modifiers. Moreover, ‘noun class’ and ‘gender’ can be non-congruent: life-form plant names in Kunwunjku, for example, will go into the *kun-* noun class, but their modifiers take VEG gender *man-* (Evans 2003a: 181-3).

There is no such morphological distinction between the noun class markers on nouns and on modifiers in Enindhilyakwa, so the distinction is only a theoretical one: the class markers on nouns are part of the lexeme, whereas on modifiers they are an obligatory, governed agreement category. I will use the term ‘noun class’ in both cases, reserving the term ‘gender’ for prefixes that categorise humans and domesticated animals according to their biological sex (see next section).

3.4 Nominal prefixes

This section discusses the various prefixes that occur in the slots preceding the stem in Table 3.1 above.

3.4.1 Noun class, gender and pronominal prefixes [-6]

All nominals are obligatorily prefixed by a noun class, gender or pronominal prefix. Nominals agree with their head in adnominal use, and with their subject in predicative use. The only nominals that do not take an overt noun class marker are loanwords. They are nonetheless covertly assigned to a certain noun class, which becomes apparent on modifiers: e.g. *m-arvma dhvraka* [VEG-big truck(VEG)] ‘big truck’. The noun class of a loanword is also registered on the verb, as in e.g. (23) below.

‘Noun class’ and ‘gender’ are often used interchangeably in the literature, depending on the linguistic tradition (Aikhenvald 2000: 8, 19). Corbett (1991) uses ‘gender’ as a cover term for agreement classes, while Aikhenvald (2000) opts for ‘noun class’ to cover the same phenomenon. Here I follow Sands (1995) in differentiating between the two. In Sands’ terminology, ‘gender’ is restricted solely to systems where certain animate (e.g. human) nouns are categorised according to biological sex.¹⁰ This contrasts with the noun class system, which subdivides all nouns, by

¹⁰ Sands notes that gender prefixes tend to be derivational rather than inflectional and do not show agreement through the clause (1995: 270). The gender prefixes in Enindhilyakwa discussed here, however, can be used derivationally, but they show agreement throughout the clause, in the same way that the pronominal and noun class prefixes do.

different principles (1995: 248). In neighbouring Ngandi (Heath 1978a) and Wubuy (Heath 1984) humans are also classified according to sex and non-humans according to other principles. In Enindhilyakwa, there are morphological and semantic distinctions between noun class, gender and pronominal prefixes, along the following lines:

- *pronominal* prefixes occur on first and second person nominals with human referents. They are formally identical to the pronominal prefixes used on intransitive verbs. They distinguish between minimal, dual and augmented number
- *gender* prefixes categorise third person nominals with human referents, as well as some domesticated animals, as either male or female according to their biological sex. Except for the ‘3m’ prefix, gender prefixes are formally distinct from pronominal prefixes used on intransitive verbs. Gender prefixes distinguish between minimal, dual and augmented number. They can be used derivationally and they occur on loanwords referring to humans/domesticated animals
- *noun class* prefixes divide non-human nouns into five classes, according to semantically unclear criteria. For simple, underived, nouns, the noun class marker is part of the noun lexeme and thus cannot be omitted, substituted or used derivationally. Noun class prefixes are number neutral and do not occur on loanwords. They are formally distinct from the pronominal prefixes on verbs^{11,12}

Table 3.3 on the next page presents the various prefixes that occur on nominals, together with the pronominal prefixes on intransitive verbs (realis mood) for comparison (see Capell 1942; Worsley 1954b; Stokes 1982; Leeding 1989; though their analyses differ from the one proposed here). Trial number is omitted here, but is addressed in section 3.4.2.

The non-human noun classes are subdivided into ‘animate’ and ‘inanimate’ classes, which is based on an additional set of gender morphemes in slot [(-3)] (section 3.4.4), which crosscuts the pronominal/gender/noun class system. These gender morphemes co-occur with the three derivational prefixes (inalienable possession, alienable possession and nominaliser; sections 3.4.5 and 3.4.6), but only when the derived nominal has a human referent or belongs to one of the ‘animate’ classes. This gender morpheme does not co-occur with the ‘inanimate’ classes.

¹¹ This is a property that Enindhilyakwa shares with Wubuy, but with no other Gunwinyguan language. Among the GN languages, only Wubuy, Ngandi, and Ngalakgan show verb agreement for every noun class (Baker 2008a: 4), as does Enindhilyakwa. But only in Wubuy and Enindhilyakwa are the nominal and the verbal prefixes formally distinct.

¹² Evans (2003b: 20 fn17) observes that the association of both *n-* and *y-* initial forms with Masculine is a recurrent feature in the non-Pama-Nyungan languages. A hypothesis that could account for this pattern, he suggests, is that the Enindhilyakwa human male *n-* and non-human masculine *y-* represent the original system, with collapse of the distinction in most daughter languages, either with selection of one or the other form (e.g. *yi-* in Wardaman but *na-* in Wardarang), or retention of both forms but with a change in the conditioning of the choice to case (as in Mawng ABS [*y*]*i-* and ERG *ni-*), or aspect (as in Wubuy Punctual *yii-* and Continuous *na-*).

			gloss	nominals	intransitive verbs
humans, domesticated animals	pronominal prefixes		1	<i>nvng-</i>	<i>nvng-</i>
			1a	<i>yirr-</i>	<i>yirr-</i>
			1 fdu	<i>yirrvng-</i>	<i>yirrvng-</i>
			1 mdu	<i>yin-</i>	<i>yin-</i>
			12	<i>y-</i>	<i>y-</i>
			12a	<i>ngarr-</i>	<i>ngarr-</i>
			2	<i>nvngk-</i>	<i>nvngk-</i>
			2a	<i>kvrr-</i>	<i>kvrr-</i>
			2 fdu	<i>kvrrvng-</i>	<i>kvrrvng-</i>
			2 mdu	<i>kvn-</i>	<i>kvn-</i>
	genders		3m	<i>n-</i>	<i>n-</i>
			3f	<i>dh-</i>	<i>ying-</i>
			3a	<i>wurr-</i>	<i>na- ~ nuw-</i>
			3 fdu	<i>wurrvng-</i>	<i>narrvng-</i>
		3 mdu	<i>wun-</i>	<i>nen-</i>	
non-humans	noun classes	‘animate’	MASC	<i>y-</i>	<i>n-</i>
			FEM	<i>dh-</i>	<i>ying-</i>
			COLL	<i>wurr-</i>	<i>na- ~ nuw-</i>
		‘inanimate’	VEG	<i>m(a)-</i>	<i>nvm-</i>
			NEUT	<i>a- ~ e-</i>	<i>na- ~ nuw-</i>

Table 3.3: Prefixes on nominals and on intransitive verbs

Pronominal prefixes only occur on first and second person nominals referring to humans, as in (10d) and (11a) above, and the following.

- (16) *yarningkwarba* *mama* *yirru-kulyadhadha*, *mama* *yirrv-balanda*,
1a.man never.mind 1a-white never.mind 1a-non.Indigine
yarningkwarba *ngawa*
1a.man still
‘it doesn’t matter if we men are white, it doesn’t matter if we are non-Indigines, we are still
men’ (‘Mixed marriages’ e39-41)

Gender prefixes only occur on third person nominals referring to humans (17) or domesticated animals (18).¹³ Their plural is formed by a change in prefix, from *n-* ‘3m’ or *dh-* ‘3f’ to *wurr-* ‘3a’.

- (17) a. *n-enungkwarba* *warningkwarba*¹⁴
3m-man 3a.man
‘man’ ‘men’

¹³ In the dictionary the entries *bulukwa* ‘bullock’ and *bujikeda* ‘pussycat’ do not have a noun class prefix and thus are not classified according to their sex. *Enungkwarba bulukwa* is used for a male and *adharrvngka bulukwa* for a female (GED p.67) (since *adharrvngka bulukwa* is female, the gloss ‘bullock’ is perhaps not right, but ‘cattle’ may be better). These different ways of representing the sex of domesticated animals may be a dialectal difference between the Angurugu and Umbakumba communities.

¹⁴ This word does not involve a lexicalised morpheme boundary, but *warn-* results from contraction of the ‘3a’ prefix *wurr-* and the first syllable *en-* of *enungkwarba* ‘man’. This archaic process is described in Appendix I.

- | | | | |
|----|-----------------------|-------------------------|----------------------|
| b. | <i>dhv-dharrvngka</i> | <i>wurrv-dharrvngka</i> | |
| | 3f-woman | 3a-woman | |
| | ‘woman’ | ‘women’ | |
| c. | <i>nv-balanda</i> | <i>dhv-balanda</i> | <i>wurrv-balanda</i> |
| | 3m-white.person | 3f-white.person | 3a-white.person |
| | ‘male non-Aborigine’ | ‘female non-Aborigine’ | ‘non-Aborigines’ |

- (18) a. *nv-bulukwa* ‘bull’ *dhv-bulukwa* ‘cow’ *wurrv-bulukwa* ‘cattle’
 b. *nv-bujikeda* ‘tomcat’ *dhv-bujikeda* ‘female cat’ *wurrv-bujikeda* ‘pussycat(s)’ (VL1 p.291)

Gender prefixes can be used derivationally, in that they can change the sex of the referent, as illustrated in (17c) and (18). The nouns in these examples are loanwords (*balanda* comes from Macassan *balanda* ‘European’ (< ‘Hollander’]); *bulukwa* comes from English *bullock*, and *bujikeda* is the Enindhilyakwa rendition of *pussycat*). Only pronominal and gender prefixes can attach to loanwords, which distinguishes them from noun classes. Another example is the Macassan loan *bungkawa* ‘boss’ in (12) above (< *pungawa* ‘boss’).

The augmented prefix *wurr-* for humans and domesticated animals does not in fact encode gender. However, it is included with the ‘gender’ prefixes in Table 3.3 because of the close connections between plurality and gender classification, especially of humans (cf. Corbett 1991; Harvey 1997). This prefix is distinct from the formally identical COLL noun class prefix in that it is not number neutral. Dual number is formed for humans by an additional gender prefix on the augmented prefix *wurr-*: feminine *ng-* or masculine *n-*. This is also how dual number for humans is formed in Wubuy (Heath 1984).

- (19) *wurrv-dharrvngka* ‘women’ *wurrv-ngv-dharrvngka* ‘two women’
warningkwarba ‘men’ *wun-enungkwarba* ‘two men’¹⁵

Such dual formation is not possible for the COLL noun class. Here, as well as for the other non-human noun classes, dual number is represented by a suffix (Stokes 1982; Leeding 1989):

- (20) *wurrajija* ‘COLL.bird(s)’ *wurrajija-kiya* ‘two COLL.birds’
m-arvma malhamukwa ‘big canoe’ *m-arvma-kiya malhamukwa* ‘two big canoes’ (JS2 p.52)

The different semantics and behaviour of the non-human COLL class prefix and the human ‘augmented’ prefix supports their analysis as distinct prefixes.

¹⁵ The masculine dual prefix *wun-* results from a contraction of human augmented *wurr-* and masculine *en-*, which results in *wurn-* (Appendix I), and subsequent loss of retroflexion (section 2.5.8), yielding *wun-*. Leeding proposes that this form results from deletion of the alveolar trill due to haplology (1989: 220). However, Worsley (1954b) writes this prefix as *wurn-*, with a retroflexed nasal. This suggests that my analysis of contraction and subsequent loss of retroflexion is more likely, and that Worsley’s informants had not yet undergone the latter. No loss of retroflexion occurs in *warningkwarba* ‘men’ in (17a).

As mentioned, noun class prefixes are inseparable from the root. They cannot be omitted, substituted or be used derivationally. There are, however, a handful of examples of noun stems that occur in two different classes with related meanings. Some examples are:

- | | | | | |
|------|------------------|-----------------------|-------------------|-------------------|
| (21) | <i>erra</i> | ‘NEUT.vomit’ | <i>merra</i> | ‘VEG.blood’ |
| | <i>anhvnga</i> | ‘NEUT.vegetable food’ | <i>mvnhvnga</i> | ‘VEG.burrawang’ |
| | <i>adhalyvma</i> | ‘NEUT.river’ | <i>mvdhalyvma</i> | ‘VEG.river mouth’ |
| | <i>edhvrra</i> | ‘NEUT.mouth’ | <i>medhvrra</i> | ‘VEG.cave’ |

Leeding (1989: 283-6) furthermore lists a number of nouns with different class markers, such as: *yilyambarra* ‘MASC.Caspian tern’ and *wurrilyambarra* ‘COLL.Common Noddy’; *yandharrnga* ‘MASC.Central Hill’ and *andharrnga* ‘NEUT.land around Central Hill’ (see also Waddy 1988). Leeding furthermore recorded a number of species names where different class prefixes distinguish juveniles from adults: e.g. *dhalyuwa* ‘FEM.Blue-spotted Fantail Ray (juvenile)’ vs. *alyuwa* ‘NEUT.Blue spotted Fantail Ray (adult)’. Such pairs of nouns, which formally only differ in their noun class marker, suggest that noun class prefixes were once flexible in Enindhilyakwa, as they still are in neighbouring languages. Synchronically, however, the majority of nouns are restricted to a single class. Noun class membership is mostly unpredictable (see section 3.4.1.1), hence the class of the noun must be listed in the lexicon.

There is one exception to the claim that noun class prefixes are inflexible: in Dreamtime stories animals may be represented as humans when they are thinking, acting or fighting as such. For example, *yirvmba* ‘MASC.seagull’ and *yikba* ‘MASC.pheasant’ can switch their MASC class marker *y-* to the masculine gender prefix *n-*, as illustrated in (22). This switching of noun class never happens with nouns belonging to the inanimate classes.

- (22) *Y-akinee=ka ni-yengbi-na Yirvmba makarda-lhangwa. Ene-ja*
 MASC-that=EMPH MASC-speak-P2 MASC.seagull VEG.sea-ABL 3m.PRO-CofR
Yikba ni-yengbi-na ariba-lhangwa. Neni-beeyi-na kembirra awinyamba.
 MASC.pheasant MASC-speak-P2 NEUT.land-ABL 3mdu-quarrel-P2 then NEUT.anger
Ni-yama Nv-rvmba “Nara nvngk-akina a-lhvka-ma yangkurrangwa nganyangu-wa
 3m-say.P2 3m-seagull NEG 2-that NEG-go-NP3 over.here 1.PRO.POSS-ALL
alhvkvra.” “Yawa, nganja yelyukwa kvn-akumv-rna=dha
 NEUT.house yes 1.PRO.CofR MASC.rain IRR.1/MASC-put-NP2=EMPH
nungku-lhangwi=yadha=dha”, ni-yama N-ikba.
 2.PRO-POSS=PURP=EMPH 3m-say.P2 3m-pheasant
 ‘Seagull spoke from the sea. Pheasant spoke from the land. Then they quarrelled. Seagull
 said “Don’t you come here to my house.” “Yes, I’ll make rain for you”, Pheasant said.’
 (Seagull and Pheasant’ u1-7)

In contrast to gender prefixes, noun class prefixes do not occur on loanwords. Loanwords can thus easily be identified by their unusual initial segments. Examples are the Macassan loans *jurra* ‘paper, book(NEUT)’ (< *surat* ‘book, paper’), *bajananga* ‘lantern(NEUT)’ (< ?*baraccuŋ*

illustrated in (24). Human masculine gender and MASC noun class, although represented by formally distinct prefixes on nominals, also show the same agreement on verbs, as in (25).

- (24) a. *dhv-dharrvngka* / *dhuwalya* *yingv-lhvka-ja*
 3f-woman FEM.curlew 3f/FEM-go-NP2
 ‘the woman / the curlew(s) is/are going’
 b. *wurrv-dharrvngka* / *wurrendhindha* *na-lhvka-ja*
 3a-woman COLL.rat 3a/COLL-go-NP2
 ‘the women / the rat(s) is/are going’
- (25) a. *n-enungkwarba* / *yingarna* *nv-lhvka-ja*
 3m-man MASC.snake 3m/MASC-go-NP2
 ‘the man / the snake(s) is/are going’
 b. *nvng-en-rrvngka* *n-enungkwarba* / *yingarna*
 1.S-3m/MASC.O-see.P2 3m-man MASC.snake
 ‘I saw the man / the snake(s).’

The fact that the feminine gender prefix and the FEM noun class prefix are formally identical, combined with the fact that they take the same agreement on verbs, has led all previous scholars to assume that these prefixes represent one and the same “feminine” noun class (Capell 1942; Worsley 1954b; Stokes 1982; Leeding 1989; see also Sands 1995: 275). For the same reason, Stokes (1982) and Leeding (1989) also take the human augmented and the COLL class prefixes to represent the same noun class. None of these researchers, however, considers the masculine gender prefix *n-* and the MASC noun class prefix *y-* to represent the same noun class, even though these take the same agreement on verbs. I propose that this classification is skewed: the “feminine” noun class includes both humans and animals, whereas the “masculine” noun class only includes humans. In addition, only for some members of the “feminine” noun class (i.e., humans) is plural established by a change in prefix, whereas this is the case for all members of the “masculine” class.

A distinction between gender and noun class results in a more straightforward analysis: the gender prefixes classify humans and domesticated animals according to biological sex, and hence are flexible. Only humans bear marking for plurality in a regular way (as in the great majority of Australian languages [Harvey 1997: 18]). The noun class system subdivides non-humans along more subtle principles (see next section), which does not include number. The feminine gender prefix and the FEM noun class prefix are formally identical, as are the human augmented and COLL noun class prefixes -whereas the masculine gender and MASC noun class prefixes are distinct.

3.4.1.1 Semantics of the noun classes

Noun class systems are very common in the non-Pama-Nyungan languages of Australia (Sands 1995 also notes two Pama-Nyungan languages with noun classes). They are a grammaticalised

agreement system, where class may be overtly marked on the noun, on articles and modifiers within the noun phrase, and on the predicate (e.g. Dixon 1986; Sands 1995; Aikhenvald 2000). The most typical Australian system has four noun classes, which can be broadly labelled as *masculine*, *feminine*, *vegetable*, and *neuter* or *residual* (e.g. Sands 1995: 258; Evans 2003a: 182). Individual languages range from having two noun classes to eight (Dixon 1980: 273), or even up to 15 in Ngan'gityemerri (Reid 1997).

The principles by which nouns are assigned to the various classes are a topic of much discussion. Aikhenvald notes that, although these principles can be governed by formal, morphological or phonological properties of a noun, there is always a semantic core, which involves the universal semantic parameters of sex, humanness and animacy (2000: 22). No system of noun classes is completely devoid of semantic motivation, though with varying degrees: systems with a larger number of noun classes tend to have more semantic motivation than systems with smaller numbers of noun classes (*ibid*).

Studies of noun class systems in Australia have shown that their semantic patterning results from a clustering around central prototypical notions (e.g. Dixon 1972; Lakoff 1986; Harvey 1997; Evans 2003a). Items linked to a prototypical member can also be placed in a different class to the founding member because of a principle of opposition. For instance, tall trees are classified as masculine in Gaagudju and Wubuy, as opposed to small trees that belong to the general class for flora (Harvey 1997: 28).

The semantics of the five noun classes in Enindhilyakwa (as well as their labels) has been subject to some controversy in the previous work (Capell 1942; Moody 1951; Worsley 1954b; Stokes 1982; Waddy 1988; Leeding 1989). In Table 3.3 above the five classes are labelled according to the most typical Australian pattern of MASCULINE, FEMININE, VEGETABLE and NEUTER, plus a fifth COLLECTIVE class.¹⁷ These are notional terms though, which are not strictly accurate, as all classes include semantically diverse groups of nouns. I will return to the motivation for these terms below, but I will first summarise some of the previous analyses (using my terms, glosses and orthography), to illustrate the debate.

Worsley (1954b: 275-9) and Waddy (1988: 165-8) argue that there is little point in trying to determine the semantics of Enindhilyakwa noun class membership, as the distribution of nouns across the five classes is too irregular to justify any (strong) semantic basis. The names of fish, plants, trees and birds, for instance, are scattered among the five classes. For example, *yukulbandha* 'MASC.barramundi (*Lates calcarifer*)', *dhvnrarra* 'FEM.Gilbert's rock-cod (*Epinephelus gilberti*)', *wurruwarda* 'COLL.plum-striped wasp-fish (*Minous versicolor*)',

¹⁷ The classification of certain non-human nominals as plural/collective is rare in Australia. Harvey (1997: 18) mentions only two languages that do this, which are Wubuy and Ungarinyin. Enindhilyakwa is a third language with plural/collective marking for some non-human animates.

memvrrerra ‘VEG.flathead (*Platycephalus endrachtensis*)’, and *amukwena* ‘NEUT.soldier-fish (*Apogonichthys auritus*)’ are all names of fish, but each belong to a different noun class. Body parts are also irregularly distributed: compare *alhakba* ‘NEUT.leg’, *makarra* ‘VEG.thigh’ and *yina* ‘MASC.knee’. The same is true for the internal organs: *awa* ‘NEUT.liver’, *mvrrekalhuwa* ‘VEG.small intestines’ and *yeyerra* ‘MASC.veins’. Similarly, the distribution of edible non-flesh food is also scattered. Hence, Worsley (1954b) and Waddy (1988) conclude, there is little semantic basis that underlies the different noun classes.

Leeding (1989), by contrast, proposes a very strong semantic basis for noun class membership. The ‘animate’ (MASC and FEM) classes include beings from the Dreamtime, such as *dhvngarrbiya* ‘FEM.crocodile’ and *yibvradha* ‘MASC.wallaby’. The classes also include inanimate items associated with Dreamtime creatures, or that have supernatural power causing sickness, pain or death. The COLL (*wurr-*) class contains spirits and non-human animates that live in family-like groups or colonies, such as *wurramukwa* ‘COLL.evil spirits’ and *wurruwarda* ‘COLL.dog’ (1989: 234-51).

The two ‘inanimate’ classes are also distinguished by their semantics according to Leeding, and are classified according to their appearance: the NEUT class contains invisible items and items with a lustrous appearance, whereas the VEG class contains lustreless items. For example, the difference between VEG and NEUT class birds is the shininess of their feathers: *angurrvrda* ‘NEUT.Australian magpie’ has shiny feathers and hence is allocated to the lustre class, whereas *milyangma* ‘VEG.pied heron’ has dull feathers and is assigned to the lustreless class. The same goes for body parts: body parts like *akarrnga* ‘NEUT.teeth’ and *arndvrnda* ‘NEUT.heart’ have a lustrous appearance and thus are NEUT, whereas *marmba* ‘VEG.molar teeth’ and *mangma* ‘VEG.brains’ apparently have a dull appearance and are VEG. Similarly, the class membership of some plants is based on whether they grow in soil (lustrous: NEUT) or in beach sand (lustreless: VEG). For example, *alhungkwalhuwa* ‘NEUT.cladode pea plant’ grows in the (lustrous) open forest, but *mulhungkwalhuwa* ‘cladode pea plant’ grows in (lustreless) sandy areas (Leeding 1989: 263, citing Levitt 1981: 114). Finally, ‘abstract’ concepts like *ayakwa* ‘NEUT.language, word’, *enindhilyakwa* (NEUT.language name) and *amvdhilya* ‘NEUT.cough’ are invisible and thus classified as NEUT.

There are major problems with this analysis. First of all, the semantic contrast between lustrous and lustreless is unclear. The difference in lustre between for instance *angwadha* ‘NEUT.tears’ (presumed “lustrous”) and *mukwena* ‘VEG.perspiration’ (presumed “lustreless”) is doubtful. Dixon (2002: 487) also notes that it seems scarcely plausible to describe *awija* ‘NEUT.fog’ and *awarruwalya* ‘NEUT.shade’ as ‘lustrous’ but *marrakwa* ‘VEG.meteor’ as ‘non-lustrous’. Secondly, both classes involve nouns that do not fit semantically. For instance, general food terms such as

anhvnga ‘NEUT.vegetable food’ and *a-mv-dhvngvra* [NEUT-INALP-FEM.clay] ‘flour’ are NEUT class but they are not lustrous, and they are associated with both lustrous and lustreless habitats (Leeding 1989: 265). These exceptions cannot be explained by principles of opposition, where extraordinary instances of a certain class are assigned to a different class (Harvey 1997).

The classification of loanwords and introduced items poses a third problem for Leeding’s analysis. She notes that this classification “is usually arbitrary” (1989: 269), which is unexpected if the classes were to have a strong semantic basis as she suggests. For example, *jarrangwa* ‘horse’ (< Mac *jaraŋ* ‘horse’) is FEM, *kawala* ‘koala’ is MASC, *bambi* ‘deer’ and *bikibiki* ‘pig’ are NEUT, and *wurruwarda* ‘dog’ is COLL. Also, as horses and koalas are introduced animals they cannot have occurred in the Dreamtime era, so it is unclear why they are classified as FEM and MASC, respectively. The same goes for *kalukwa* ‘coconut’ (< Mac *kaluku* ‘coconut’), which is MASC but inanimate.

Fourth, loanwords may be classified according to their initial phoneme. Dictionary entries include the Macassan loans *dhvmbala* ‘cloth, sail’ (< *sombala?* ‘sail’) and *dherriba* ‘trepan’ (< *taripaŋ*), and the English loans *dhvrajija* ‘trousers’ and *dhangki* ‘donkey’. These are classified as FEM, due to their initial /dh/. The Macassan loans *mambulawa* ‘waterpot’ (< ?) and *minyajirra* ‘tar’ (< *mijna?* ‘tar’), and English *mirrijina* ~ *midijina* ‘medicine’ and *milka* ‘milk’ are VEG because of their initial /m/. The classification of these loanwords is phonological rather than semantic. Given that the noun class marker in traditional words is synchronically unsegmentable, it is not surprising that loanwords may be classified according to their initial phoneme.

Finally, as noted by several researchers (e.g. Allan 1977: 297-8; Senft 2000: 44 and references therein; Aikhenvald 2000: 280), no language uses colour as a basis for noun categorisation. Allan (1977) points out that there are two disadvantages to colour as a category for classification. Firstly, colours vary with the ambient lighting and in dark become muted or even indeterminable, so that classification by colour would only be effective part-time. Secondly, colour would not make an effective category of classification on its own, as a shapeless blotch of colour does not directly portray an entity, as opposed to shape or size, which are common categories of classification. ‘Lustre’ is comparable to colour, as it is variable depending on lighting and indeterminable in the dark. Although the fact that Enindhilyakwa would be the only language in the world to employ such ineffective means of classification does not necessarily rule out this possibility, it does make it unlikely.

In spite of the abovementioned objections, I propose that there are reasons to assume some semantic basis to the noun classes, and to label them accordingly. First of all, there are trends (some of which are also recognised by Worsley and Waddy): the inanimate classes contain the

biggest groupings of plants, and the animate classes the biggest proportions of flying animals and land animals. Furthermore, the VEG class is concerned with objects connected to the sea (e.g. *makarda* ‘VEG.sea’; *mabvlhalha* ‘VEG.low tide’; *mijiyelya* ‘VEG.beach’). This class also consistently contains objects related to transport, such as *malhamukwa* ‘VEG.dugout canoe’ and *ma-m-alhvka* [VEG-INALP-NEUT.foot] ‘tire, wheel’. Loanwords relating to transport are also assigned to this class: *dvraka* ‘truck(VEG)’, *bajungkula* ‘bicycle(VEG)’, *errvblena* ‘aeroplane(VEG)’. In Wubuy, Ngandi, Ngalakgan and Bininj Gun-Wok, vehicles such as cars and boats are also assigned to the VEG class (Brett Baker, p.c.).¹⁸ As in most Arnhem Land languages with multiple noun classes, the NEUT class includes abstracts such as *ayakwa* ‘NEUT.language’, *amalhawudhawarra* ‘NEUT.Dreaming’, *enungwarrakbakiya* ‘NEUT.Dreamtime’, as well as the nouns for ‘country’ (*angalya*), ‘fire’ (*angura*) and ‘water’ (*akungwa*).

A second reason to assume a semantic basis of the noun classes is that classification of loanwords and introduced items is not as arbitrary as Leeding (1989: 269) suggests. As already mentioned, introduced vehicles are allocated to the VEG class. And as in most Arnhem Land languages, the NEUT class typically takes new artefacts (apart from vehicles and cloth), such as the Macassan loans *jurra* ‘book, paper’ (< *surat* ‘book, paper’); *lyelyinga* ‘knife’ (< *ladiŋ* ‘knife’); *bajikala* ‘billycan’ (< *bassi kaleŋ*); *jinaba* ‘gun’ (< *sinapaŋ* ‘rifle’); *bangkilya* ‘tomahawk’ (< *paŋkulu?* ‘axe’); *baja* ‘nail’ (< *pasol?* ‘nail’), and many more. The English loans *mijila* ‘measles’ and *jebija* ‘church, service’ are also NEUT class, as are most introduced food items: e.g. *jukwa* ‘sugar’; *bvrrvda* ‘rice’ (< Mac *b̄arasa?* ‘rice’); *damba* ‘damper’; *diya* ‘tea’. Newly coined words are consistently placed in certain classes: new artefacts like *envng-alhvka* [NEUT.m.AL-NEUT.foot] ‘shoe’; *a-kv-rrvbvrrvngka* [NEUT-NSR-RDP.see] ‘television’; and *a-kv-dhvhdhaka* [NEUT-NSR-RDP.cook] ‘stove’ (GED) are all NEUT class. An exception is feminine *dha-k-ajjarra* [FEM-NSR-RDP.wash] ‘washing machine’, which is thus associated only with women. The consistent classification of loanwords supports a semantic basis (Allan 1977: 290).

Some loanwords have dual classification, such as *milka* ‘non-human milk’ and *mirrijina* ~ *midijina* ‘medicine’, which are either NEUT (*a-*) or VEG (*m-*) class. This ambivalence may be due to a conflict between classifying these items by their initial phoneme *m-* (i.e., VEG), or by the fact that they are introduced items, which are mostly classified as NEUT. The word *budbula* ~ *burrbula* ‘ball’ (< *football*) is both MASC and NEUT, which may be due to a conflict between its association with men, and it being a new artefact. The dual classification of *dhvmbala* ‘cloth’ as both FEM and

¹⁸ Brett Baker (p.c.) suggests that the inclusion of vehicles in the VEG class in these languages may be because this class is associated with round things such as fruit and yams, and, by extension, vehicles. Alternatively, it could be because dugout canoes are assigned to the VEG class in these languages, and consequently other modes of transport too (cf. Enindhilyakwa *malhamukwa* ‘VEG.dugout’ - but see *alhamukwa* ‘NEUT.bark canoe’).

VEG class could be due to its initial phoneme and/or its association with women (i.e. FEM *dh-*), and its association with the VEG (*m-*) class noun *merra* ‘string’ (see Leeding 1989: 272).

Most of the bigger land and marine animals, as well as some birds, are classified as FEM or MASC. These include *dhvlandha* ‘FEM.Little Rock wallaby’ and *dhvnungkulhangwa* ‘FEM.dugong’; and *yaraja* ‘MASC.goanna’, *yakarra* ‘MASC.Purple Cod’, *yingwa* ‘MASC.Torresian Crow’. Note that this classification does not depend on biological sex. Sex has to be expressed separately, such as *yi-dharrvngka yijarra* [MASC-female MASC.silver.gull] ‘female Silver Gull’ (Leeding 1989: 292). Introduced big animals are assigned to the animate classes too, such as *jarrangwa* ‘horse(FEM)’ (< Mac *jaraŋ* ‘horse’) and *kawala* ‘koala(MASC)’. Table 3.4 presents the five noun human classes and their very general semantic groupings

	Gloss	Form	Semantic domain
‘animate’	FEM	<i>dh-</i>	some higher animals of either sex, some lower animals, some plants, celestial entities, artefacts associated with women (e.g. washing machine, clothing)
	MASC	<i>y-</i>	some higher animals of either sex, some lower animals, some plants, some body parts and body products, honey, moon, artefacts associated with men (e.g. football)
	COLL	<i>wurr-</i>	some higher animals of either sex, some lower animals, some animals living in flocks or herds, some plants, spirits
‘inanimate’	VEG	<i>m(a)-</i>	some lower animals, some plants, some body parts and body products, sun, weather, vehicles, things associated with the sea, cloth
	NEUT	<i>a- ~ e-</i>	some lower animals, some plants, some body parts and body products, languages and speech, new artefacts, introduced food

Table 3.4: Noun classes and semantic groupings

All classes include animals, plants, edible flesh food and edible non-flesh food. These are, however, not evenly distributed: the ‘animate’ classes contain a total of 72% of edible animal taxa, and the ‘inanimate’ classes a total of 79% of the edible plants taxa (based on Waddy 1988). It should thus be kept in mind that these labels are notional and do not imply any more predictability than that given in the table. The VEG class, for instance, contains only 41% of all edible plants (Waddy 1988: 168), such as *mvnhvnga* ‘VEG.burrawang’, and *mvrungkurra* ‘VEG.round yam’. The word ‘vegetable food’ itself, *anhvnga*, is NEUT class, which also contains many other (introduced) edible non-flesh food items. Thus, whereas most languages of Arnhem Land and the North Kimberleys have one class referring exclusively (or almost exclusively) to edible non-flesh food,

the prefix of which is *ma-*, *mi-* or *m-* (Dixon 1980: 273), Enindhilyakwa does not seem to have any clear semantic ‘vegetable’ class, at least not synchronically. This is also true of the neighbouring Gunwinyguan languages: while for example Ngalakgan otherwise has a fairly clear underlying semantic basis for class allocation, the VEG and NEUT classes have to be lexically specified (Baker 2002). In Wubuy (Heath 1984) and Ngandi (Heath 1978a) noun class allocation is generally semantically opaque (although with some visible patterns) and the noun class has to be learned as part of the lexical entry.

The Wubuy, Ngandi and Ngalakgan noun class prefixes behave differently from those in Enindhilyakwa, in that they are absent under certain circumstances. Baker (2008b) proposes that in Wubuy and Ngalakgan, a zero-marked noun has a number of uses: it can mark focus and contrast, and it is also the form of nouns used predicatively and in citation. Baker argues that in these two languages noun class prefixes function as articles. This is very different from Enindhilyakwa, where the noun class markers have no such flexibility. This gives interesting correspondences for Enindhilyakwa and Wubuy nouns, some of which are listed below (the Wubuy data come from Heath 1982, 1984; the Enindhilyakwa lexicalised prefixes are indicated by a ‘+’ sign here, for clarity):¹⁹

(26)	<u>Enindhilyakwa</u>		<u>Wubuy</u>	
	<i>a+yarrka</i>	‘NEUT+hand’	<i>a-yarrka</i>	‘NEUT-hand’
	<i>yi+nvkarrka</i>	‘MASC+hawk sp.’	<i>yii-nikarrka</i>	‘MASC-hawk sp.’
	<i>dhv+makbvlha</i>	‘FEM+pelican’	<i>yii-maabulhu</i>	‘FEM-pelican’
	<i>ma+mvngba</i>	‘VEG+hair’	<i>ama-muong</i>	‘VEG-hair’

These correspondences support the claim that the Enindhilyakwa class prefixes are frozen to the root, for the Wubuy cognates have flexible prefixes (many more examples can be found in Appendix P, which lists all Enindhilyakwa and Wubuy correspondences that this study has uncovered). However, this is far from the complete story, because sometimes the noun classes do not match in the two languages, such as: Enindhilyakwa *yi+lharda* ‘MASC+mudwhelk’ vs. Wubuy *waa-lhaardu* ‘COLL-mudwhelk’, and Enindhilyakwa *dhv+lhvngena* ‘FEM+salt’ vs. Wubuy *yii-lhanganik* ‘MASC-salt’. And in other cases the Wubuy nouns appear to have an additional class marker. Some examples are: Enindhilyakwa *mulkwa* ‘VEG.stomach’ vs. Wubuy *ama-murlku* ‘VEG-stomach’; and Enindhilyakwa *yambiya* ‘MASC.throat’ vs. Wubuy *yii-yambiya* ‘MASC-throat’. It is far beyond the scope of this thesis to go into these mismatching noun classes. One explanation for the latter correspondences is that Enindhilyakwa noun classification is partly phonological,

¹⁹ The situation in Wubuy actually is more complex than portrayed here, because non-human nouns can take two different noun class prefixes: ‘continuous’ and ‘punctual’, which are used in different contexts (Heath 1984: Chapter 4). The Wubuy prefixes listed here are only the ‘punctual’ ones, as these most resemble the Enindhilyakwa prefixes. The punctual MASC and FEM prefixes are both *yii-*. See Appendix P.

based on the initial segment of the noun root. This is supported by the classification of some Macassan loans into both languages. The Macassan word *timoro?* ‘east wind’, for example, maps onto *dhvmbvrra* in Enindhilyakwa, and *dhimburra* in Wubuy. In Enindhilyakwa it is FEM, presumably on the basis of its phonology, while in Wubuy it is assigned to NEUT class.

Foley (1991) argues for a similar classification for Yimas (Papuan) nouns, which is partly on a conceptual basis and partly on a phonological basis. Any noun not assigned to a noun class on conceptual grounds will have its noun class assigned on the basis of its phonology (see also Aronoff 1993). If this were also the case for Enindhilyakwa, the phonological assignment of certain nouns could explain the great semantic diversity of nouns in each noun class. The matching and mismatching noun class prefixes in Enindhilyakwa and Wubuy thus open up an interesting avenue for further research into noun class assignment.

3.4.2 Trial number [(-5)]

The prefix *bvk-* follows the pronominal/gender/noun class prefix and creates trial number for humans and non-humans alike.²⁰

- (27) a. *ngarrv-bvkv-dhv-dhiyara*
 12a-tri-RDP-girl
 ‘we three girls’ (=[1c])
- b. *dhv-bvk-arvmv-rvma*
 fem-tri-RDP-big
 ‘three big [FEM.Rock-wallabies]’ (VL1 p.226)
- c. *yi-bvk-ingma*
 MASC-tri-putrid
 ‘three putrid [*yukurna* ‘MASC.Baler Shell’]’ (VL1 p.226)

Leeding suggests that the trial number morpheme used to be paucal (1989: 225). This is confirmed by the following data, where *bvk-* on the verb is used to refer to four people.

- (28) *Wurr-abiyarbuwa wurrv-dharrvngka na-bvkv-lhvke-na mvrungwenu-wa mijiyelya-manja*
 3a-four 3a-woman 3a-tri-go-P2 VEG.jungle-ALL VEG.beach-LOC
na-bvkv-abvrangka-ma mungunu-wa.
 3a-tri-look.for.P2-*ma* VEG.morinda.roots-ALL
 ‘Four women went to the jungle at the beach and they looked for roots from the morinda tree.’ (GED p.184)

In modern Enindhilyakwa, trial number is only used when the speaker is being very specific; otherwise the plural is used (Leeding 1989: 225).

²⁰ Stokes (1982: 36) notes that the trial prefix applies to humans only, but Leeding’s data suggest otherwise. However, this could also be a dialectal difference between the Angurugu and Umbakumba communities.

3.4.3 Quantifier [(-4)]

Demonstratives have an additional dual/trial number prefix *alh(ak)-*, which can refer to humans, non-human animates and inanimates (Leeding 1989). This morpheme occurs in a separate slot because it follows trial number in slot [(-5)]. When used without the latter, *alh(ak)-* denotes dual number (29a,b), but with the trial prefix it ‘agrees’ with the preceding number prefix (29c).

- (29) a. *dh-alhak-bvkaya*
 FEM-du-this.coming
 ‘these two(FEM) approaching’ (VL1 p.353)
- b. *kvrnvng-alh-angakba*
 2fdu-du-that.over.there
 ‘you two females over there’ (VL1 p.354)
- c. *yirrv-bvk-alhak-ibina*
 13a-tri-du-that.unseen
 ‘us three invisible’ (VL1 p.354)

The morphemes *wurra-* and *mvrnda-* ‘many’ are one of the means of expressing plurality for non-humans, but they can also be used for humans. This quantifying prefix is also assumed to occupy this slot, because it follows the trial number *bvk-* in verbs (Leeding 1989: 226). The prefix can occur with any nominal, but it is most common on demonstratives.

- (30) a. *mu-wurra-jirra*
 VEG-many-long
 ‘many lined-up [yams(VEG)]’ (VL1 p.227)
- b. *akwa ni-beka-ju-wa akungwa a-mvrndak-akina jiba.*
 and 3m/NEUT-drink-CAUS-P2 NEUT.water NEUT-many-that sheep(NEUT)
 ‘and he gave the many sheep water to drink’ (Angurugu Linguistics)

Reduplication of the prefix indicates a very large number:

- (31) *a-wurru-wurrakv-dhvrrbvra*
 NEUT-RDP-many-straight
 ‘many straight [NEUT.sticks]’ (VL1 p.227)

The quantifier prefix *mvrnda-* has a cognate in Bininj Gun-Wok: *mirnde-* (Evans 2003a).

3.4.4 Inner gender [(-3)]

The two gender prefixes that occur in this slot are feminine *adh-* and masculine *en-*. I refer to them as the ‘inner’ gender prefixes because they follow the outermost gender prefixes in Table 3.3. The inner prefixes are morphologically very similar to the ‘outer’ human feminine and masculine prefixes *dh-* and *n-*, respectively. The inner gender prefixes co-occur with the three derivational prefixes: inalienable possession (INALP) *m-*, alienable possession (ALP) *ng(w)-* and nominaliser (NSR) *k-*, but then only when the derived nominal refers to a human, or to a non-human belonging to one of the three ‘animate’ classes. In other words, the value of the inner gender prefix is

determined by the outer prefix. The inner gender agrees with the biological sex of the referent, as in (32). With respect to the animate noun classes, the MASC and COLL classes take masculine gender *en-*, while the FEM class takes feminine gender *adh-*, as can be seen in (33).^{21,22} By contrast, the two ‘inanimate’ classes do not take a gender prefix, as illustrated in (34).

(32) a. *yirrvng-adhv-m-alhvka-kiya*
 1fdu-f-INALP-foot-du
 ‘feet of us two females’ (VL1 p.170)

b. *n-env-ki-yengbi-yengba*
 3m-m-NSR-RDP-speak
 ‘loquacious man’ (VL1 p.179)

(33) a. *yi-nv-m+adhangkwa*
 MASC-m-INALP+flesh
 ‘flesh of MASC class animal’ (e.g. *yimendha* ‘MASC.turtle’)

b. *warnv-m+adhangkwa*
 COLL.m-INALP-flesh
 ‘flesh of COLL class animal’ (e.g. *wurrendhindha* ‘COLL.rat’)

c. *dh-adhv-m+adhangkwa*
 FEM-f-INALP-flesh
 ‘flesh of FEM class animal’ (e.g. *dhvngarrbiya* ‘FEM.crocodile’)

(34) a. *a-m+adhangkwa*
 NEUT-INALP+flesh
 ‘flesh of NEUT class animal’ (e.g. *akwalya* ‘NEUT.fish’)

b. *ma-m+adhangkwa*
 VEG-INALP+flesh
 ‘flesh of VEG class animal’ (e.g. *mangma* ‘VEG.crab’)

The masculine inner gender prefix is used to refer to groups of people consisting of both men and women (35a), or to a man and a woman (35b).

(35) a. *warnu-m+amalya*
 3a.m-INALP+body.fat
 ‘Aboriginal race, people, relations, friends’ (JW1 p.41; VL1 p.169)

b. *wun-env-ki-yakaja*
 3mdu-m-NSR-stay.together
 ‘married couple’ (VL1 p.179)

²¹ Leeding (1989) labels the gender prefixes *adh-* ‘human.feminine’ and *en-* ‘non-human.feminine’. Stokes/Waddy do not recognise the existence of separate gender morphemes that accompany the derivational prefixes, but assume the latter prefixes to be non-segmentable (i.e. INALP *adhvm-*, ALP *adhvng-*, and so on).

²² Thus, strictly speaking, these are not ‘gender’ prefixes as defined above, because they also classify non-humans as masculine or feminine though not according to biological sex. However, they do approximate the gender system as defined here, because their main usage is with humans according to biological sex, so it is likely that they originated from a gender system (see Sands 1995: 276-7).

The INALP and NSR prefixes take an inner gender prefix when the derived nominal belongs to one of the animate classes, as in (35a) and (35b), respectively. The ALP prefix *ng(w)-* is different, because this always takes an inner gender prefix, regardless of the referent of the derived noun:

- (36) a. *envng-akungu-ma*
 NEUT.m.ALP-water-PRIV
 ‘waterless [place]’ (VL1 p.193)
- b. *m-envng-angwinyamba malhamukwa*
 VEG-m.ALP-anger VEG.canoe
 ‘war canoe’ (VL2 p.221)

I propose that the sequence [gender+ALP] is lexicalised and synchronically inseparable. For nominals derived with the NSR prefix, speakers seem to have some freedom to play around with the inner gender prefixes and the concept of animacy. Some nominals belonging to the animate classes do not take an inner gender prefix, or it may be optional, as in (37).

- (37) a. *dha-ki-lyingajanga*
 FEM-NSR-pop.out
 ‘star’ (VL1 p.173)
- b. *dh-(adhv-)ku-warrku-warrka*
 FEM-f-NSR-RDP-weave
 ‘spider’ (VL1 p.172)
- c. *n-(env-)kv-ribv-ribvka*
 3m-m-NSR-RDP-eat.raw.fish
 ‘Macassan male’ (VL1 p.173)

The ‘star’ in (37a), although belonging to an animate noun class, may not be considered animate enough to deserve a gender prefix. ‘Spider’ in (37b) may be considered animate by some speakers, but not by others. And interestingly, a Macassan male (37c) is apparently not considered by all speakers to be animate/human.

To summarise, nominals derived with the INALP or NSR prefix take an inner gender prefix when referring to a human, or when belonging to one of the animate noun classes.²³ The value of the inner gender prefix is determined by the noun class of the derived noun: FEM nominals take feminine inner gender, and MASC and COLL class nominals take masculine inner gender. Derived nouns belonging to the inanimate noun classes do not take an inner gender prefix. The ALP

²³ Leeding (1989) proposes that *all* derivational prefixes are always preceded by a gender prefix. She claims that the absence of a gender morpheme is due to haplology, but the scope of what elides is much extended (p.172). One of the reasons she proposes a deletion of the gender morpheme rather than an absence is that the full form varies with the shortened form in a few words, as in (37b,c). Furthermore, she labels the *adh-* prefix ‘human feminine’ and *en-* ‘non-human feminine’, and claims that they distinguish human females from animates and inanimates that are classified as feminine but are not human (p.169). However, this is inaccurate, because the *adh-* gender prefix also occurs with FEM nominals referring to non-humans and inanimates, such as *dh-adhv-m+adhangkwa* ‘flesh from FEM class animal’ in (33c) and *dh-adhv-ku-warrku-warrka* ‘spider’ in (37b) above. Thus, the term ‘human feminine’ is oddly chosen.

derivational prefix is different because the combinations with the two gender prefixes are frozen and synchronically unsegmentable.

3.4.5 Derivational prefixes [(-2)]

This section discusses two derivational prefixes in Enindhilyakwa that encode different types of possession: inalienable possession (INALP) *m-* (section 3.4.5.1) and alienable possession (ALP) *ng(w)-* (section 3.4.5.3). They convert a root into a derived nominal of a specific target noun class, which agrees with that of an external nominal. The INALP prefix attaches to a body part noun or other ‘part’ noun to express parts of inanimate objects, plants, some animals, and also parts of human body parts - but not of humans. Body part nouns marked for INALP have often shifted their meaning to refer to something linked to or resembling the body part (e.g. foot > tracks, mouth > hole, or nose > hook). Body parts of humans are expressed by two independent words: a nominal with POSS case denoting the possessor, and a body part noun denoting the possessum (section 3.4.5.2). The third possession construction, alienable possession, entails a sense of ‘belonging to’ or ‘associated with’.

All three constructions may involve body parts, as illustrated in (38) with *alhvka* ‘NEUT.foot’.

- (38) a. *env-lhangwa alhvka*
 3m.PRO-POSS NEUT.foot
 ‘his foot/feet’
- b. *n-env-m-alhvka*
 3m-m-INALP-NEUT.foot
 ‘his tracks’ (JW1 p.40)
- c. *envng-alhvka*
 NEUT.m.AL-NEUT.foot
 ‘shoe’ (JW1 p.42)

These possession constructions are all very productive, as we will see in the following sections.

3.4.5.1 Inalienable possession *m-*

Inalienable possession can be defined as “an indissoluble connection between two entities - a permanent and inherent association between the possessor and the possessed” (Chappell & McGregor 1996: 4). In Enindhilyakwa, nominals derived with the INALP prefix refer to parts of inanimate objects, plants, (to a lesser extent) animals, and to components of body parts (Leeding 1996). The ‘part’ is marked for INALP and agrees in noun class with the ‘whole’. The INALP prefix is preceded by an inner gender prefix for humans and the animate classes (39), but not the inanimate classes (40). The INALP prefix derives a nominal from a simple noun that maintains its inherent noun class prefix, as this is frozen to the stem. This may result in double class marking

(p.215) and *mwa-mwi-walhwirra mwa-mwarra* (p.212).²⁵ It is possible that the MASC prefix *y-* is present here, and that it is to be found in the *i* vowel that precedes the noun roots. In other words, these examples could be conceived as *a-mw-ikwithikwitha* and *mwa-mw-iwalhwirra*, with the bolded *i* vowel representing the MASC prefix. The only instances of a noun losing its class marker when marked with an INALP prefix, involve MASC nouns ([53b] below is another example). Further research will have to determine the specifics of this; for now I do not consider these cases as counterevidence to the claim that nouns marked for INALP maintain their class prefix.

The nominal root in the INALP construction is frequently a body part noun. However, this noun has undergone a change in meaning: it no longer refers to a body part, but to an item that resembles the body part, such as ‘nose’ and ‘hook’ in (39a) above, and the following.

- (41) a. *nvng-env-m-alhvka*
 1-m-INALP-NEUT.foot
 ‘my footprints, my tracks’ (JW1 p.40-1, VL2 p.226)
- b. *ma-m-alhvka*
 VEG-INALP-NEUT.foot
 ‘tire, wheel, wheel track, tracks of VEG class animal’ (WD)
- (42) a. *e-m-edhvrra* *akungwa*
 NEUT-INALP-NEUT.mouth NEUT.fresh.water
 ‘water hole’ (VL2 p.212)
- b. *e-m-edhvrra* *emindha*
 NEUT-INALP-NEUT.mouth NEUT.nose
 ‘nose hole’ (GED p.201)
- (43) a. *ma-m-alhakba*
 VEG-INALP-NEUT.leg
 ‘tail of shark’ (*mangiyuwanga* ‘VEG.shark’) (GED)
- b. *ma-m-alhakba-manja* *dingki*
 VEG-INALP-NEUT.leg-LOC dinghy(VEG)
 ‘in the back of the dinghy’ (GED p.216)
- c. *dh-adhv-m-alhakba*
 FEM-f-INALP-NEUT.leg
 ‘skirt of dress(FEM)’ (WD)

The derived nominals in these examples denote items that are inherently linked to the body part noun marked for INALP, either as an indissoluble connection (such as ‘foot’ and ‘track’ in [41a]), or by resemblance, which can be literal (‘mouth’ and ‘hole’ in [42]), or metaphorical (‘leg’ and ‘back or bottom of something’ in [43]). Table 3.5 lists the extended meanings of the body parts found in the INALP construction, based on Leeding (1996: 205), using my orthography and glosses.

²⁵ According to Leeding (1989, 1996) the INALP prefix is *mwi-*. She separates noun class prefixes from the stem with a hyphen.

Body part noun	Extended meaning in INALP construction	Example (from Leeding 1996 unless indicated otherwise)
<i>arvngka</i> ‘NEUT.head’	top of something	<i>dh-adhv-m-arvngka dvrija</i> ‘dress bodice’
<i>eminda</i> ‘NEUT.nose’	hook, bowl	<i>yi-nv-m-eminda yikarba</i> ‘woomera hook’
<i>edhvrra</i> ‘NEUT.mouth’	hole, well, birthplace	<i>e-m-edhvrra akungwa</i> ‘water hole’
<i>akarrnga</i> ‘NEUT.teeth’	spikes	<i>ma-m-akarrnga mangkurrkwa</i> ‘pandanus spikes’
<i>ayarrka</i> ‘NEUT.hand, lower arm’	handle, fin, gift	<i>ma-m-ayarrka mukayuwa</i> ‘handle of dilly bag’ (‘Merra’ n30)
<i>mulkwa</i> ‘VEG.stomach’	inside of something	<i>ma-ma-mulkwa</i> ‘tire tube’
<i>alhakba</i> ‘NEUT.leg’	tail of fish, back end or bottom of something	<i>ma-m-alhakba</i> ‘tail of shark’
<i>alhvka</i> ‘NEUT.foot’	track, tire	<i>nvng-env-m-alhvka</i> ‘my tracks’
<i>angurnda</i> ‘NEUT.ankle’	knot, scar, lump	<i>ma-m-angurnda merra</i> ‘knot in rope’
<i>ayama</i> ‘NEUT.body hair’	body hair	<i>ma-m-ayama menba</i> ‘eyebrow’
<i>yuwalkurra</i> ‘MASC.knee cap’	bark	<i>ma-mu-walkurra mamarra</i> ‘bark of mamarra (‘small-leaved paperbark’)
<i>engengbilya</i> ‘NEUT.armpit’	concave shape	<i>a-m-ingengbilya alhvka</i> ‘arch of foot’
<i>yukudhukudha</i> ‘MASC.chest’	convex shape	<i>a-mu-kudhukudha alhvka</i> ‘ball of foot’
<i>alyelyikba</i> ‘NEUT.lips’	thin lining	<i>ma-m-alyelyikba</i> ‘eyelid’ (GED)
<i>engengkuwa</i> ‘NEUT.life, pulse, breathing’	sensory side of limbs or body	<i>a-m-ingengkuwa ayarrka</i> ‘palm of hand’ <i>a-m-ingengkuwa alhvka</i> ‘sole of foot’ (WD)
<i>adhvdhvra</i> ‘bone’	shell, nut, hard part	<i>a-m-adhvdhvra anhvnga</i> ‘edible nuts’
+ <i>kurra</i> ‘face’	point of something	<i>ma-mu+kurra mamvlherrbirra</i> ‘point of hooked spear’ (JS2 p.128)
+ <i>akulya</i> ‘skin’	bark, cover	<i>ma-m+akulya mulkwa</i> ‘inside lining of stomach’
+ <i>amalya</i> ‘body fat’	soft part, ‘real, true’ things, people	<i>a-m+amalya alhvka</i> ‘sole of foot’ <i>a-m+amalya ayakwa</i> ‘true words’ <i>warnu-m+amalya</i> ‘people, Aborigines’
+ <i>jingula</i> ‘feathers’	wool	<i>dh-adhv-mv+jingula jiwada</i> ‘wool plucked from sweater’
+ <i>ebinga</i> ‘torso’	bundle, pile	<i>me-m+ebinga merra</i> ‘bundles of rope’ (Ansec1)
+ <i>adhangkwa</i> ‘flesh’	meat	<i>a-m+adhangkwa</i> ‘meat of NEUT class animal’

Table 3.5: Extended meanings of body part nouns marked for inalienable possession

The last six examples in this table are ‘defective’ noun roots, which always require an INALP prefix. In addition to those in the table, Leeding (1996: 201) lists the following: +*ikirra* ‘name’,

+*awurrvna* ‘spirit’, and +*awarruwalya* ‘shadow’.²⁶ These apparently have not undergone a meaning shift. Defective body part noun roots marked for INALP can belong to a human:

- (44) a. *ebina* *amalyirra narri-ngamba-ju-wa-ma* *abvrra-lhangwa arvngka*
 NEUT.that.same NEUT.juice 3a/NEUT-bathe-CAUS-P2-*ma* 3a.PRO-POSS NEUT.head
akwa warnu-m+adhangkwa
 and 3a.m-INALP+flesh
 ‘they poured the [hot] liquid over their head and their body’ (GED p.9)
- b. *akv-ngekburaka-jungu-na-ma ngarnv-m+awarruwalya*
 IRR.12a-make-REFL-NP2-*ma* 12a.m-INALP+shadow
ak-angbilyuwa-dhv-na=maka
 IRR.12a-NEUT.sickness-INCH-NP2=EVIT
 ‘we should be careful of our shadows lest we might get sick’ (GED p.142)
- c. *n-env-m+ikirra*
 3m-m-INALP+name
 ‘his name’ (VL2 p.208, ex.5)
- d. *dh-adhv-m+ebinga*
 FEM-f-INALP+body
 ‘her body, body of FEM class animal (e.g. *dhvngarrbiya* ‘FEM.crocodile’)’ (JS2 p.134)

The defective roots are the only body part nouns that have retained a body part meaning in the INALP construction, and that can refer to a body part belonging to a human. All other body part nouns have shifted their meaning in the INALP construction, and now refer to something resembling the body part.

Body part nouns in Wubuy, as described by Heath (1984; see also Horrack 2010), behave similarly: they take a derivational prefix that enables them to match the noun class of an independent noun. As in Enindhilyakwa, the derived noun refers to parts of inanimate objects, plants and (to a lesser extent) animals, but not of humans. But in Wubuy also, there is a set of body part noun roots that *can* refer to parts of humans when marked with a derivational prefix. This is a similar set as the one in Enindhilyakwa, including the nouns *wubulu* ~ *kubulu* ‘body, torso’, *ngakara* ‘bone(s)’, *muwaj* ‘name’ and *mawurr* ‘spirit’, among others (1984: 173-4). Apart from ‘spirit’ (Enindhilyakwa: +*awurrvna*), the forms are not cognate in the two languages though.

The body parts *awarruwalya* ‘NEUT.shadow’ and *adhvdhvra* ‘NEUT.bone’ occupy an intermediate position in Enindhilyakwa: Leeding (1996: 201) lists them as defective noun roots that require an INALP prefix and can refer to a human body part, as illustrated in (45a,b) for *adhvdhvra*. However, they can also occur as independent body part nouns that belong to a human,

²⁶ Some of these roots are not really defective, because they can occur as independent nouns. When an Enindhilyakwa speaker is asked for the words for ‘name’ or ‘bone’, he or she will say *ekirra* and *adhvdhvra*, respectively. Furthermore, *ebinga* is also an independent noun meaning ‘ant hill’. Nevertheless, these words require an INALP prefix when the whole is a human being or animal.

as in (45c).²⁷ When marked for INALP, *adhvdhvra* has undergone a change in meaning and denotes the hard part of an inanimate item, as in (45d).

- (45) a. *adhvnbawiya narra-ma-ngv-ma warnv-m+adhvdhvra*
 first 3a/COLL-take-P2-ma COLL.m-INALP+bone
 ‘first they took the baby’s bones’ (GED p.203)
- b. *ngarnv-m+adhvdhvra*
 12a.m-INALP+NEUT.bone
 ‘our skeletons’ (GED p.160)
- c. *adhvdhvra abvrra-lhangwa narr-ararvka-ma*
 NEUT.bone 3a.PRO-POSS 3a/NEUT-tie.P2-ma
 ‘people tied their [broken] bones’ (GED p.14)
- d. *yukudhukudha yi-nv-m-adhvdhvra*
 MASC.chest MASC-m-INALP-NEUT.bone
 ‘chest bone’ (GED p.160)

I will assume that the last example, where the body part marked for INALP denotes a part of an inanimate item, is a productive instance of the INALP construction. By contrast, the examples in (45a,b), where the body part noun marked for INALP belongs to a human, are lexicalised instances of this construction; the regular way to express a human body part is with POSS case, as in (45c).

Some (older) speakers accept body parts other than the defective roots in the INALP construction while maintaining their body part meaning, as in (32a) above, and the following:

- (46) a. *nvng-env-m-arvngka*
 1-m-INALP-NEUT.head
 ‘my head’ (anin1_em_au_001)
- b. *nvng-env-m-alhakba*
 1-m-INALP-NEUT.leg
 ‘my leg’ (VL2 p.225)

However, speakers say that this is “how the old people used to say it”, and that it is no longer used today (see also Leeding 1996: 225).²⁸ Body parts marked for INALP possession now have a different function, which is to describe parts of inanimate items, where the body part resembles this part, or is inherently related to it (cf. *nvng-env-m-alhvka* ‘my tracks’ in [41a]).

Apart from the defective roots that have a variable noun class prefix to match that of the possessor, there seem to be some defective roots with an INALP prefix and a fixed noun class. The noun roots are sometimes recognisable, and sometimes not. The following examples come from GED.

²⁷ An example of ‘shadow’ is *awarruwalya ngalha-lhangwa* ‘her shadow’ (Akarrikarra 1990, vol.10). See also Leeding 1989: 187).

²⁸ Leeding (1996: 225) suggests that the external but not the internal body parts may have been traditionally marked for INALP. However, there are defective roots that denote internal body parts, such as *+adhvdhvra* ‘bone’ and *+amalya* ‘body fat’, which contradict this claim.

- (47) a. *a+mv+lhvrrngwa*
 NEUT+INALP+heel
 ‘NEUT.heel’
 b. *a+mv+ngina*
 NEUT+INALP-joint
 ‘NEUT.wrist, knuckle’
 c. *ma+mv+radhvna*
 VEG+INALP+?
 ‘VEG.base of skull at top of neck’ (cf. *-radhv-na* ‘hit head in mourning-NP2’)

These examples are lexicalised because the noun roots are not attested as free forms, the prefixes cannot be separated from the stem, and their noun class is not based on the noun class of an associated referent. These nouns are interesting because the roots *lhvrrngwa* and *ngina*, although not attested as free forms synchronically, occur as *incorporated* nominals (on which I base their gloss in [47]). Incorporated nominals are very often suppletive, and in Chapter 7 I argue that they may represent archaic free nominals. This hypothesis is supported by the examples in (47), where these archaic nominals take an INALP prefix - just like nominals do today.

The INALP construction is very productive. It is used to coin terms for introduced items:

- (48) a. *a-mv-dhvngvra*
 NEUT-INALP-FEM.white.clay
 ‘flour’ (WD)
 b. *a-mi-jurra* *angwarnda*²⁹
 NEUT-INALP-paper NEUT.stone
 ‘paper money’ (WD)
 c. *a-ma-bulkwa* *engeemina*
 NEUT-INALP-cattle NEUT.breast.milk
 ‘cows milk’ (GED p.67)
 d. *a-mi-lyelyinga*
 NEUT-INALP-knife
 ‘metal’ (GED p.47)
 e. *a-m-amamuwa* *jinaba*
 NEUT-INALP-round gun(NEUT)
 ‘bullet’ (JS2 p.132)
 f. *ngayuwa nvng-andhiya-ma nganyangwa dhv-mamawura*
 1.PRO 1-look.for.NP2-*ma* 1.PRO.POSS FEM-VEG.sun
 ‘I am looking for my watch’ (anin4_dl_au_003)

As we saw in section 3.4.1.1, the nouns *jurra* ‘paper, book, plastic(NEUT)’, *lyelyinga* ‘knife(NEUT)’ and *jinaba* ‘gun(NEUT)’ are Macassan loans, which do not take an overt noun class marker. The inherited nouns in the other examples retain their class marker. The lack of the INALP prefix in (48f) could be due to haplology (see Leeding 1989): i.e. *dhv-ma-mamawura* [FEM-INALP-VEG.sun]

²⁹ The noun *angwarnda* traditionally meant ‘stone’, but this meaning was extended to refer to coins as well. In this example, the meaning of ‘coin’ is further extended to refer to money in general.

> *dhv-mamawura*. It is taken as an instance of the INALP construction here because of its semantics: the derived noun ‘watch’ is inherently related to the embedded noun ‘sun’.

The newly coined examples in (48) are also interesting in another respect: they differ from the INALP examples listed earlier. First of all, they do not involve a body part noun. Secondly, whereas in the earlier examples the body part marked for INALP represented the part/subset, and the external noun the whole/superset (e.g. [INALP-foot truck] ‘truck wheel’), this is the reverse for the non-body parts in (48). Here, the external nominal represents the subset, while the noun marked for INALP denotes the superset (e.g. [INALP-cattle milk] ‘cow’s milk’). These different patterns suggest a fundamental divide between body part nouns and non-body part nouns in Enindhilyakwa: the former are conceived as inherent parts of something, which is not the case for the latter.

3.4.5.2 Possession of body parts

Possession of a body part for humans and some animals is expressed by an independent nominal with POSS case denoting the possessor, plus an independent noun denoting the possessed body part. The body part noun has its own lexically specified noun class and there is no noun class harmony between the whole/possessor and the part/possessum. The body part noun is the head of the noun phrase and is encoded on the verb as one of its arguments:

- (49) a. *nganyangwa arvngka nuw-arrkujeeyi-na-ma*
 1.PRO.POSS NEUT.head NEUT-be.painful-NP2-*ma*
 ‘my head hurts’ (anin1_em_au_001)
- b. *Ak-akuma-manja ngakurra-lhangwa ayarrka env-lhangwa-manja*
 IRR.12a/NEUT-put.NP1-LOC 12a.PRO-POSS NEUT.hand NEUT.this-POSS-LOC
*edhvrra, kembirra aken-angi-ya-ma kvnv-ngkarrngv-na-ma ayarrka.*³⁰
 NEUT.mouth then IRR.MASC/12a-bite-NP1-*ma* IRR.MASC/NEUT-cut-NP2-*ma* NEUT.hand
 ‘If we put our hands in their [*yulkwa* ‘MASC.toadfish’] mouths they will bite our fingers off.’ (GED p.115)

An alternative way to express the part-whole relation for humans is to treat the whole/possessor as the main argument of the verb, and to put the part/possessum in direct (unmarked) case, as in (50).

- (50) *nvng-arrkujeeyi-na arvngka*
 1-be.painful-NP2 NEUT.head
 ‘my head hurts’ (Ansec1)

This construction is called ‘possessor raising’ or ‘external possession’ in the literature (see e.g. Payne & Barshi 1999), which poses a well-known syntactic problem because it appears to add an argument to the argument frame of the verb: in (50), both ‘I’ and ‘head’ are represented as

³⁰ Note that there is no agreement between the demonstrative *ena* ‘this(NEUT)’ and the noun *yulkwa* ‘MASC.toad fish’ in this example. This is unusual, as demonstratives normally agree with the head noun. The only explanation I can offer for this is sloppiness or a typographical error.

b. *n-envng-angkawura*
 3m-m.ALP-forever
 ‘he is gone for good’ (Lit: ‘he belongs to forever’) (JS2 p.85)

c. *envng-adhuwaba*
 NEUT.m.ALP-today
 ‘belonging to today, modern’ (JW1 p.42)

(55) a. *envng-arvmrvma ayakwa*
 NEUT.m.ALP-elders NEUT.word
 ‘law, commandments, covenant’ (WD)

b. *enungw-eniyerringka angalya*
 NEUT.m.ALP-aged NEUT.camp
 ‘the old men’s camp’ (JW2 p.70)

c. *warnvng-engka-lhangwa warnvmamalya*
 3a.m.ALP-other-ABL 3a.people
 ‘strangers’ (GED p.203)

In the alienable possession construction, the independent noun belongs to, comes from, or is associated with the nominal marked for ALP. The class prefix on the derived nominal matches that of the independent noun. Thus, *envng-erriberriba anhvnga* ‘bush tucker’ in (53a) literally means ‘something of NEUT class, vegetable food, belonging to the bush’.

The semantic difference between the INALP and ALP construction in Enindhilyakwa is overlapping reference: while in the INALP construction one item is a part of the other, the ALP construction does not tend to have such overlap. Rather, it denotes that the external noun “has something to do with” the nominal marked for ALP. This difference is especially clear when the same noun occurs in both constructions, such as the following.

(56) a. *envngv-menba*
 NEUT.m-ALP-VEG.eye
 ‘glasses, spectacles’ (WD)

b. *ma-m-ayama menba*
 VEG-INALP-NEUT.body.hair VEG.eye
 ‘eyebrow’ (VL2 p.215)

(57) a. *n-enungw-akarrnga-manja*
 3m-m.ALP-NEUT.tooth-LOC
 ‘male dentist’ (VL2 p.220)

b. *ma-m-akarrnga mangkurrkba*
 VEG-INALP-NEUT.tooth VEG.pandanus
 ‘pandanus spikes’ (VL2 p.212)

The ALP constructions in the (a) examples denote an item that is associated with the body marked for ALP, but it is not an inherent part of it: the two can be separated and the body part is not a part of an external whole (which here is only represented by a prefix). The body parts marked for INALP in the (b) examples, by contrast, are an indissoluble part of the external noun. They are not separable and the body part denotes a part of an external noun that denotes the whole.

Like the INALP construction, the ALP construction is very productive. It is used to coin new words for introduced items, such as ‘glasses’ in (56a) and ‘dentist’ in (57a), and the following:

- (58) a. *N-envngv-karrawara*
 3m-m.ALP-above
 ‘God’ (Lit: ‘he belonging to above’) (WD)
- b. *n-envngi-jebija*
 3m-m.ALP-church
 ‘minister, priest’ (WD)
- c. *envng-arrvrra*
 NEUT.m.ALP-NEUT.wind
 ‘tire pump, fan’ (WD)

Adverbs marked with ALP often function as modifiers, agreeing in noun class with a free noun:

- (59) a. *kv-me-na amarda, enungw-erribvrra amarda alhabvra,*
 IRR.1/NEUT-take-NP2 NEUT.leaves NEUT.m.ALP-anyhow NEUT.leaves NEUT.stringy.bark
mangkarrkba, ...
 VEG.wild.plum
 ‘I would take some leaves, any kind of leaves, stringybark, wild plum ...’ (JW2 p.70)
- b. *y-akina arakba kamba kvnv-dhaka-ma yi-nvng-angkawura*
 MASC-that compl.act. then IRR.2/MASC-cook.NP1-*ma* MASC-m.ALP-forever
 ‘then you will cook it thoroughly’ (WD)
- c. *ngarri-yekirrerra ak-ambilya-ma ngarnvng-angkawura*
 12a-happy IRR.12a-stay.NP2-*ma* 12a.m.ALP-forever
 ‘we will be happy all the time’ (JS2 p.84)

In (59b,c), the derived nominal is semantically an adverbial modifier, but formally adjectival, as it agrees with the subject or object of the verb.³⁵

Finally, some ALP constructions have lexicalised to become nouns.³⁶

- (60) a. *dh-adhvngv-mamawuru-manja*
 FEM-f.ALP-VEG.sun-LOC
 ‘brown tree snake’ (Lit: ‘she who is associated with [being] in the sun’) (VL2 p.219)
- b. *envngv-mukumuku-manja*
 NEUT.m.ALP-VEG.deep.sea-LOC
 ‘octopus’ (Lit: ‘he who is associated with [being] in the deep sea’) (VL2 p.219)

3.4.6 Deverbalising nominaliser *k-*

The nominaliser (NSR) prefix *k-* derives nominals from verbs (Leeding 1989; Waddy n.d.-a). This prefix takes an inner gender prefix for humans and the animate noun classes, but not for the inanimate noun classes. A nominalised verb stem is often reduplicated and does not include

³⁵ An alternative analysis is to view adverbial modifier as a secondary predicate, which would bring the semantics in line with the morphosyntax (Jean-Christophe Verstraete, p.c.). This is an interesting topic for further research.

³⁶ Leeding (1989: 311) claims that these examples instantiate a derivational usage of the locative case, which creates a new noun lexeme. However, in Chapter 8 I show that LOC case can only be used for inflection, not derivation. In (60), the referential noun is created by the ALP prefix, not by the LOC case suffix.

tense/aspect suffixes. A nominalised verb can function as a common noun and as a non-finite verb. If the non-finite verb is transitive, the prefix on the nominalised verb can represent either the subject or the object. Non-finite clauses are unusual among polysynthetic languages such as those in Northern Australia.³⁷

- (61) a. *a-ki-yengba*
 NEUT-NSR-speak
 ‘speech, speaking, talking’ (WD)
- b. *dh-adhv-ki-yengbi-yengba*
 3f-f-NSR-RDP-speak
 ‘loquacious woman’ (VL1 p.179)
- (62) *Dh-aka dha-ki-lyangki-lyangku-wama dh-ibina*
 FEM-this FEM-NSR-RDP-head-nod FEM-that.same
yingi-lyangki-lyangku-wama-ji-na-ma arvngka.
 FEM/NEUT-RDP-head-nod-CAUS-NP2-*ma* NEUT.head
 ‘The name *dhakilyangkilyangkuwama* [‘FEM.click beetle’] means “the one who nods her head”.’ (GED p.94)

The prefix on nominalised verbs represents the noun class of the referent (e.g. nouns referring to speech or language are NEUT class).

A nominalised verb can include one or two verbal derivational suffixes such as factitive, reflexive and inchoative, also without tense/aspect suffixation.

- (63) a. *a-ki-dhidi-ka-jungwa*
 NEUT-NSR-shut-FACT-REFL
 ‘gate, door’ (Lit: ‘the one that shuts itself’) (VL1 p.180, WD)
- b. *dh-adhv-k-abiyarbuwa-dha*
 3f-f-NSR-four-INCH
 ‘fourth female’ (Lit: ‘she who becomes fourth’) (VL1 p.177)

The NSR prefix is very productive, as it is used to coin new words for introduced items:

- (64) a. *a-ku-ngwanji-na-mv-lhangwa*
 NEUT-NSR-stop-NP2-*ma*-ABL
 ‘traffic lights’ (Lit: ‘NEUT class item after which is stopped’) (VL1 p.180)
- b. *warnv-k-abvbvrrakiyuwa*
 3a.m-NSR-closely.follow
 ‘disciples’ (WD)
- c. *a-kv-mvrndv-mvrnda-dha*
 NEUT-NSR-RDP-cold-INCH
 ‘fridge’ (WD)

³⁷ In fact, M. Baker’s (1996) theory of polysynthesis predicts that non-finite clauses are impossible in polysynthetic languages. However, Evans (2003a: 628, fn1) notes that there are polysynthetic languages which have non-finite constructions: Yimas (Foley 1991) in Papua New Guinea, and, closer to home, Warray (Harvey 1986) and Rembarnga (Nordlinger & Saulwick 2002). Evans (2006) discusses non-finite clauses in Dalabon.

d. *dh-adhv-k-abalhv-mungkwa*
 FEM-f-NSR-abdomen-partically.cover
 ‘trousers’

(VL2 p.244)

The example in (64a) appears to be a verb inflected for case that is nominalised. Case suffixes on verbs follow the tense/aspect suffixes and create adverbial subordinate clauses (section 8.11); hence such nominals do include tense/aspect suffixes. I only found one such example in the data. The fact that ‘trousers’ in (64d) is assigned to the FEM noun class may be due to the corresponding English loan *dhvrajija* ‘trousers’, which is also classified as FEM due to its initial phoneme (see section 3.4.1.1).

Being nominals, nominalised verbs can in turn enter into another cycle of derived nominal formation, as illustrated in (65).

- (65) a. *ma-mv-kv-mvrnda-dha*
 VEG-INALP-NSR-cold-INCH
 ‘cold weather’ (Lit: ‘something of VEG class resembling a fridge’) (WD)
- b. *envng-ak-alyvbara-ma*
 NEUT.m.AL-NSR-eat-PRIV
 ‘inedible’ (Lit: ‘something of NEUT class that is not associated with food’) (WD)

The INALP and ALP prefixes thus further derive the unit [NSR-VERB].

The main evidence for the productivity of the NSR prefix comes from the fact that any verb can be nominalised and function as a non-finite verb. A non-finite verb takes nominal prefixes and thus is formally identical to a nominalised verb that functions as a nominal, as demonstrated in (66).

- (66) a. *kvngv-lhvka-ja-ma dh-adhv-k-ajarra*
 IRR.3f-go-NP2-ma 3f-f-NSR-wash
 ‘she is going to wash [it]’ (VL1 p.419)
- b. *dh-adhv-k-ajarra dvrija*
 FEM-f-NSR-wash dress(FEM)
 ‘clean dress’ (VL1 p.419)

A non-finite nominalised verb has a purposive meaning. It frequently takes the PURP clitic =*yadha*:

- (67) *Arakba=wiya nara-wiya wurrv-mangkadhvrri-lhangwa angura, warnvmamalya*
 compl.act=PRG NEG=PRG 3a-white.person-ABL NEUT.fire 3a.people
na-mambv-mam+baji-nv-ma miyanga kajungwa warnv-kv-lhvraki=yadha angura.
 3a-RDP-hands+hit-P2-ma VEG.firesticks so.that 3a.m-NSR-light.fire=PURP NEUT.fire
 ‘A long time ago before white people brought matches and lighters, our people used to rub
 firesticks to light a fire.’ (GED p.198)

The following three examples, involving a nominalised non-finite verb, a finite irrealis verb, and a finite realis verb, respectively, were said to have the same meaning. These examples also show that the PURP clitic on nominalised verbs is not obligatory.

- (68) a. *narrv-ngayindha-ngv-ma warnv-k-alyvbara akwalha a-m+adhangkwa*
 3a/NEUT-want-P2-*ma* 3a.m-NSR-eat NEUT.some NEUT-INALP+meat
- b. *narrv-ngayindha-ngv-ma kuw-alyvbarv-nv-ma akwalha a-m+adhangkwa*
 3a/NEUT-want-P2-*ma* IRR.3a-eat-P2-*ma* NEUT.some NEUT-INALP+meat
- c. *narrv-ngayindha-ngv-ma nuw-alyubarv-nv-ma akwalha a-m+adhangkwa*
 3a/NEUT-want-P2-*ma* 3a-eat-P2-*ma* NEUT.some NEUT-INALP+meat
 ‘they wanted to eat some meat’ (Fieldnotes, DL, 12/2/2008)

Leeding (1989: 419-22) claims that the prefix on a nominalised verb agrees with the intransitive subject or transitive object of the verb in the main clause when this is animate. When the object in the main clause is inanimate, she proposes, agreement is with the subject of the transitive verb. I do not find this a plausible analysis; rather, agreement on the nominalised verb is with the argument that is focussed on. Consider the following two examples, which only differ in which argument is represented on the non-finite verb:

- (69) a. *nen-akbvrranga yaraja yi-nu-kw-alyvbari=yadha*
 3m/MASC-catch.PST MASC.goanna MASC-m-NSR-eat=PURP
 ‘they had caught goanna to eat’ (Fieldnotes, DL, 12/2/2008)
- b. *nen-akbvrranga yaraja warnu-kw-alyubari=yadha wurr-akina*
 3m/MASC-catch.PST MASC.goanna MASC.m-NSR-eat=PURP 3a-that
 ‘they had caught goanna to eat’ (Fieldnotes, DL, 12/2/2008)

The first example literally means: ‘they had caught goanna to be eaten’ (focussing on the object argument), and the second example ‘they had caught goanna for eating’ (focussing on the subject argument).^{38,39}

The PURP clitic in these examples is the only element that occurs on nominalised verbs in the data; there are no attestations of a non-finite verb followed by a case suffix (the ‘traffic lights’ example in [64a] is not a counterexample, because here it is a case-marked verb that is nominalised). This is unusual in Australia, where nominalised verbs typically bear a variety of case markers (Dench & Evans 1988: 19). The PURP clitic is discussed further in Appendix H.

³⁸ Leeding (1989: 194-9) proposes a fourth derivational prefix in Enindhilyakwa, namely the ‘adjectiviser’ (ASR) *ngki- ~ ki-*, which derives adjectives from verbs. The nominaliser is *ngkwi- ~ kwi-* in her analysis and orthography, which only differs from the ASR in the presence of a [w]. However, this analysis is problematic, for several reasons. First of all, the [w] of the NSR often disappears, making it formally identical to the ASR (e.g. *dh-adhi-k-awiyeba* [FEM-f-NSR-enter] ‘clothes’ [p.179] involves the NSR *kwi-* in her analysis, which is realized as *k-*). Secondly, she concedes that some adjectives seem to involve the NSR instead of the ASR prefix, so that “the formal distinction does not always correlate with the semantic distinction” (p.196). Thirdly, some adjectives are split up into phantom morphemes. For example, the adjective *engma* ‘putrid’ is analysed as *a-ng{ki}-mwa{tja}* [NEUT-ASR-smell] (p.195, original orthography), where the final CV of both the ASR and the verb are deleted for no apparent reason. A more simple analysis would be to consider the adjective *engma* to be monomorphemic. Fourthly, there is no theoretical motivation for distinguishing between prefixes that derive adjectives and that derive nouns, as there is no morphological distinction between the two in Enindhilyakwa (as in most Australian languages). I conclude that Enindhilyakwa has three derivational prefixes that derive nominals from various parts of speech: inalienable possession *m-*, alienable possession *ng(w)-* and nominaliser *k- ~ kw-*.

³⁹ All previous authors have recognised that the NSR prefix varies between *k-* and *kw-*, but none of them has provided an explanation. The latter allomorph only shows up before vowels. In Appendix Q I suggest that some verb stems may have historically started with *w-* (i.e. **-walyvbar-* ‘eat’), but that this stem-initial consonant has disappeared in most environments. The *kw-* allomorph could then be a remnant of this archaic stem-initial *w-*, i.e. *-k-w.... > -kw....*

3.5 Nominal stem [0]

Nominal stems may comprise:

- a simple root, such as *arvma* ‘big’; *akungwa* ‘NEUT.fresh water’; *amarda* ‘NEUT.grass’
- a reduplicated root, such as *-bvrvbvra* ‘childless’; *dhuwarruwarra* ‘FEM.Jupiter’
- a defective root that requires a nominal to bind to, such as the adjectives *+bvdha* ‘strong’; *+adharrba* ‘short’; as well as a defective body part noun roots such as *+akulya* ‘skin’ in section 3.4.5.1 that require an INALP prefix (cf. *-m+akulya*)

Nominal stems may be reduplicated to indicate plurality, as illustrated in the following examples.

- (70) a. *ngarr-arvmvrma*
 12a-RDP.big
 ‘big us’ (VL1 p.222)
- b. *mv-lhvkarrku-wilyarra yirr-arrangba-ma anhvng-anhvnga*
 VEG-track-middle 1a/NEUT-collect.P2-*ma* RDP-NEUT.vegetable.food
 ‘on the way we collected lots of food’ (‘Awurukwa’ w15)

Reduplication of the stem is one of the ways to indicate plurality for non-humans. Other ways involve the use of the quantifiers *mvrnda-* and *wurra-* ‘many’ (section 3.4.3), or the suffix *-murriya* ‘et cetera’ (section 3.6). Alternatively, adjectives can be used to express plurality, such as *ababvrna* ‘many’ or *angkulyvmvdha* ‘all, many’ for count nouns, and *arvma* ‘big’ and *adhvrrungwarna* ‘huge’ for non-count nouns (Stokes 1982: 45).

3.5.1 Polysemy

O’Grady (1960) first drew attention to the fact that, in Australian languages, a single lexeme may represent something that actually is, and also something that it has the potential to become. For example, a single lexeme may cover ‘wood’ and ‘fire’ (wood will burn to make fire), ‘animal’ and ‘meat’ (an animal is potential meat), or a type of plant and the fruit it bears (an appropriate tree will bear fruit) (Dixon 2002: 56-7). This type of Actual/Potential polysemy is also common for Enindhilyakwa nominals. Thus *mvnhvnga* ‘VEG.burrawang’ is used to refer to the tree (*Macrozamia communis*), its nuts and the bread made from the nuts. *Alhabvra* is both the stringybark tree and the coolamon that is made from its bark (Waddy 1988: 69). And in (71), the noun *dhvngarrkwa* ‘FEM.spear grass’ is used to refer to its seeds.

- (71) *Akv-nga-rrvngkv-na-manja kvngu-wurrakv-lharrv-na-manja dhvngarrkwa...*
 IRR.12a-FEM-see-NP2-LOC IRR.FEM-many-fall-NP2-LOC FEM.spear.grass
 ‘When we see the spear grass seeds falling ...’ (GED p.47)

There is however another, more curious, type of polysemy in Enindhilyakwa. This involves common nouns, often body parts, which have an additional flora or fauna meaning. Some are

listed in Table 3.6 below (see GED and Waddy 1988 for more examples). In some cases speakers are aware of the polysemy and can give an explanation on the grounds of perceived likeness: *alhvkvra* ‘NEUT.darter’, for instance, “spreads its wings and takes the shape of a house”; *yibilyibilya* ‘MASC.gecko’ “flashes like lightning when we shine on it with a torch”; and hearing *ekbarra* ‘NEUT.drongo’ “gives us a headache” (Fieldnotes, DL 15/3/2011). *Wurruwarda* ‘COLL.sandpaper fish’ is said to bark like a dog when caught (Waddy 1988: 67). In the case of the body parts, the flora and fauna have a similar shape: ‘brain’ and ‘crab’, ‘kneecap’ and ‘Cyrene shell’, and so on.

	Meaning 1	Meaning 2
<i>alhvkvra</i>	house	darter (bird)
<i>yibilyibilya</i>	lightning	gecko
<i>makarda</i>	sea	sandpaper fig
<i>yimendha</i>	turtle	water beetle
<i>wurruwarda</i>	dog	sandpaper fish
<i>dhvngalhuwa</i>	boobook owl	hawkbill turtle
<i>ekbarra</i>	headache	spangled drongo
<i>engeemina</i>	breast milk	legless burrowing lizard
<i>mangma</i>	brain	crab
<i>yuwalkurra</i>	kneecap	Cyrene shell
<i>arimba</i>	wart	stingray (with warts)
<i>arnda</i>	elbow	whiting (fish)
<i>memvrrkura</i>	ribs	potato bean
<i>mandarra</i> ~ <i>marndarra</i>	type of fish, hammer oyster	tomahawk

Table 3.6: Polysemous nouns

Using body part nouns to refer to other items is very common in Enindhilyakwa: we have seen this in the INALP construction in section 3.4.5.1 above, and we will see it again in incorporated body part noun roots that have developed into generics in Chapter 7.

3.6 Number suffixes [(+1)]

There are two nominal number suffixes: *-kiya* ‘two’ and *-mvrriya* ‘et cetera’ (or ‘associative plural’; see Daniel & Moravcsik 2011). They can be attached to any or all words in the noun phrase (Leeding 1989: 299). The *-kiya* suffix is one of the ways to denote dual number for non-humans, but it can also be used for humans:

- (72) *n-enu-kw-enikba-kiya*
 3m-m-son-3m.KIN-two
 ‘his two sons’

(VL1 p.300)

The following example illustrates the use of *-murriya*.

- (73) *Arakba=wiya nara=wiya bakida-mvriya akwa bajikala-mvriya...*
compl.act=PRG NEG=PRG bucket(NEUT)-etc. and billycan(NEUT)-etc.
'A long time ago before there were any buckets and billycans and the like ...' (GED p.199)

Note that the number suffix occurs on both conjuncts. This is what case suffixes do as well (Chapter 8).

3.7 Summary

The prefixes that precede the Enindhilyakwa nominal stem represent a variety of nominal classification systems. The obligatory noun class prefixes in slot [-6] overtly assign all non-human nouns apart from loanwords to one of five noun classes. This system is no longer productive, as evidenced by the fact that (i) noun class prefixes are inseparable from the stem; (ii) loanwords do not receive an overt noun class marker; and (iii) noun classification may partly be on a phonological basis. Humans, on the other hand, are categorised according to number and biological sex by a distinct set of productive prefixes occurring in the same slot as the noun class prefixes. The productivity of this (outer) gender system is evidenced by the flexibility of the prefixes, and their occurrence on loanwords.

A second nominal classification system can be found in the optional inner gender prefixes in slot [(-3)], which co-occur with the three derivational prefixes. They categorise humans and non-humans belonging to the animate noun classes as either masculine ('m') or feminine ('f'). For humans this is done according to their biological sex, whereas for non-humans gender is determined by the noun class of the referent: FEM nouns take the feminine prefix, and MASC and COLL nouns the masculine prefix.

Incorporated generic nominals in slot [(-1)], to be discussed in Chapter 7, constitute a third nominal classification system. They classify an external specific noun according to one or more of its inherent features.

In addition, Enindhilyakwa has a set of three very productive derivational prefixes:

- 1) the inalienable possession prefix (slot [(-2)]) is used to express the part-whole relation for inanimate objects, plants, some animals, and human body parts - but not of humans (human body parts take POSS case on the possessor)
- 2) the alienable possession prefix (slot [(-2)]) marks the nominal that an external nominal 'belongs to' or is 'associated with'. This is usually not a part-whole relation
- 3) the nominaliser prefix derives nominals from verbs; deverbalised nominals can be used as common nouns, or as non-finite verbs

These three derivational prefixes create nominals that can take the full range of pronominal/gender/noun class prefixes. The two possession derivational prefixes attach to nominals that have a

frozen noun class marker, resulting in double noun class marking, which is a rare phenomenon in the world's languages. This degree of productive nominal derivation does not occur in the Gunwinyguan languages: Bininj Gun-Wok, for example, has no derivational prefixes at all, whereas other languages have only such one derivational affix: Wubuy only has a set of prefixes with a function comparable to the Enindhilyakwa inalienable possession prefix. Rembarrnga has an infinitive suffix (Nordlinger & Saulwick 2002).

Body part noun roots play a major role in Enindhilyakwa, and are a principal way to indicate shape: when marked for inalienable possession, a body part noun root denotes a part of an external noun that has a similar shape to the body part (e.g. 'nose' is used for 'hook'). When incorporated into an adjective or verb, it classifies an external nominal in terms of its shape (e.g. 'head' is used to refer to 'stone' and other hard and round objects - Chapter 7). And as free noun, body parts are often polysemous with a flora or fauna name, which also may have a perceived likeness (e.g. the noun 'brain' is also used for 'crab').

Chapter 4: Verbal prefixes

4.1 The verb: overview

The verb is morphologically the most complex word class in Enindhilyakwa. Being a polysynthetic language, a single verb can express what may take a whole sentence in a language like English. Because of its internal complexity, much of what is accomplished by the syntax in other languages is carried out within the verb - expression of arguments, causativisation, reflexivisation, and subordination.

The discussion of verbal morphology will therefore run over several chapters. The complex templatic structure of the verbal word, where affix order is stipulated in the form of arbitrary position classes, is presented in Table 4.1.¹ The verbal template has a finite number of slots with a fixed order, and no embedding possibilities. The current chapter is concerned with the morphology preceding the verb stem, apart from incorporated nominals in slot [(-1)], which are dealt with in Chapter 7. Verb stems [0] are the topic of Chapter 5. Chapter 6 investigates the tense/aspect suffixes in slot [+3] and the *-ma* ~ *-mvrra* suffix in slot [(+4)]. Case is the topic of Chapter 8, which also explores the subordinating function of case suffixes on the verb in slot [(+5)]. Optional elements in the template are indicated in parentheses; plus and minus signs before the slot number give the direction with respect to the verb stem. Slots marked * may be reduplicated.

¹ A template is a flat structure where affixes are ordered with “no apparent connection to syntactic, semantic or even phonological representation” (Inkelas 1993: 560, cited in Nordlinger 2010). Templatic systems have traditionally been assumed in the Australian context, especially for the head-marking polysynthetic languages of the north, but often without discussion (Nordlinger 2010). Nordlinger (2010) reviews an account by Rice (2000) of affix ordering in the Athapaskan languages, which are also traditionally viewed as ordered along a fixed template. Rice argues against these traditional templatic analyses and proposes that affix orderings are based on syntactic and semantic scope instead, such as ‘subject > object’, and ‘definite > indefinite’. These scope-based principles belong to Universal Grammar, according to Rice.

This means, as Nordlinger (2010) points out, that templatic organisation can no longer be simply assumed for a given language, but must be empirically justified. Nordlinger does this for Murrinh-Patha. She concludes that templatic morphological systems “must remain part of the universal repertoire for language structure” (2010: 323). I will not embark on a detailed justification for a templatic system in Enindhilyakwa here, but some important observations can be made. Simpson & Withgott (1986) list a number of properties of template morphology, which include the presence of zero morphemes, the violation of the ‘Adjacency’ constraint, and the possibility of encoding more than one argument. Enindhilyakwa has zero morphs, for instance the absence of an object marker in transitive prefix combinations encodes a NEUT class noun object (see Table 4.3). The Adjacency constraint, which blocks discontinuous dependencies, is violated in Enindhilyakwa when the Quantifier prefix refers to a first order object morpheme (section 4.4): these morphemes are then not adjacent because the subject morpheme intervenes. And the encoding of more than one argument is very common, as subject and object are both marked on the verb. Furthermore, as Nordlinger (2010) also observes for Murrinh-Patha, a single affix can appear in different positions in the verbal template without its position having a semantic effect. This is the case for the subject and object prefixes, the relative placement of which is governed by person, number and animacy factors (section 4.2.3). Based on these observations, I conclude that, like the verbal morphology of Murrinh-Patha (Nordlinger 2010) and the pronominal clitic clusters in Warlpiri and Warumungu (Simpson & Withgott 1986), amongst others, the verbal morphology of Enindhilyakwa is templatic: word structure is governed by “morphotactic constraints for which there is no *synchronic* extra-morphological explanation” (Hyman 2003: 245, cited in Nordlinger 2010; italics mine). However, the ordering of the affixes may well have a diachronic explanation, as Nordlinger (2010) suggests.

-6	-5	-4	(-3)*	(-2)	(-1)	0*	(+1)	(+2)	+3	(+4)	(+5)
Mood	Subject	Object	Quantifier	Benefactive	Body part / generic	Stem	CAUS	REFL, RECP	Tense + aspect	-ma ~ -mvvra	Case

Table 4.1: Enindhilyakwa verbal template

The only obligatory slots in this template are the pronominal prefixes in slots [-6] to [-4], the stem in [0] and the tense/aspect inflectional suffixes in [+3]. Note that the stem itself may be morphologically complex, and historically include a compounded nominal (e.g., *-lyang+barrka-* [head+move] ‘to sweep’), to be discussed in Chapter 5. Although they are given separate positions in the template, the valency-changing causative suffix in (+1) and reflexive and reciprocal suffixes in (+2) contribute to the formation of the verb stem. They are therefore also included in Chapter 5.

4.1.1 Main features of each slot

I will begin with summarising the main features of each slot of the verbal template, and point to the sections in which they are discussed.

The obligatory PRONOMINAL PREFIXES zone, in slots [-6] to [-4], contains up to two prefixes that represent the arguments of the verb, plus an indication of mood, as part of a complex paradigm. The pronominal prefixes include first and second person prefixes, gender prefixes representing third person humans, and noun class markers representing non-humans. Transitive prefix complexes with human referents may be portmanteau forms, which is why the three slots are merged as a fusion zone in Table 4.1. There are, however, cases where internal segmentation can be made according to the ordering set out in the Table, in particular when non-human referents are involved. For example, the irrealis mood marker *k-* may precede a third person human subject prefix, which in turn may precede a noun class object prefix: an example is *kv-nv-ma-* [IRR-3m-VEG] ‘he...it(IRR)’.

The default order is for subject prefixes to precede object prefixes. This order can be reversed according to person, number and animacy values, such that roughly: 1, 12, 2 > human 3a > human 3 > non-human. Hence first and second person outrank third person, regardless of which is the subject (e.g. *kvrra-b-* [2a.O-3a.S] ‘they...you(pl)’); augmented number outranks minimal (e.g. *narrv-nga-* [3a.O-3f.S] ‘she...you(pl)’); and human outranks non-human (e.g. *yinga-m-* [3f.O-VEG.S] ‘it(VEG)...her’). In keeping with traditional terminology, the entire prefix is called ‘direct’ if the subject is higher-ranking than the object, ‘inverse’ when the object outranks the subject, and

‘equipollent’ if the two are of equal ranking (e.g. Heath 1978a for Ngandi; Heath 1984 for Wubuy; Evans 2003a for BGW). Equipollent prefixes include second person acting on first person or the reverse, inanimate acting on inanimate, and so on. As is typologically common (Heath 1991), combinations of 1st and 2nd person are formally deviant (see also Evans, Brown & Corbett 2001 on Dalabon): in Enindhilyakwa they never have separate exponence for both participants, and some 1st and 2nd person combinations use intransitive first person inclusive morphology.

A further layer of morphological complexity not shown in Table 4.1 involves the breakdown of subject and object morphemes into person and number elements: for instance, the element *rr-* in the above examples can be identified as an augmented number marker. The morphological analysis of the transitive prefixes is most meaningfully carried out with respect to the whole paradigm, and will be taken up in section 4.2.2.

The QUANTIFIER slot [(-3)] contains the quantifiers *mvrnda-* and *wurra-* ‘many’, which also occur on nominals, as outlined in section 3.4.3. Examples of these quantifiers on verbs will be given in section 4.4.

The BENEFACTIVE slot [(-2)] contains just one option: the benefactive applicative *mvn-*, which introduces an argument to the verb. Compare *n-akarrngv-na akungwa* ‘he is getting water’, with the prefix *n-* [3m/NEUT], and *ngvnv-mvn-akarrngv-na akungwa* ‘he is getting water for me’, with the prefix *ngv-n-* [1.O-3m.S]. See section 4.5.

The BODY PART / GENERIC slot [(-1)] is filled by a nominal root drawn from a set of about 80 forms, presented in Appendix N. These roots are either body parts or generics that classify an external specific noun. The same nominal roots can be incorporated into adjectives. Incorporation of body part and generic nominals is discussed in Chapter 7.

As is typical of the Gunwinyguan languages (Alpher, Evans & Harvey 2003), the STEM slot [0] may be simple or complex. Simple stems consist of a verb root to which the inflection for tense and aspect may be added directly (e.g. *-kwa-* ‘give’, *-lhvka-* ‘go’). Complex verb stems, on the other hand, are synchronically frozen combinations of an uninflecting element followed by an element that takes the inflections (e.g. *-yeng+bi-* ‘speak’, consisting of the nominal root *yeng-* ‘voice’ and the inflecting element *+bi-* ‘?’). Verb stems can furthermore be formed by the productive inchoative and factitive denominalising suffixes. Stem structures are the topic of Chapter 5.

The CAUSATIVE slot [(+1)] contains the causative suffix *-ji-*, which derives transitive verbs from intransitive verbs. For example, *-jungwa-ji-* ‘to kill’ is derived from *-jungwV-* ‘to die’. Derivational suffixes are addressed in Chapter 5.

The REFLEXIVE / RECIPROCAL slot [(+2)] contains the reflexive suffix *-jungwV-* and the reciprocal suffix *-yi-* (section 5.4.1.2). These suffixes derive intransitive verbs from transitive verbs, such as *-jungwa-ja-jungwV-* [die-CAUS-REFL] ‘kill oneself’ and *-jungwa-jee-yi-* [die-CAUS-RECP] ‘kill each other’. The reciprocal also has a reading of a collective action by subjects, which allows it to occur on intransitives, as in *yirrv-ngambee-yi-na* [1a-bathe-RECP-P2] ‘we all bathed’.

The obligatory TENSE+ASPECT slot [+3] contains the tense and aspect inflections, which combine with the pronominal prefixes to express various modal meanings. There are six main conjugational classes, organised around the verb root or the inflecting element of the complex verb stem. The tense/aspect suffixes distinguish past or non-past tense, together with neutral aspect or a subtype of perfective aspect. They are the topic of Chapter 6.

The very common but elusive *-MA ~ -MVRRA* suffix in slot [(+4)] occurs independently of tense and aspect, and is analysed in section 6.7 as a ‘first person focalisation marker’.

The CASE slot [(+5)] contains complementising case suffixes that create adverbial subordinate clauses (so-called T-complementisers). The T-complementiser case suffixes on verbs are the same suffixes that occur on nominals. Case is the topic of Chapter 8.

Finally, the very productive nominalising prefix *k-* derives non-finite verbs from a verb root. An example is *yingv-ngayindhe-na dh-adhv-kv-lhvka* [3f-want-NP2 3f-f-NSR-go] ‘she wants to go’. Deverbalised nouns take nominal rather than verbal prefixation (compare the verbal prefix *ying-* ‘3f’ in the above example with the nominal prefix *dh-* ‘3f’ on the nominalised verb). Therefore, they are not included in the template in Table 4.1 and are discussed in Chapter 3 (section 3.4.6).

The following sections first discuss the pronominal prefixes on the verb in section 4.2, which makes up the bulk of this chapter, starting with the intransitive paradigms (section 4.2.1), followed by the transitive paradigms (section 4.2.2). The person/number/animacy hierarchy that determines the relative order of the subject and object prefixes is investigated in section 4.2.3. Section 4.3 addresses the debate in the literature concerning the status of the pronominal affixes in polysynthetic languages: do these constitute the ‘real’ arguments of the verb, with the external nominals being adjuncts, or do they merely *agree* with the nominal arguments? I will argue that there are problems with viewing the external nominals as adjuncts (section 4.3.1), and also with regarding the prefixes as pronouns that are the sole exponents of the verb’s arguments (section 4.3.2). Section 4.4 discusses the quantifier prefix that follows the argument prefixes, and section 4.5 the benefactive applicative prefix. Section 4.6 finishes this chapter with a summary.

4.2 Pronominal prefixes [-6] - [-4]

The term ‘pronominal prefix’ designates the class of prefixes that is used to represent the arguments of a verb on the verb. They may be intransitive (representing the subject only) or transitive (representing subject and object). Pronominal prefixes on verbs are formally distinct from prefixes on nominals, with the exception of first and second person pronominal prefixes on adjectives and nouns with human reference. These are identical to those on intransitive verbs (see Table 3.3). There are some formal resemblances between the intransitive pronominal prefixes on verbs and gender and noun class prefixes on nominals, but these are far from exact.

There are four distinct intransitive and four distinct transitive series of prefixes: (i) realis, (ii) irrealis, (iii) imperative, and (iv) hortative. As is characteristic of the non-Pama-Nyungan languages (Verstraete 2005), the prefixes are combined with the tense/aspect suffixes to mark a variety of modal meanings (see Chapter 6). The Enindhilyakwa system of eight series of (positive polarity) prefixes is unusually high: many non-Pama-Nyungan languages have a basic realis-irrealis distinction in the prefixes, but they do not differentiate between imperative or hortative mood (e.g. Wubuy, Mangarayi, Warray) (Verstraete 2005). Some Gunwinyguan languages do not distinguish mood in the prefixes at all (e.g. Bininj Gun-Wok, Ngalakgan, Ngandi), but employ suffixes instead (these languages thus diverge from the typical non-Pama-Nyungan pattern).

In the negated non-past the prefixes are replaced by *a-* or *ng-* in Enindhilyakwa, so all person-number distinctions are neutralised. Negative polarity always involves the NEGATOR particle *nara*. The negated past, by contrast, takes irrealis prefixation: compare negated past *nara kv-ma-nga* [NEG IRR.1/NEUT-take-P2] ‘I did not take it’² with negated non-past *nara a-mv-ma* [NEG NEG-take-NP3] ‘[X] is not taking [Y]; [X] will not take [Y]; don’t take [Y]!’. Some further illustrations of the various prefix series are: transitive imperative *wu-mi-ya* [IMP.2/NEUT-take-NP1] ‘take it(NEUT)!’; and transitive hortative *angv-me-na* [HORT.3f/NEUT-take-NP2] ‘let her take it(NEUT)’. (The NP1, NP2, et cetera, labels represent both tense and aspect - see section 6.3.) Recall from Chapter 2 that vowels other than *a* and *e* between a prefix and a stem, as well as between prefixes, are analysed as epenthetic vowels. Furthermore note that the convention ‘*x/y*’ is used in the glosses to represent ‘*x* (subject) acting on *y* (object)’ for portmanteau pronominal prefixes. For segmentable prefixes ‘*x-y*’ in the glosses denotes ‘*x* (subject) acting on *y* (object)’. And for segmentable reverse order combinations subject and object are indicated in the glosses: ‘*x.O-y.S*’ means ‘*y* (subject) acting on *x* (object)’, where *y* is lower on the person/animacy hierarchy than *x* and appears in second order.

² Irrealis prefixes plus past tense suffixes are probably also used to convey negated deontic mood, so that this example could also mean ‘I should not have taken it’. See section 6.6 for details.

The pronominal prefix paradigms have been described in the previous work of Heath (n.d.), Reid, Stokes & Waddy (1983), Leeding (1989), and Waddy (n.d.-a). In the following two sections I will first present an overview of the paradigms based on this earlier work, supplemented by my own research. I will then turn to some topics that have not been addressed before, including a more careful look at the internal structure of the prefixes, and the factors that determine the relative ordering of the subject and object prefixes.

4.2.1 Intransitive paradigms

Table 4.2 presents the four intransitive pronominal prefix series in Enindhilyakwa: realis, irrealis, imperative and hortative (adjusted from Leeding 1989; Reid, Stokes & Waddy 1983; Waddy n.d.-a). The realis and irrealis prefixes encode 24 different person and number categories, with some neutralisations (e.g. the MASC noun class prefix *n-* on verbs is formally identical to the 3m prefix. This neutralisation does not occur on free pronouns [Table 3.2] or other nominals [Table 3.3]).

	REALIS	IRREALIS	IMPERATIVE	HORTATIVE
1	<i>(nv)ng-</i>	<i>k-</i>		= REALIS
1a	<i>yirr-</i>	<i>yik-</i>		
1fdu	<i>yirrvng-</i>	<i>yikvng-</i>		
1mdu	<i>yin-</i>	<i>yikvn-</i>		
1tri	<i>yirrvbvk-</i>	<i>yikvbvk-</i>		
12	<i>y-</i>	<i>yak-</i>		
12a	<i>ngarr-</i>	<i>ak-</i>		
12tri	<i>ngarrvbvk-</i>	<i>akvbvk-</i>		
2	<i>nvngk-</i>	<i>k-</i>	<i>Ø- ~ w-</i>	
2a	<i>kvrr-</i>	<i>yik-</i>	<i>w(urr)-</i>	
2fdu	<i>kvrrvng-</i>	<i>yikvng-</i>	<i>wu(rrv)ng-</i>	
2mdu	<i>kvn-</i>	<i>yikvn-</i>	<i>wun-</i>	
2tri	<i>kvrrvbvk-</i>	<i>yikvbvk-</i>	<i>wu(rrv)bvk-</i>	
3m / MASC	<i>n-</i>	<i>kvn- ~ ken-</i>		<i>en-</i>
3f / FEM	<i>ying-</i>	<i>kvng-</i>		<i>ang-</i>
3a / COLL	<i>na- ~ nuw-</i>	<i>ka- ~ kuw-</i>		<i>ab(vrr)-</i>
3fdu	<i>narrvng-</i>	<i>karrvng-</i>		<i>abvrrvng-</i>
3mdu	<i>nen-</i>	<i>ken-</i>		<i>abv(r)n-</i>
3tri	<i>na(rrv)bvk-</i>	<i>ka(rrv)bvk-</i>		<i>a(bvrrv)bvk-</i>
VEG	<i>nvm-</i>	<i>kvm-</i>		<i>am-</i>
NEUT	<i>na- / __ C ~ nuw- / __ V</i>	<i>ka- / __ C ~ kuw- / __ V</i>		<i>ak-</i>

Table 4.2: Intransitive prefix series

The pronominal prefixes are glossed with labels such as ‘1’ (1st person exclusive minimal, i.e. ‘I’), ‘12’ (1st inclusive minimal, i.e. ‘you and I’), ‘12a’ (1st inclusive augmented, i.e. ‘us all, including you’), 3fdu (‘3rd feminine dual’, i.e. ‘they two females’), and so on (see list of abbreviations on

page xviii of this thesis). As for the free pronouns (section 3.2.2), dual forms apart from first inclusive are built by adding a gender morpheme to the augmented form.³ Note that minimal number is unmarked in the glosses. Realis mood is also unmarked, whereas irrealis, imperative and hortative moods are glossed IRR, IMP and HORT, respectively. The non-human noun classes have the labels proposed in section 3.4.1 (which differ from the labels in the previous work): MASCULINE, FEMININE, COLLECTIVE, VEGETABLE and NEUTER.

Disregarding the imperative and hortative sets for the moment, the following morphemes can be identified:

- (1) MOOD: realis \emptyset -, irrealis *k*-
 PERSON: realis: 1st exclusive (*nv*)*ng*- (minimal), *y*- (non-minimal)
 1st inclusive *y*- (minimal), *nga*- (non-minimal)
 2nd *nvngk*- (minimal), *k*- (non-minimal)
 3rd \emptyset - (minimal), *na*- (non-minimal)
 irrealis: opaque (if transparent, then similar to realis forms)
 NUMBER: minimal \emptyset -, augmented *rr*-
 GENDER: feminine *ng*-, masculine *n*-

Realis prefixes may be constructed by concatenating these morphemes in the order given in (2a). The morphological composition of the irrealis prefixes is often opaque, apart from the presence of the irrealis marker *k*-. In the more transparent forms, the irrealis marker appears to replace the augmented number marker, and thus follow person and precede gender, as in (2b).

- (2) a. Realis: person-number-gender (e.g. *yi-rrv-ng*- [1non.min-a-f] ‘1fdu’)
 b. Irrealis: person-irrealis-gender (e.g. *yi-kv-ng*- [1non.min-IRR-f] ‘1fdu(IRR)’)

In third person irrealis forms, by contrast, the irrealis marker occurs prefix-initially and the augmented number marker is preserved. An example is *karrv-ng*- [IRR.3a-f] ‘IRR.3fdu’ (cf. *narrv-ng*- [3a-f] ‘3fdu’). Furthermore, there is complete syncretism between irrealis first person exclusive and second person forms. For instance, *yik*- denotes ‘1a(IRR)’ and ‘2a(IRR)’. Syncretism involving first and second person subject forms also occurs in the transitive irrealis prefixes, but not in the realis prefixes.

There is no third person minimal marker. However, pronominal prefixes representing third person are not \emptyset - (which they are in many Gunwinyguan languages), but they are represented by a masculine or feminine gender morpheme for humans, or a noun class prefix for non-humans. Thus, Enindhilyakwa shows verb agreement for every person and noun class, which, among the Gunwinyguan languages, is a feature that is shared only with Wubuy and Ngandi. The masculine and feminine gender prefixes that represent the human categories will be glossed ‘3m’ and ‘3f’,

³ Dual number in Wubuy is also constructed by adding a gender morpheme to the augmented form (Heath 1984).

respectively, including a person marker. This is done for clarity, and to distinguish the use of these prefixes denoting the subject or object, from their use as a gender prefix in dual number morphemes. The 3f category may contain an historical accretion /ji/: *yi.ng-* ‘she’, which is not present in the irrealis form: *kv.ng-* [IRR-f] ‘she(IRR)’, nor in 3f object forms (e.g. *narrv.nga-* [3a-3f] ‘they...her’). Gender is further specified for all non-minimal dual forms, but not specified for any other category. Number is only specified for humans.

The markers of the non-human noun classes consist of a single morpheme. The animate MASC, FEM and COLL noun classes are represented by the same gender prefix as 3m, 3f and 3a, respectively: *n-* ‘3m, MASC’; *ying-* ‘3f, FEM’; *na-* ‘3a, COLL’.⁴ The same human genders and noun classes show syncretism in Wubuy. Another neutralisation that occurs in the intransitive paradigm is that the NEUT class prefix is formally identical to the ‘3a, COLL’ prefix (in both the realis and irrealis). This neutralisation is most likely due to extension of ‘3a, COLL’ to also include NEUT class (this does not happen in Wubuy). The VEG class prefix is *nvm-*, which, like the ‘3f, FEM’ prefix, also appears to contain an historical accretion, in this case /nə/: *nv.m-*. This accretion is not present in the irrealis form *kvm-*, or in transitive prefix complexes (e.g. *yingv.ma-* [3f-VEG] ‘she...it’). Only the VEG pronominal prefix shows some similarities with the corresponding noun class prefix on nominals *m-* ~ *ma-*. The pronominal prefixes representing the other noun classes are formally distinct from those on nominals. Table 3.3 in Chapter 3 compares the prefixes used on nominals and on intransitive verbs.

Some augmented forms do not contain the prefix *rr-*, such as the ‘mdu’ form *nen-*. In Leeding’s (1989) account the absence of the *rr-* segment is due to haplology: **na-rrv-n-* [3a-a-m] > *na-n-* [nɛn] ‘3mdu’.⁵ Haplology does not occur for the ‘fdu’ forms: *na-rrv-ng-* [3a-a-f] ‘3fdu’. I propose a different explanation, which involves the contraction of *rr* and *n*, creating *rn*, an archaic rule described in Appendix I. This was followed by loss of retroflexion, a process frequently accompanied by vowel fronting in Enindhilyakwa (section 2.5.8): **na-rrv-n-* > **na-rn-* > *ne-n-*. This apical shift accompanied by the vocalic shift is not uncommon in Enindhilyakwa, and can also be observed synchronically, such as with tense/aspect suffixes (e.g. *-lhyke-na* ~ *-lhyka-rna* ‘go-P2’).

The ‘augmented’ morpheme *rr-* is also absent in the ‘3a’ prefix *na-*. However, it does show up in other combinations of ‘3a’, such as ‘3fdu’ *na-rrv-ng-* [3a-a-f], and in many transitive

⁴ This syncretism also occurs on nominals: *dh-* is used as a marker of both 3f and FEM, and *wurr-* for 3a and COLL. The 3m and MASC forms are an exception: the nominal prefix for 3m is *n-* (the same as the intransitive prefix on verbs), but the MASC class marker is *y-* (see Table 3.3). The first and second person intransitive pronominal prefixes are identical to those on nominals.

⁵ She explains the phonetic [ɛ] quality of the vowel as due to vowel harmony, triggered by an [i] in the following syllable: *na-ni-* > *ne-ni-*. Even though I agree that Enindhilyakwa has vowel harmony, or more precisely, i-umlaut (rule P-5 in Chapter 2), I do not think it is relevant here, because there is no [i] vowel present on the surface that could have triggered raising of *a* to *e*.

combinations, such as *narrv-ma-* [3a-VEG]. The most plausible explanation is that the intransitive ‘3a’ prefix *na-* has lost its ‘augmented’ morpheme *rr-* when not followed by a (dual) gender morpheme.

The following examples illustrate the use of dual and trial number.

- (3) a. *wun-alh-akina Nikba akwa Nijarra nenu-ngurrkwe-nv-ma akwalya*
 3mdu-du-that 3m.pheasant and 3m.seagull 3mdu-hunt-P2-*ma* NEUT.fish
 ‘Pheasant and Seagull were hunting for fish.’ (VL1 p.391)
- b. *yirrv-bvku-ngurrkwe-na mvnhvnga*
 1a-tri-hunt-P2 VEG.burrawang
 ‘we three hunted for burrawang’ (VL1 p.500)

Trial number is rare, and augmented number is frequently used instead (Leeding 1989: 388).

• Imperative

The imperative prefix series is formally similar to the nominal prefix *wurr-* ‘3a, COLL’. Dual forms are built from the *wurr-* prefix by addition of the two gender prefixes, and trial forms by the addition of trial number *bvk-*. Some intransitive imperative examples are listed below.

- (4) a. *wurrv-lhvka-ja warnv-mvrra*⁶
 IMP.2a-go-NP2 3a.this-INSTR
 ‘you all go with them!’ (VL1 p.414)
- b. *wu-bvk-ambilya*
 IMP.2a-tri-stay.NP2
 ‘you three stay [here]!’ (VL1 p.415)
- c. *Engkirra-ja ayakwa ena nungkuwa-wa nvngi-yengbi-na-ma.*
 IMP.2.hear-NP2 NEUT.word NEUT.this 2.PRO-ALL 1-speak-NP2-*ma*
 ‘Listen to these words I am speaking to you.’ (‘Mother’s advice’ j3)

One formal difference between the nominal ‘3a, COLL’ prefix and the imperative series is that the latter have shortened allomorphs, such as *w-* instead of *wurr-* in (4b), which the former lack. Another difference is that the second person minimal prefix form has a zero allomorph, as in *engkirra-ja* in (4c). Imperatives are the only verbal forms in the language that can have zero pronominal prefixes. The prefixes of all other verb forms are realised by phonologically overt material.

• Hortative

The intransitive hortative series is formally identical to transitive inverse order subjects (see Table 4.3 below). For example, the intransitive NEUT class hortative prefix *ak-* in (5a) is the same as the transitive NEUT class second order subject (as in *ying-ak-* [3f.O-NEUT.S] ‘it...her’). And the ‘3m’

⁶ Recall from section 3.2.3 that demonstratives are very frequently used as anaphoric pronouns in Enindhilyakwa.

hortative prefix *en-* in (5b) is identical to ‘3m’ as the inverse order subject (as in *yirr-en-* [1a.O-3m.S] ‘he...us’). Some intransitive hortative examples are given in (5).

- (5) a. *ak-ambilya nungkwa-lhangwa-manja mangma akwa madha.*
 HORT.NEUT-stay.NP2 2.PRO-POSS-LOC VEG.mind and VEG.ear
 ‘let them [my words(NEUT)] stay in your mind and ears’ (‘Mother’s advice’ j42-3)
- b. *env-lhvka-ja ena-ja abv-nv-ngarre-na*
 HORT.3m-go-NP2 3m.PRO-CofR HORT.3m-3a-visit-NP2
 ‘let him go and let him visit them’ (VL1 p.418)
- c. *abv(r)nv-yakeeyi-na ena-ja*
 HORT.3mdu-marry.NP2 3m.PRO-CofR
 ‘let the two of them marry’ (VL1 p.419)

One formal difference between the hortative prefixes and inverse order subject forms is that the dual and trial forms for humans can be built for the hortative prefixes, such as *abv-rrv-ng-* [HORT.3a-a-f] ‘3fdu(HORT)’, whereas second order subjects are neutralised for number. As an inverse order subject, the 3a form is *ab-*, which cannot be further specified for number.

First person intransitive hortatives (e.g. ‘let me...’) take realis prefixation:

- (6) *ngarrv-lhvka-ja yirri-yama arakba yirrv-mvrndakv-lhvka*
 12a-go-NP2 1a-say.P2 compl.act 1a-many-go.P1
 ‘‘Let’s go’’, we said, and we all went.’ (VL1 p.495)

In sum, the morphological structure of the intransitive realis, imperative and hortative series is quite transparent, consisting of identifiable person-number-gender morphemes, in that order. Number and gender are only specified for non-minimal, first and second person humans. Third person minimal humans are represented by a gender prefix only. Non-human markers have either syncretised with a human marker (e.g. *ying-* represents ‘3f’ and ‘FEM’), or they are similar to a noun class marker (i.e. VEG *nv.m-*, with the possible historical accretion /nə/). The imperative series is built from nominal ‘3a’ prefixes. One departure from this pattern is the minimal form, which has a zero allomorph (the only \emptyset - intransitive prefix in the language). The hortative series is built from inverse order subject forms, to which number and gender morphemes can be added to create dual and trial. The irrealis series is more opaque, apart from an apparent irrealis marker *k-*.

4.2.2 Transitive paradigms

As in many non-Pama-Nyungan languages, the transitive argument prefixes form complex paradigms with neutralisations, syncretisms, and irregularities for combinations involving first person acting on second or the reverse, and other equipollent prefixes. The full paradigms of the transitive realis and irrealis prefix systems are given in Appendices J and K, respectively. I will focus in this chapter on the individual subject and object morphemes that combine to make up the transitive paradigms.

4.2.2.1 Transitive realis

When not equipollent or involving first or second person minimal objects, the transitive realis prefixes are fairly compositional. The first order forms (i.e. those that rank highest in the person/number/animacy hierarchy) are formally very similar to each other, whether they represent the subject or the object. They are also very similar to the intransitive subject prefixes. Table 4.3 lists the transitive first and second order subject and object forms, together with the intransitive prefixes for comparison. The complete transitive realis paradigm can be found in Appendix J.

REALIS	Intr. subject	Transitive Subject		Object	
		1 st order	2 nd order	1 st order	2 nd order
1	<i>(nv)ng-</i>	<i>(nv)ng-</i>		<i>ng-</i>	
1a	<i>yirr-</i>	<i>yirr-</i>		<i>yirr-</i>	
12	<i>y-</i>	<i>y-</i>		<i>yarr-</i>	
12a	<i>ngarr-</i>	<i>ngarr-</i>		<i>ngarr-</i>	
2	<i>nvngk-</i>	<i>nvngk-</i>		<i>ng-</i>	
2a	<i>kvrr-</i>	<i>kvrr-</i>		<i>kvrr-</i>	
3f, FEM	<i>ying-</i>	<i>ying-</i>	<i>ang-</i>	<i>ying-</i>	<i>nga-</i>
3m, MASC	<i>n-</i>	<i>n-</i>	<i>en-</i>	<i>nen-</i>	<i>n- ~ en-</i>
3a, COLL	<i>na-</i>	<i>narr-</i>	<i>ab-</i>	<i>narr-</i>	<i>(a)rra-</i>
VEG	<i>nvm-</i>		<i>am-</i>		<i>ma-</i>
NEUT	<i>na-</i>		<i>ak-</i>		<i>∅-</i>

Table 4.3: Intransitive and transitive (non-equipollent) realis morphemes

This table should be read as follows: ‘1st order subject’ refers to the direct order of subject outranking the object. When the object outranks the subject in the person/number/animacy hierarchy, it comes in first order (i.e., it precedes the subject prefix). The empty cells for the first and second person categories indicate that these never appear in second order: first and second person humans are highest in the person/number/animacy hierarchy and thus are never outranked, whether they are subject or object. The inanimate VEG and NEUT classes, on the other hand, are lowest in the hierarchy and consequently never appear as first order.

Most non-equipollent prefix combinations can be pieced together from the forms in this table: for example, the combination 2a/3f is expressed by the first order ‘2a’ prefix *kvrr-* plus the second order ‘3f’ prefix *nga-*: *kvrr-nga-* [kəɾəŋa] ‘you...her’ (second person outranks third person). For the reverse combination 3f/2a, we get the first order 2a object *kvrr-* plus second order 3f subject *ang-*, which yields *kvrr-ang* [kəɾaŋ].

As can be seen from the table, the first order transitive subject forms are identical to the intransitive subject forms. The only exception is the ‘3a, COLL’ prefix: this is *na-* when intransitive but *narr-* as a first order transitive subject. The NEUT class object exponent is *∅-*. This is the only zero exponent in the transitive realis paradigm. Consequently, transitive prefixes with a NEUT class

object are identical to intransitive prefixes, with the exception of ‘3a, COLL’ subjects (intransitive *na-*, but with NEUT class object *narr-*). (In Wubuy, the transitive paradigm with a NEUT class object is identical to the intransitive paradigm; see Heath 1984.)

In a number of Gunwinyguan languages, including Wubuy, Ngandi, Ngalakgan and BGW, an ‘Inverse’ (Inv) morpheme is inserted between the object and the subject marker when the object outranks the subject. This is most often a nasal consonant (but in Ngandi it is *-ku-*). For example, while 1/3m is expressed morphemically as 1-3m (e.g. Wubuy *nga-nu-*, Ngandi *nga-nu-*), 3m/1 is expressed as 1-Inv-3m (Wubuy *nga-[N]-ni-*⁷, Ngandi *nga-ku-ni-*) (Heath 1997). Enindhilyakwa does not have any obvious morpheme that marks inverse orders. Instead, the language displays minor allomorphic specialisations in the inverse prefixes. For example, the direct 1/3m combination is *(nv)ng-en-* [1-3m], whereas the inverse combination 3m/1 is *ngv-n-* [1.O-3m.S]. Heath (n.d., 1997) proposes that, even though no consistent inverse morpheme can be identified in Enindhilyakwa, the inverse complexes in this language can be derived from a Wubuy-like proto-system, involving an unspecified nasal inverse morpheme *-N-*. Space and time limitations prevent me from discussing this important proposal here, but it is summarised in Appendix L.

The prefixes that are not composable of the forms in Table 4.3 above include equipollent prefixes, where the subject and the object are in the same hierarchical class (e.g. combinations of 1st and 2nd person). The irregular prefix forms are presented in Table 4.4.

S \ O	1	1a	12	12a	2	2a	3f, FEM	3m, MASC	3a, COLL	VEG	NEUT
1					<i>yirra-</i>	<i>ngarra-</i>					
1a					<i>ngarra-</i> <i>~yirra-</i>	<i>ngarra-</i> <i>~yirra-</i>		<i>yin-</i>	<i>yirra-</i>		
12							<i>yanga-</i>				
12a								<i>ngen-</i>	<i>ngarra-</i>		
2	<i>y-</i>	<i>yirr-</i>									
2a	<i>yirr-</i>	<i>yirr-</i>							<i>kvrra-</i>		
3f, FEM	<i>ng-</i>				<i>ng-</i>		<i>nanga-</i>		<i>narrv-</i> <i>nga-</i>		
3m, MASC	<i>ngvn-</i>				<i>ngvn-</i>			<i>(nen-)</i> <i>~ n-</i>	<i>(narren-)</i> <i>~ nen-</i>		
3a, COLL	<i>b-</i>				<i>b-</i>			<i>(narren-)</i> <i>~ nen-</i>	<i>narra-</i>		
VEG										<i>na- /</i> <u> </u> C	
NEUT	<i>k-</i>				<i>k-</i>					<i>nuw- /</i> <u> </u> V	

Table 4.4: Irregular transitive realis prefixes

⁷ The Wubuy Inverse morpheme is *-N-*, an underspecified nasal consonant, which happens to be deleted in the 3m/1 prefix (as indicated by the square brackets).

This table should be read as follows: the shaded cells denote semantically impossible combinations (e.g. first person acting on first person is expressed by a reflexive verb, which is morphologically intransitive). The empty cells represent prefixes that can be pieced together from the morphemes in Table 4.3, while the filled cells are irregular prefixes that are not composed of these morphemes. When one variant of a prefix is given in parentheses, this is a composable (regular) form.

The irregular prefixes can be subdivided into three categories: (i) equipollent, (ii) 1st and 2nd minimal objects, (iii) some forms with human 3rd person objects. The (i) and (ii) categories do not have separate exponence for both participants, whereas the forms in (iii) may be phonologically shortened forms. The equipollent combinations of second person acting on first are represented by intransitive prefixes: the ‘2/1’ prefix *y-* is the same as the intransitive ‘12’ (1 inclusive minimal) prefix. The prefix *yirr-* that represents other second person acting on first combinations, is identical to the intransitive ‘1a’ (1 augmented) prefix. The combinations of first person acting on second use transitive prefixes involving a third person augmented object. The ‘1/2’ prefix *yirra-* (which also represents one allomorph of the combinations ‘1a/2’ and ‘1a/2a’), is identical to the combination ‘1a/3a’. The prefix *ngarra-*, which represents ‘1/2a’ (and one allomorph of ‘1a/2’ and ‘1a/2a’), is identical to the combination ‘12a/3a’. The equipollent prefixes involving VEG and NEUT participants are expressed by intransitive NEUT prefixes: *na-* before consonants and *nuw-* before vowels.

The equipollent combinations involving 3 human forms do seem to have separate exponence for both participants, but the combinations are phonologically altered. For example, the 3m/3f prefix *nanga-* diverges slightly from the expected form *nv-nga-*. The equipollent prefix 3a/3a *narra-* can be seen as a shortened version of the regular form *narrarra-* (Leeding 1989). Other forms involving 3rd person humans are syncretised: the prefix 3f/3f, for example, is not the expected *yingv-nga-*, but homophonous with 3m/3f *nanga-*.

Finally, there is complete syncretism of forms with 1st and 2nd person minimal objects. These combinations often do not have exponence for both participants: for example, 3f/1 is expressed as *ng-* [1.O]. The 3m/1 and 3m/2 combinations do have exponence for both participants, but with some phonological change: the form is *ngv-n-* [1.O-3m.S], rather than *ng-en-*. And others are portmanteaux forms, such as NEUT/2 as *k-*.⁸

Other neutralisations not shown in this section, but that can be seen in the full paradigm in Appendix J are: neutralisation of gender for all object forms, except the third person human

⁸ Several Gunwinyguan languages, such as Ngalakgan and Ngandi, employ *ku-* as a NEUT noun class pronominal prefix, as do many other non-Pama-Nyungan languages outside Gunwinyguan, making it likely that this is an archaic feature (Evans 2003a: 416, fn10). The Wubuy NEUT pronominal prefix *wu-* ~ *ku-* also reflects **ku-*. Diachronically, then, this irregular form in Enindhilyakwa may be a residue of an old NEUT class prefix. See Appendix L.

minimal (recall that these are represented by a gender morpheme only). Person and number are neutralised for all second order forms, whether they are subject or object. An exception is ‘3a, COLL’, which is represented as the number morpheme (*a*)*rra-* as a second order object in some combinations (e.g. *nvng-arra-* [1-3a] ‘I...them’). The second order ‘3a, COLL’ subject form *ab-* is idiosyncratic and occurs in no other prefix combination. A formally similar prefix is however very common in non-Pama-Nyungan (nPN) languages for the third person non-minimal form. Harvey (2003b) reconstructs **bV-* ‘3 non-minimal’ for proto-nPN.

4.2.2.2 Transitive irrealis

In the irrealis series the first order subject and first order object forms are very similar to each other, and to intransitive subjects. Second order subjects and objects are identical to those in the realis series, except for the absence of the ‘3a, COLL’ allomorph (*a*)*rra-*. Table 4.5 lists the transitive first and second order subject and object forms, together with the intransitive prefixes for comparison. The full transitive irrealis paradigm is presented in Appendix K.

IRREALIS	Intr. subject	Transitive Subject		Object	
		1 st order	2 nd order	1 st order	2 nd order
1	<i>k-</i>	<i>k-</i>		<i>k-</i>	
1a	<i>yik-</i>	<i>yik-</i>		<i>yik-</i>	
12	<i>yak-</i>	<i>yak-</i>		<i>yak-</i>	
12a	<i>ak-</i>	<i>ak-</i>		<i>ak-</i>	
2	<i>k-</i>	<i>k-</i>		<i>k-</i>	
2a	<i>yik-</i>	<i>yik-</i>		<i>yik-</i>	
3f, FEM	<i>kvng-</i>	<i>kvng-</i>	<i>ang-</i>	<i>kvng-</i>	<i>nga-</i>
3m, MASC	<i>kvn-</i>	<i>kvn-</i>	<i>en-</i>	<i>ken-</i>	<i>n- ~ en-</i>
3a, COLL	<i>ka-</i>	<i>karr-</i>	<i>ab-</i>	<i>karr-</i>	<i>a-</i>
VEG	<i>kvm-</i>		<i>am-</i>		<i>ma-</i>
NEUT	<i>ka-</i>		<i>ak-</i>		<i>Ø-</i>

Table 4.5: Intransitive and transitive irrealis morphemes

This table should be read in the same way as Table 4.3: ‘1st order subject’ refers to the direct order of subject outranking object. First and second person never come in second order, as indicated by the empty cells. The inanimate VEG and NEUT classes never appear as first order forms.

Most irrealis prefix combinations can be pieced together from the forms in this table: for example, the combination 2a/3f is expressed by the first order 2a subject prefix *yik-* plus the second order 3f object form *nga-*: *yik-nga-* [jikəŋa]. For the reverse combination 3f/2a, we get the first order object prefix *yik-* plus the second order 3f subject prefix *ang-*: *yik-ang-* [jikan].

The irrealis paradigm displays both more syncretism and more regularity than the realis paradigm. There is complete syncretism between 1 and 2 subject forms (e.g. *kv-ma-* is IRR.1/VEG and IRR.2/VEG), as well as between 1a and 2a subject forms (e.g. *yikv-ma-* is IRR.1a/VEG and

IRR.2a/VEG). There is also complete syncretism between 1 and 2 object forms (e.g. *k-am-* is IRR.VEG/1 and IRR.VEG/2), as well as between 1a and 2a object forms (e.g. *yik-am-* is IRR.VEG/1a and IRR.VEG/2a). In the realis paradigm only 1 and 2 object forms were syncretised.

Whereas in the realis paradigm the combinations with 1st and 2nd person objects were irregular forms, in the irrealis paradigm they are composable of the forms in Table 4.5: for example, 3a/1 is regular *k-ab-* [1.O-3a.S], and 3f/2 is *k-ang-* [2.O-3f.S]. Other equipollent prefixes involving 3rd person humans are also regular, such as 3f/3m, which is *kvngv-n-* [3f-3m] (with epenthetic schwa between the two prefixes). The combination 3m/3f is also regular *kvnv-nga-* [3m-3f].

As for the realis series, the first order transitive irrealis subject forms are identical to the intransitive subject forms, with the exception of the ‘3a, COLL’ prefix: intransitive subject *ka-* but first order transitive subject *karr-*. Again, the NEUT class object exponent is \emptyset -, and the transitive prefixes with a NEUT class object are identical to intransitive prefixes (with the exception of ‘3a, COLL’ subjects).

The prefixes that are not composable of the forms in Table 4.5 above are presented in Table 4.6.

S \ O	1	1a	12	12a	2	2a	3f, FEM	3m, MASC	3a, COLL	VEG	NEUT
1					<i>yiba-</i> ~ <i>yika-</i>						
1a					<i>ka-</i> ~ <i>yika</i> ~ <i>yiba-</i>						
12											
12a											
2	<i>yik-</i>										
2a											
3f, FEM									<i>karrvnga-</i>		
3m, MASC								<i>ken-</i>	(<i>karren-</i>) <i>ken-</i>		
3a, COLL											
VEG										<i>ka-</i> / <u> </u> C	
NEUT										<i>kuw-</i> / <u> </u> V	

Table 4.6: Irregular transitive irrealis prefixes

The empty cells represent the prefixes that can be pieced together from the forms given in Table 4.5. The irregular prefixes can be subdivided into two categories: (i) equipollent, and (ii) some forms with 3a object. The number of irregular forms is substantially lower in the irrealis paradigm than in the realis paradigm.

4.2.2.3 Transitive imperative

The morphological structure of transitive imperative prefixes is almost fully compositional: the transitive subject forms are identical to those of the intransitive imperative, and the object forms are identical to realis and irrealis second order object forms. Table 4.7 presents the paradigms (adjusted from Leeding 1989).

S \ O	1, 1a	3m / MASC	3f / FEM	3a / COLL	VEG	NEUT
2	= REALIS	<i>n-</i>	<i>nga-</i>	<i>wurr-</i>	<i>ma-</i>	\emptyset - ~ <i>w-</i>
2a		<i>wun-</i>	<i>wurrvnga-</i>	<i>wurra-</i>	<i>wurrvma-</i>	<i>wurr-</i>
2fdu		<i>wungvn-</i>			<i>wu(rrv)ngvma-</i>	<i>wu(rrv)ng-</i>
2mdu		<i>wun-</i>	<i>wunvnga-</i>		<i>wunvma-</i>	<i>wun-</i>
2tri		<i>wu(rrv)bvkv-</i>	<i>wu(rrv)bvkvnga-</i>		<i>wu(rrv)bvkvma-</i>	<i>wu(rrv)bvkv-</i>

Table 4.7: Transitive imperative paradigm

The only irregularity involves 2nd person subjects, which mostly have a zero exponent (e.g. 2/3m is *n-* [3m.O]). Since the NEUT object exponent is also zero, this can result in a zero 2/NEUT transitive prefix (the only phonologically null transitive prefix in the language). The combination 2/3a is also irregular and is identical to the intransitive 2a imperative prefix. Some examples of transitive imperatives are:

- (7) a. *Wurrv-nga-rrvngkv-na dh-aka dhadvkuwarrkuwarrka dh-abarda.*
 IMP.2a-FEM-see-NP2 FEM-that FEM.spider FEM-dangerous
 ‘Look at that dangerous spider!’ (VL1 p.410)
- b. *Wu-mi-ya bangkilya akwa ridhi-ya ena eeka.*
 IMP.2/NEUT-take-NP1 axe(NEUT) and IMP.2/NEUT.chop-NP1 NEUT.this NEUT.tree
 ‘Take the axe and chop down the tree!’ (VL1 p.413)
- c. *ma-lhvngajirra-ka m-akina merra*
 IMP.2/VEG-long-CAUS.NP1 VEG-this VEG.rope
 ‘stretch the rope!’ (anin4_mm_au_002)

Imperatives with first person objects take realis prefixation (Leeding 1989). Furthermore, the negated non-past form also covers the negated imperative, as illustrated in (8).

- (8) *Nara a-lyang-barrv-ma nvng-ena arvngka-manja vmba yu-wardi-ya*
 NEG NEGNP-head-hit-NP3 1-that NEUT.head-LOC but 2/1-hit-NP1
mambangbvr-ra-manja.
 VEG.tailbone-LOC
 ‘Don’t hit me on the head but hit me on my tailbone!’ (‘Seagull and Pheasant’ u51-2)

The first verb *a-lyang-barrv-ma* is in the negated non-past, which is interpreted here as a negated imperative; the second verb *yu-wardi-ya* is a realis form that is interpreted as a positive imperative.

4.2.2.4 Transitive hortative

The structure of the transitive hortative series is almost fully compositional (apart from a few neutralisations): the subject morphemes are identical to the intransitive hortative subject forms, and the object morphemes are identical to (realis and irrealis) second order object forms. Table 4.8 presents the paradigm (adjusted from Leeding 1989).

	1, 12, 1a,12a	2	3m / MASC	3f / FEM	3a / COLL	VEG	NEUT
1	-		= REALIS				
3m / MASC	= IRREALIS		<i>en-</i>	<i>envnga-</i>	<i>abvn-</i>	<i>envma-</i>	<i>en-</i>
3f / FEM			<i>angvn-</i>		<i>abvrrvng-</i>	<i>angvma-</i>	<i>ang-</i>
VEG			<i>enam-</i>	<i>angam-</i>	<i>abvrram-</i>	<i>angak-</i>	
NEUT			<i>enak-</i>	<i>angak-</i>	<i>abvrrak-</i>		
3a / COLL			<i>abvn-</i>	<i>abvrrvnga-</i>	<i>abvrra-</i>	<i>abvrrvma-</i>	<i>abvrr-</i>
3fdu			<i>abvrrv- ngvn-</i>	<i>abvrvnga-</i>		<i>abvrrv- ngvma-</i>	<i>abvrrvng-</i>
3mdu			<i>abvrvn-</i>			<i>abvrvma-</i>	<i>abvn-</i>
3tri			<i>abvrrv- bukun-</i>	<i>abvrrv- bukunga-</i>		<i>abvrrv- bukuma-</i>	<i>abvrrvbuk-</i>

Table 4.8: Transitive hortative paradigm

To illustrate the compositionality of these combinations: NEUT/3m is expressed as *en-ak-* [3m.O-NEUT.S], and 3a/3f *abvrrv-nga-* [3a-3f]. The forms with ‘3a’ and ‘3mdu’ subjects are shortened, which Leeding attributes to haplology: e.g. the 3a/3m form *abv-n-* [3a-3m] is derived from *abvrrv-n-* through haplology. The equipollent combinations with the inanimate noun classes is irregular and homophonous with NEUT/3f (Leeding 1989: 418). Some transitive hortative examples are:

- (9) a. *abvrrv-nga-mamvrvkaji-na ngalha-ja*
 HORT.3a-3f-help-NP2 3f.PRO-COFR
 ‘let them help her’ (VL1 p.418)
- b. *angv-nv-ngaji-na enuwa-manja*
 HORT.3f-3m-hit-NP2 3m.PRO-LOC
 ‘let her hit him’ (VL1 p. 418)

Transitive hortatives with first or second person objects take irrealis prefixation (Leeding 1989), as illustrated in (10). Hortatives with a first person minimal subject and a third person object, on the other hand, take realis prefixation, as shown in (11).

- (10) *Ngayamba-lhangwa yiba-lyang-barri-ya-lhangwa arvngka-manja.*
 1.?-ABL IRR.1/2-head-hit-NP1-ABL NEUT.head-LOC
 ‘In my turn, let me hit you on the head.’ (‘Seagull and Pheasant’ u49)
 (Or: ‘In my turn, I will hit you on the head’)

- (11) a. *Ngv-nga-makv-na-ma Judie mvnhvnga kvngu-ngurrkwa-ja-mv-lhangwa.*
 1-3f-tell-NP2-*ma* J. VEG.burrawang IRR.3f-collect-NP2-*ma*-ABL
 ‘Let me tell Judie about collecting burrawang.’ (‘Burrawang’ o1)
 (Or: ‘I am telling Judie about collecting burrawang.’)
- b. “*Arakba ngarrv-lhvka-ja-ma ngarna, ngarrv-lhvka-ja-ma ngarrv-m-arddhvrre-na-ma*
 now 12a-go-NP2-*ma* 12a.that 12a-go-NP2-*ma* 12a-VEG-spear-NP2-*ma*
makarda m-akina”, *ne-yama wurr-akina.*
 VEG.sea VEG-that 3a-say.PST 3a-that
 “‘Let’s go, let’s go and let’s spear the sea”, they said.’ (‘Chasm Island’ 2-5)
 (Or: ‘We are going, we are going and we are spearing the sea.’)

A hortative reading and a future reading, as in (10), are semantically and pragmatically very close, so it is conceivable that these meanings are expressed by the same forms. However, a hortative reading, which expresses an event that has not yet been realised, is harder to reconcile with a present tense reading, as in the examples in (11). Context has to determine which reading is intended in this case.

4.2.3 Person-number-animacy hierarchy

All previous researchers observed that the order of the subject and object prefixes is governed by person, number and animacy factors (a hierarchical ordering of bound pronominals is common in Australia [e.g. Blake 1987]). First and second person are highest on the hierarchy, augmented number outranks minimal number, and the non-human noun classes are at the bottom of the hierarchy. The following (a) examples illustrate the direct order of subjects preceding objects, while (b) exemplify inverse orders when the object outranks the subject.

- (12) a. *nvng-env-rrvngka*
 1-3m-see.PST
 ‘I saw him’
- b. *ngv-nv-rrvngka*
 1.O-3m.S-see.PST
 ‘he saw me’
- (13) a. *narr-env-rrvngka*
 3a-3m-see.PST
 ‘they saw him’
- b. *wurrv-ba warnvmamalya narr-env-rrvngka?*
 3a-any 3a.people 3a.O-3m.S-see.PST
 ‘did he see any people?’ (VL1 p.347)
- (14) a. *yingv-ma-rrvngkv-nv-ma mangiyuwanga*
 3f-VEG-see-P2-*ma* VEG.shark
 ‘she was looking at the shark’ (VL1 p.379)
- b. *yinga-mv-rrvngv-nv-ma mangiyuwanga*
 3f.O-VEG.S-see-P2-*ma* VEG.shark
 ‘the shark was looking at her’ (VL1 p.379)

These examples show the minor allomorphic variation that occurs in some inverse complexes, such as *yingvma-* ‘3f/VEG’ vs. *yingam-* ‘VEG/3f’ in (14). Other combinations are ambiguous, such as *narren-* in (13), which can represent direct ‘3a/3m’ as well as inverse ‘3m/3a’.

The hierarchy was stated above as follows: 1, 2 > human 3a > human 3 > non-human. However, the situation becomes a bit muddled when nouns belonging to the ‘animate’ FEM, MASC and COLL classes are involved. These classes are represented by the same prefixes as human 3f, 3m and 3a, respectively. The question is, what happens when a non-human ‘animate’ acts on a human, for instance when a snake(MASC) bites a girl(3f): does human outrank non-human, or does the MASC subject precede the 3f object (as the 3m morpheme would)?

There does not appear to be a straightforward answer to this question: the previous authors posit different prefix combinations for such cases, the data show a range of options, and speakers themselves are unsure which combination to use. When I tried to elicit ‘the snake(MASC) bit the girl(3f)’ my informant first produced the structure in (15a), but then said “hang on...” and changed it to (15b).

- (15) a. *yingarna yingv-n-anga-ma dh-adhiyara-manja*
 MASC.snake 3f.O-MASC.S-bite.PST-*ma* 3f-girl-LOC
 b. *na-ng-anga-ma dh-adhiyara-manja*
 MASC-3f-bite.PST-*ma* 3f-girl-LOC (anin4_mm_au_002)

Eventually she decided, after discussing it with another speaker, that (15a) was the best option, with the human object outranking the non-human subject. Yet in Leeding’s (1989) and Waddy’s (n.d.) material, MASC/3f is expressed as *nanga-*, as in (15b), with the non-human subject occurring as first order. To make things more complicated, according to Heath the MASC/3f prefix is *yingak-*, showing neutralisation with the NEUT/3f form.

This confusion does not occur when the subject is FEM class: in all accounts this occurs as a *first* order subject when combined with a human object. My informants also did not hesitate about this:

- (16) a. *dhingarrbiya yingv-n-anga-ma n-enungkwarba(-manja)*
 FEM.crocodile FEM-3m-bite.PST-*ma* 3m-man(-LOC)
 ‘the crocodile bit the boy’ (anin4_mm_au_002)
 b. *yingv-nv-dhadhv-ma*
 FEM-3m-poke.P1-*ma*
 ‘the cockatoo [*dhuwedhvrra*(FEM)] poked the boy’ (anin4_mm_au_002)

To summarise so far, MASC subjects may or may not precede human minimal objects, whereas FEM subjects always seem to precede human minimal objects.

Nominals belonging to the COLL class, which take the same argument prefix as human 3a, seem to always outrank third person minimal morphemes, whether these are humans, as in (17a), or non-humans (17b).

- (17) a. *narrv-nga-rrvngka wurruweba dh-akina*
 COLL.O-3f.S-see.PST COLL.parrot 3f-that
 ‘she saw the parrot’ (LL Book 5 p.15)
- b. *wurr-akina wurru-wilyaba-manja narrv-nga-mvrndak-ararika-ma dh-akina*
 COLL-that COLL-one-LOC COLL.O-FEM.S-all-coil.around.PST-*ma* FEM-that
 ‘it [snake(FEM)] was coiled all around one [dog(COLL)]’ (‘Snake and Dogs’)

A more accurate version of the hierarchy is therefore as follows:

- (18) 1, 2 > 3a, COLL > 3, FEM (MASC) > VEG, NEUT (MASC)

The ambivalent behaviour of MASC nouns is also observed by Heath (n.d.), who lines up MASC sometimes with 3m, and sometimes with the inanimate classes.

When both arguments of the verb belong to the ‘inanimate’ VEG or NEUT classes the prefix is neutralised to *na-* (realis) or *ka-* (irrealis), which is the same prefix as the intransitive ‘3a, COLL’ and NEUT classes.

- (19) a. *arrvrra na-warri-ji-na-ma dhymbala lain-manja*
 NEUT.wind NEUT/VEG-move-CAUS-NP2-*ma* clothes(VEG) line-LOC
 ‘the wind made the clothes move on the line’ (anin4_mm_002)
- b. *ka-ngaji-na-ma*
 INAN/INAN-kill-NP2-*ma*
 ‘the fish(NEUT) will kill the shark(VEG)’ or ‘the shark(VEG) will kill the fish(NEUT)’
 (VL1 p.383)

As mentioned above, the transitive hortative combination with NEUT and VEG participants has syncretised with the hortative NEUT/3f form according to Leeding (1989). However, there are no data available to test this claim.

4.3 The morphosyntactic status of argument prefixes

A defining characteristic of polysynthetic languages is the presence of affixes on the verb that encode information about some or all arguments of the verb. There has been extensive debate in the literature on whether these argument-marking affixes constitute the ‘real’ arguments of the clause, with external NPs functioning as adjuncts, or whether they merely *agree* with the external nominal arguments (see Nordlinger 1998 for a comprehensive overview of this debate). The ‘pronominal argument’ model (e.g. Jelinek 1984; M. Baker 1991, 1996) claims that the bound pronominals are the true exponents of the verb’s arguments, with any free nominals being co-referential adjuncts. According to this model, the intriguing and well-known properties of non-

configurational languages as first identified by Hale (1983) - free word order, null anaphora and discontinuous NPs - are derived from a single source: the presence of bound pronominal anaphors. Due to their obligatory nature, the pronominals fill the argument positions of the verb, and the external nominals can be freely omitted ('null anaphora'). The analysis of free nominals as adjuncts can account for their free order and discontinuity, as adjuncts are known to have freer ordering possibilities than arguments, and they are iterable (Nordlinger 1998: 34-5). This way, non-configurational languages can be assimilated to the configurational model, which is desirable because of its theoretic economy and explanatory elegance.

However, subsequent work has shown that the pronominal argument approach is not the right analysis for some Australian languages (Simpson 1991; Austin & Bresnan 1996; Nordlinger 1998; Evans 2002; B. Baker 2002). First of all, the non-configurational properties are in fact independent of each other, so they cannot be traced back to a single source. For example, Austin & Bresnan (1996), citing Pensalfini (1992), note there is no correlation between discontinuous NPs and free word order. Kayardild, for example, has very free word order but does not normally allow discontinuous NPs (Nordlinger 1998, citing Evans 1995). In addition, Austin & Bresnan (1996: 259ff) show that bound pronouns are an *areal* feature in Australia: languages that realise the pronominal indices as prefixes are restricted to the far north, whereas languages that realise them as suffixes constitute two major blocks in the south-east and central-west. Many languages do not have bound pronouns at all, but do show non-configurational properties. The presence of bound pronominals is therefore independent of other syntactic or morphological characteristics.

In addition, there is extensive empirical evidence against the analysis of overt nominals as adjuncts, and of bound pronominals only acting as arguments (see Nordlinger 1998 for an overview). This evidence includes: (i) some subcategorised arguments are never registered on the verb, which in the 'pronominal argument' model would result in them not being represented anywhere; (ii) verbal prefixes provide person and number information, but they remain non-committal about reference and definiteness. Therefore, in order to obtain a full referring expression, external material needs to be more tightly integrated than treating it as an adjunct (Evans 2002). Both features are examined in the following two sections, which lean heavily on Evans' (2002) and B. Baker's (2002) reasoning against treating verbal prefixes in Bininj Gun-Wok and Ngalakgan as the sole exponents of the verb's arguments.

4.3.1 Unregistered arguments

Pronominal prefixes on the verb in Enindhilyakwa register up to two arguments of the verb. Consequently, for verbs with more than two arguments, one fails to be represented and can only occur as a free nominal. Some morphologically intransitive verbs subcategorise for two arguments,

but register only one of these, while the other argument appears as a free nominal. Such verbs include semi-transitive verbs, cognate object verbs and others that are treated as not fully transitive in the grammar.

The above cases are discussed here in turn, beginning with examples of ditransitive verbs.

- (20) a. ...*akena narra-mu-kwa-ma ekbarra.*
 but 3a.O-VEG.S-give.PST-*ma* NEUT.headache
 ‘...but it [*mayukwarra* ‘VEG.mauve convolvulus’] gave them a headache.’ (GED p.57)
- b. *ngayuwa ngv-nu-wilyakaju-wa doctor nganyangwa yinungurnda*
 1.PRO 1-3m-show-P2 " 1.PRO.POSS MASC.scar
 ‘I showed the doctor my scar’ (anin4_dl_au_003)
- c. *yirre-nv-maka-mvrra ena alhawudhawarra akina*
 1a.O-3m.S-tell.PST-*ma* NEUT.this NEUT.story NEUT.that
 ‘he told us this story’ (‘Snake and Dogs’)

In these examples the theme argument fails to be registered on the verb, as the object slot is filled by the recipient argument.

Similarly, when the benefactive applicative introduces an argument to the verb, the new argument is represented by the object prefix on the verb; the former direct object now occurs as a free nominal (see also section 4.5 below).

- (21) a. *nv-ma-mukulharri-ju-wa merra*
 3m-VEG-flow-CAUS-P2 VEG.blood
 ‘he shed his blood’
- b. *kvrr-enu-mvnnv-mukulharri-ju-wa merra*
 2a.O-3m.S-BENE-flow-CAUS-P2 VEG.blood
 ‘he shed his blood for you’ (Ansec2)

The direct object argument is registered on the verb in (21a), but not in (21b), as the object slot is now occupied by the introduced beneficiary argument.

Semi-transitive verbs such as intentional verbs provide further examples of unregistered arguments. The subcategorised object is not cross-referenced on the verb but expressed as an overt nominal in ALL case, as in (22a). The example in (22b) shows that this nominal can become a real, registered, argument of the verb by means of the BENE applicative. The free nominal then is no longer marked with ALL case. The use of ALL case on subcategorised arguments of the verb is investigated further in sections 8.2 and 8.6.

- (22) a. *ying-andheeyv-ma m-akinu-wa menungkwa*
 FEM-look.for.P2-*ma* VEG-that-ALL VEG.spear
 ‘they (*dhukururrkwa* ‘FEM.brolga’) looked for those spears’ (‘Brolga’ q77)
- b. *yingv-ma-mvn-andheeyv-ma ma-mvrndak-ibina menungkwa*
 FEM-VEG-BENE-look.for.P2-*ma* VEG-many-that VEG.spear
 ‘they (*dhukururrkwa* ‘FEM.brolga’) looked for those spears’ (‘Brolga’ q69)

Cognate object verbs constitute another case of unregistered arguments. These verbs are morphologically intransitive, but take an external (cognate) direct object nominal. Examples include ‘eat’, ‘drink’, ‘vomit’, ‘sleep’, ‘argue’, ‘sing’, ‘speak’, ‘dig’. Some are illustrated below.

- (23) a. *Wurru-kwalha warnvmamalya nuw-alyvbarv-nv-ma yi-nv-m-adhangkwa.*
 3a-some 3a.people 3a-eat-P2-*ma* MASC-m-INALP-meat
 ‘Some people used to eat the meat [of *yelyuwarra* ‘MASC.sugar glider’].’ (GED p.64)
- b. *ne-beki-nv-ma m-akina ma-m-alyirra*
 3a-drink-P2-*ma* VEG-that VEG-INALP-liquid
 ‘they drank the liquid (of *marrvngmvrnv-mvrna* ‘VEG.quinine bush’)’ (GED p.7)
- c. *n-errekbi-na-ma n-akina erra*
 3m-vomit-NP2-*ma* 3m-that NEUT.vomit
 ‘He is vomiting.’ (anin2_em_au_002)
- d. *nv-mungkulha-ma marrvnga*
 3m-sleep.NP2-*ma* VEG.sleep
 ‘He is sleeping.’ (anin2_em_au_002)

Austin (1982) describes cognate object verbs for dependent-marking Australian languages and notes that their complements have the morphosyntactic properties of a transitive object (i.e. marked with absolutive case), whereas their subject is case-marked like an intransitive subject (i.e. also with absolutive case). This pattern is comparable to Enindhilyakwa, where the subject argument is represented on the verb as an intransitive subject, while the external cognate object is treated as a regular argument of the verb, as it is caseless. Austin claims that these facts can be accounted for by the transitivity continuum proposed by Hopper & Thompson (1980), where transitivity depends on a set of components, such as individuation, definiteness, affectedness, and so on. Non-individuated objects are inanimate, mass, and abstract, amongst others, and they are low on the transitivity scale. Cognate objects are low in individuation, and they are rather indistinct from their own background. Therefore, we might expect that clauses containing them are not fully transitive (Austin 1982: 46), which in Enindhilyakwa translates into cognate objects not being represented on the verb.

There are some other verbs that take intransitive prefixation, even though their subcategorised objects may be highly individuated on Hopper & Thompson’s (1980) scale. These verbs include ‘hear’ and ‘like’, whose objects can be human, singular, and referential, but which nonetheless are always morphologically intransitive.

- (24) a. *ngayuwa nvng-engkirra-ja-ma nungkuwa*
 1.PRO 1-hear-NP2-*ma* 2.PRO
 ‘I hear you’ (anin4_dl_au_003)
- b. *nvngi-lyelyingmi-na-ma enuwa*
 1-like-NP2-*ma* 3m.PRO
 ‘I like him’ (anin1_em_au_002)

In these cases, however, the object of the verb is unaffected by the action of the verb, which may be why it scores low on Hopper & Thompson's transitivity scale. The lack of affectedness of the object may explain why the clause is not fully transitive.

As the above examples show, it is possible for subcategorised arguments of the verb to not be registered on the verb.⁹ If the overt nominals were adjuncts, as is required by the pronominal argument model, there would be nothing to fulfil their argument function: it cannot be the external nominal, as this is an adjunct, and the prefix slot is filled either by a different argument (in the case of ditransitive verbs), or it is non-existent (in the case of morphologically intransitive verbs with overt object nominals). Thus, at least in the above cases, the overt nominals themselves must be fulfilling the argument function (see Simpson 1991 and Nordlinger 1998 for similar arguments in Warlpiri and Wambaya, respectively).

4.3.2 Interaction of argument prefixes with definiteness

The previous section investigated the consequences of the hypothesis that external nominals are adjuncts - as assumed in the pronominal argument model - and concluded that this does not hold true for Enindhilyakwa. Evans (2002) explores the consequences of the requirement that the bound pronominal affixes represent the arguments of the verb, for Bininj Gun-Wok. He demonstrates that object prefixes in Bininj Gun-Wok can be used in different ways from pronouns in languages like English, in that they can be used in non-referential contexts: they may have generic, indefinite and unspecified readings. Evans (2002) claims that they are therefore better analysed as agreement markers. However, in the absence of an external nominal, verbal prefixes can act as the exponents of the verb's arguments.¹⁰

⁹ There is another construction of an overt argument that fails to appear on the verb, which is the 'external possession' construction, to be discussed in section 7.10.1. Here, the possessor of a body part is registered on the verb, while the body part may occur external to the verb, as in *nvng-arrkujeeyi-na alhakba* [1-hurt-NP NEUT.leg] 'my leg hurts'. However, this is a different situation all together, because here the verb only subcategorises for one argument. This means that the body part is not an unregistered object. I will argue that the possessor and the body part - the 'whole' and the 'part' - together constitute the subject argument.

¹⁰ Baker (2002) argues for a three-way division in the morpho-syntactic and referential behaviour of pronominal prefixes in Ngalakgan. The first and second person argument prefixes are obligatory, always referential and do not co-occur with co-referential free pronouns. These argument prefixes are therefore analysed as pronominal anaphors, constituting the arguments of the verb. The third person plural prefix, on the other hand, although also obligatory, can be used in non-referential contexts (i.e. have generic, indefinite and unspecified readings). In other words, the 3pl prefix behaves like an agreement marker. The inanimate noun classes in Ngalakgan are different again, Baker argues, because these are optional and they can *disagree* with the co-referential nominal argument, as illustrated in (i). Therefore, they are neither bound pronouns nor agreement markers.

(i) *mu-jukgul* *ju-gu-mehme?*
 VEG-*A.holosericea* 2sg.S-NEUT-get.PP
 '[Oh, it was] an acacia one [spear] that you got?' (Baker 2002: 69, ex. [28c])

In this example, the external noun is VEG class, whereas the verb is marked for a NEUT class object. Baker proposes that the NEUT prefix on the verb is used to indicate that *mu-jukgul* '*Acacia holosericea*' is to be construed as a type of *spear shaft* that is being spoken about, rather than a type of *tree* (2002: 71). The verb thus takes the argument prefix that is most appropriate to the domain of inedible plants and the implements derived from them: NEUT class. The

Enindhilyakwa pronominal prefixes are insensitive to discourse factors such as definiteness, specificity, and so on. Verbs are highly inflexible, in that their prefixes either encode one argument (the subject), or two (subject, object) (this strict division between morphologically transitive and intransitive verbs is common in Australian languages, e.g. Dixon 1980; but see Austin 1982). Morphologically intransitive verbs include semi-transitive verbs and cognate object verbs discussed in the previous section, and others, which take an external object argument that is not represented on the verb. This section shows that, as a result of their obligatory nature, the pronominal prefixes are unaffected by the definiteness, specificity, et cetera of the nominal they register. They are equally easily used in non-referential contexts as with highly referential free pronouns and demonstratives. This is as much true for prefixes indexing humans as for those indexing non-humans or inanimates. This means that they cannot be analysed as pronominal anaphors that are the only exponents of the arguments of the verb.

• **Generic readings of argument prefixes**

All argument prefixes can index generic arguments, whether non-human animates (25a), inanimates (25b), or humans (26).

- (25) a. *y-akina yinikabvrra nuw-arrangbv-na-ma ngalha-lhangwa yi-nv-m+amuwa*
 MASC-that MASC.scrub.fowl 3a-lay-NP2-*ma* MASC.PRO-POSS MASC-m-INALP+round
 ‘Scrub fowls lay their eggs [in their usual place].’ (GED p.221)
- b. *mema mvrungkurra nvmv-lhungkuwarrvngv-na-ma mvrungwena-manja*
 VEG.this VEG.round.yam VEG-grow-NP2-*ma* VEG.jungle-LOC
 ‘Round yams grow in the jungle.’ (GED p.60)

- (26) *Wurr-ibina wurri-yukwayuwa ka-wakvdhv-na-manja akv-dhakov-na-ma*
 3a-that 3a-small IRR.3a-be.silly-NP2-LOC IRR.12a/NEUT-cook-NP2-*ma*
amarda angura-manja akwa aka-milye-na-ma ngarrv-rnd-arrvngba
 NEUT.leaves NEUT.fire-LOC and IRR.12a/3a-hold-NP2-*ma* 12a-mother-3a.KIN
ak-abilyuwendhvkv-na-ma arvngka akinu-wa angwarra kajungwa
 IRR.12a/3a-tip.over-NP2-*ma* NEUT.head NEUT.that-ALL NEUT.smoke so.that
karrakv-mvnu-wurre-ni-yadha akina abuwakvdha.
 IRR.NEUT/3a-BENE-leave-NP2-PURP NEUT.that NEUT.madness
 ‘If children are being silly, we mothers burn the leaves [of *marra* ‘VEG.wattle’] on a fire and hold them head down in the smoke so that the madness will leave them.’ (GED p.13)

Personal pronouns in English and other European languages do not allow such generic readings, as Evans (2002: 27) points out. For example, the third person plural pronoun in *she scolds them* does not permit a generic interpretation (instead a bare plural must be used: *she scolds people*).

argument prefix on the verb is used here to ‘fix’ or ‘delimit’ the construal of the external noun - similar to the function of generics in other Australian languages. Baker proposes the term ‘bound pronominal generic’ for these prefixes.

Enindhilyakwa differs from Ngalakgan in this respect: pronominal prefixes are obligatory, whether they cross-reference humans or inanimates. And all argument prefixes agree with their co-referent external noun. There are no instances in the data of disagreement of the Ngalakgan-type. Thus, Enindhilyakwa lacks ‘bound pronominal generics’.

• **Indefinite readings**

Intensional verbs, such as ‘look for’ and ‘want’, can take indefinite objects, as noted by Baker (2002) and the references therein. The Enindhilyakwa verb ‘want’ happens to be morphologically transitive and thus may index indefinite arguments, as in (27a,b). Whether the object is indefinite or definite makes no difference to it being cross-referenced on the verb. In (27c), for instance, the object is definite and specific.

- (27) a. *narrv-ngayindhu-ma damba*
 3a/NEUT-want.NP1-*ma* damper(NEUT)
 ‘they want flour’ (anin1_em_au_002)
- b. *angkabvrra nvngka-rra-ngayindhv-mvrra*
 who 2-3a-want.NP1-*ma*
 ‘who do you want?’ (VL1 p.475)
- c. *akwa y-akina yikarba nvnge-nv-ngayindhv-ma*
 and MASC-that MASC.woomera 1-MASC-want.NP1-*ma*
 ‘and I want that woomera [that you have stolen]’ (‘Lionel’ i35)

Other intensional verbs may be morphologically intransitive. An example is ‘look for’ in (22a) above and the following:

- (28) *ngayuwa nvng-andhiya-ma nganyangwa dhv-mamawura*
 1.PRO 1-look.for.NP2-*ma* 1.PRO.POSS FEM-VEG.sun
 ‘I am looking for my watch’ (anin4_dl_au_003)

The direct object argument is definite and specific, yet it fails to be marked on the verb, as this is morphologically intransitive. This example also shows that ALL case on the unregistered object of intensional verbs is not obligatory.

The direct objects of verbs other than intensional verbs can also be indefinite. But they are nonetheless represented on the verb when this is inherently transitive. An example is ‘see’:

- (29) a. *nvnga-rra-rrvngka-ma wurrv-balanda*
 1-3a-see-PST-*ma* 3a-white.person
 ‘I saw white people’ (‘A Trip South’ a4)
- b. *wurr-iba warnv-mamalya narra-rrvngka?*
 3a-any? 3a.m-people 3m/3a-see.PST
 ‘did he see any people?’ (= [13b])

The use of argument prefixes in indefinitely quantified conditions contrasts with the use of pronouns in languages like English, as observed by Evans (2002) and Baker (2002). For example, the equivalent of (30b), using an anaphoric pronoun in English, sounds ungrammatical: **Did he see them, any people?*

• **Co-occurrence with free pronouns and demonstratives**

Baker (2002) analyses independent pronouns in Ngalakgan as adjuncts. They are highly marked pragmatically, and they cannot co-occur in the same intonational phrase (IP) with a verb inflected for co-referential first or second person argument prefixes (2002: 60). This is one of the reasons that he analyses these prefixes as bound pronominals in Ngalakgan, which constitute the arguments of the verb.

Free pronouns are not very common in Enindhilyakwa texts, but they are very frequently produced in elicitation sessions, especially sentence-initially and with first person reference. Demonstratives with human reference, on the other hand, are very common in texts and also in elicited sentences. Recall from section 3.2.3 that demonstratives are often used with first and second person reference, as in (30).

- (30) *Ngakurruwa ngarnv-mamalya ngarna ngarr-engkirrika-ja-ma a-wurru-wurrariya-wa.*
 12a.PRO 12a.m-Aborigine 12a.this 12a-think-NP2-*ma* NEUT-RDP-bad-ALL
 ‘We Aborigines think about trouble [and keep out of it].’ (‘Mixed marriages’ e86)

From this example alone it is not clear whether the pronoun *ngakurruwa* and/or the demonstrative *ngarna* are part of the same IP as the verb (I suspect there will be a pause between *ngakurruwa ngarnvmamalya* ‘us Aborigines’ and *ngarna ngarrengkirrikajama...* ‘we think about...’). In elicited sentences, however, I have found that pronouns and demonstratives can both occur in the same IP as the verb, as in (31a) and (31b), respectively.

- (31) a. *ngayuwa nvng-angkarrv-na angalyu-wa*
 1.PRO 1-run-NP2 NEUT.house-ALL
 ‘I am running to the house’ (anin2_pw_au_005)
- b. *nvng-ena nvng-angkarrv-na angalyu-wa*
 1-this 1-run-P2 NEUT.house-ALL
 ‘I was running to the house’ (anin2_pw_au_005)

Given their high frequency, I choose to treat the demonstratives as arguments. This is less clear for less common independent pronouns, but as they *can* occur in the same IP as the verb, I will assume that they constitute arguments as well.

To summarise this section, we have seen that the pronominal prefixes - regardless of their animacy, person and number values - can occur in various non-referential contexts. This indicates that these prefixes are not always only anaphoric pronouns, as these are not expected to be compatible with such readings. We have furthermore seen that the pronominal prefixes can co-occur with demonstratives (which are used like anaphoric pronouns in Enindhilyakwa), and probably also with free independent pronouns. Finally, there are problems with analysing free

nouns as adjuncts, as this would result in arguments of the verb that are not indexed on the verb, to remain unrepresented.

Therefore, I concur with Evans (2002) that argument-indexing prefixes function as agreement markers, rather than as anaphoric pronouns, in the presence of external co-referential material. When there is no external material, the prefixes can represent the arguments of the verb. Evans (2002) proposes that verbs in polysynthetic languages occupy an intermediate status, in terms of specification of argument properties: “the verb plus its argument affixes is semantically more specified than a verb in a non-polysynthetic language (e.g. English), but less specified than an English verb plus the relevant free personal pronouns” (p.46). The semantics of a form like *nvngarrarrrvngka-ma* in (29a), therefore, lies somewhere between ‘saw something’ and ‘I saw them’: when external material is present, such as a pronoun or a noun, this contributes the relevant information. In the absence of external material, this job is done by the prefixes.¹¹

4.4 Quantifier [(-3)]

There are two different quantifier prefixes, *mvrnda-* and *wurra-*, which optionally emphasise multiplicity of intransitive subjects or transitive objects (see Leeding 1989). The usual translation is ‘all’ or sometimes ‘all over’. The following examples illustrate intransitive subjects (32), transitive objects (33) and reduplication of the prefix to intensify the number in (34).

- (32) a. *Yirru-wurrakv-dhvrrrvndv-nga adhalyvma-wa.*
 1a-all-descend-P1 NEUT.river-ALL
 ‘We all went down to the river.’ (‘Awurukwa’ w47)
- b. *yirrv-mvrndakv-rvkbijangee-yi-na*
 1a-all-jump-RECP-P2
 ‘we all jumped off ...’ (VL1 p.467)
- (33) a. *yika-ku-wurrakv-ngaji-na*
 IRR.2a.O-NEUT.S-all-kill-NP2
 ‘it (the fish) will kill you all’ (VL1 p.426)
- b. *wurr-akina wurru-wilyaba-manja narrv-nga-mvrndak-ararika-ma dh-akina*
 COLL-that COLL-one-LOC COLL.O-FEM.S-all-coil.around.PST-*ma* FEM-that
 ‘it (*dhvngarna* ‘FEM.snake’) was coiled all around one (*wurruwarda* ‘COLL.dog’)’
 (= [17b])
- (34) *na-mvrndakv-mvrndakv-mvreeya-ngee=ka*
 3a-RDP-all-be.hungry-P2=EMPH
 ‘they were all very hungry’ (VL1 p.427)

¹¹ This analysis would require a formalism that can unify information contributed by the argument prefix, with information contributed by external nominals. Lexical Functional Grammar (LFG) (Bresnan 1982; Kaplan & Bresnan 1982) is such a formalism, where the same information can come from a number of sources at once, and grammatical relations can be determined both by the syntax and by the morphology. The idea that the argument prefixes function as agreement markers in the presence of external co-referential nominals, but as anaphoric pronouns in the absence of external material, is captured in LFG by having the verb *optionally* provide information about its arguments (e.g. Simpson 1991). This information is only invoked when there are no external nominals present to contribute the required material to fill the argument positions of the verb.

In (33a) the quantifier *wurrak-* modifies the object argument, but the prefix is not adjacent to the object prefix. Such discontinuous dependencies were listed in fn1 above as one of the characteristics of a flat template morphology.

The same quantifier prefixes occur on nominals (section 3.4.3). BGW has a quantifier prefix *mirnde-* ‘many (spread out)’ (Evans 2003a: 322), cognate with *mvrnda-*. In Wubuy we find the “Multiple” prefix *warra-* ‘all’ (Heath 1984: 383), cognate to Enindhilyakwa *wurra-*. Exploring the semantics and functions of the two quantifiers in Enindhilyakwa is an interesting topic for further research.

Leeding (1989: 422-4) describes an additional ‘dual’ number prefix *lhvrrak-*, which occurs in the same slot and follows the same absolutive pattern as the above quantifier prefixes.

- (35) a. *nvmv-lhvrrakv-lhvka-ja-ma*
 VEG-du-go-NP2-*ma*
 ‘two [VEG.shark] are going’ (VL1 p.423)
- b. *yikvngv-lhvrrakv-ngaji-na-ma*
 IRR.2fdu/NEUT-du-hit-NP2-*ma*
 ‘you two women can kill the two [fish(NEUT)]’ (VL1 p.424)

This number prefix does not occur in my data, however, and it is not listed in the dictionary. It thus may have gone out of use, or it is restricted to the Umbakumba dialect, where Velma Leeding did most of her work (see Map 1.2).

4.5 Benefactive applicative [(-2)]

The prefix *mvn-* is an applicative that adds an object argument to the verb, which is a beneficiary or a maleficiary, that is, a person affected positively or negatively by the action denoted by the verb. As discussed in section 4.3.1, when the benefactive applicative introduces an argument to a transitive verb, the new object argument is registered on the verb in the object prefix slot; the object argument that formerly appeared in this slot now appears as a free noun (see e.g. [38], [39], [41]). Some beneficiary examples are as follows.

- (36) *yirra-bv-mvn-akarrnga-rnv-ma awuruku-wa*
 1a.O-3a.S-BENE-fetch.water-P2-*ma* NEUT.billabong-ALL
 ‘they fetched water for us from the billabong’¹² (‘Awurukwa’ w26)
- (37) *narrv-nga-mvn-abvrangka-ma wurr-abv-bvrr-adha=dha*
 3a.O-3f.S-BENE-look.for.PST-*ma* 3a-RDP-offspring-3fsg.KIN=TRM
 ‘she was looking for [food] for her babies’ (‘Bujikeda’ y105)

¹² With verbs of fetching, ALL case may be translated as ‘from’ (Stokes 1982: 109), as in this example. However, a more accurate translation could be ‘they went to the billabong to fetch water’, which reflects the allative meaning.

- (38) *Akina awilyaba ngaya ngarra-mvn-ngayindhe-na-ma.*
 NEUT.that NEUT.one 1.PRO 1/2-BENE-want-NP2-*ma*
 ‘That’s all I want for you.’ (‘Mother’s advice’ j34)

The following examples illustrate an introduced maleficiary, which is most common with verbs that have a reading of removal or destruction.

- (39) *mena=baba nenv-mvn-angmadhv-mvrrv=baba env-lhangwa dh-adhiy-enikba*
 because=REAS 3m/3m-BENE-steal.P1-*ma*=REAS 3m.PRO-POSS 3f-wife-3m.KIN
 ‘[Bat hated Rainbow] because he stole his wife [from him]’ (VL1 p.90)

- (40) *ngarre-nv-mvn-abvrda-ngv-ma!*
 12a.O-3m.S-BENE-roast-P2-*ma*
 ‘he roasted our [children]!’ (‘Nubardubarda’ s90)

- (41) *Arakbawiya narra-mvvn-ma-ngv-ma wurrv-mvrrv-mvrrkbalya-lhangwa*
 long.time.ago 3a/3a-BENE-take-P2-*ma* 3a-RDP-newborn.baby-POSS
wurr-angarv-ngariya engengkuwa.
 3a-RDP-young NEUT.spirit
 ‘A long time ago they took the spirits of newborn babies.’ (GED p.82)

As Evans (2003a: 428) points out for BGW, some instances of the benefactive applicative allow a translation in which the beneficiary/maleficiary is expressed as the possessor of the object (this is sometimes called ‘possessor raising’). This is the case in Enindhilyakwa also, as in the maleficiary examples in (39) - (41) above and the following beneficiary examples.

- (42) *yirr-aja ngarra-mvn-errikbi-na-ma mirrijina akinv-manja amamarra*
 1a-CofR 1a/2-BENE-throw-NP2-*ma* medicine(NEUT) NEUT.that-LOC NEUT.sore
 ‘we’ll put medicine on that sore for you; we’ll put medicine on your sore’ (VL1 p.481)

- (43) *narra-mvvn-ngarrku-ruwurrkv-na madha*
 3a/3a-BENE-ear-make.crooked-NP2 VEG.ear
 ‘they distract them’ (Lit: ‘they make their ears crooked’) (JW n.d.-c)

However, the use of the benefactive is not grammatically required in such circumstances, as can be seen in the ‘possessor raising’ examples in section 7.10.1.

The applicative can also be used without actually adding an argument to the verb. This seems to happen when the benefit or detriment to the owner is being stressed:

- (44) *aka-mvvn-memvrr-baji-na-ma memvrrma wurri-yukwayuwa-manja*
 IRR.3a/3a-BENE-neck-hit-NP2-*ma* VEG.neck 3a-children-LOC
 ‘we hit our babies on the neck [so that they will have strong necks]’ (GED p.69)

- (45) *nvngk-env-mvvn-ngajee=ka angurnda-manja!*
 2/3m-BENE-hit.P1=EMPH NEUT.ankle-LOC
 ‘you’ve hit him on the ankle!’ (‘Children’ h9)

Evans (2003a) observes that with verbs of controlled perception the benefactive introduces an argument denoting a goal. This is true for intentional verbs in Enindhilyakwa, as in (22b) and (46):

- (46) *ngv-lhvka-ja-ma nvng-ena ngv-nga-mvn-abvrangkv-na-ma*
 HORT.1-go-NP2-*ma* 1-this HORT.1-3f-BENE-look.for-NP2-*ma*
 ‘let me go and look for her’ (‘Search’ z6-7)

The perception verbs in these examples are normally intransitive. Finally, the introduced argument can also be inanimate, as in (47). When this is the case it denotes a goal or purpose.

- (47) *ngalha-lhangwu-wa akina nv-ma-mvn-ambilya-mvrru-wa...*
 NEUT.PRO-POSS-ALL NEUT.that 3m-VEG.-BENE-stay.NP2-*ma*-ALL
 ‘[if we don’t take the money] to [the bank account] that he keeps for the truck(VEG)...’
 (‘Vehicle hire’ k32)

The benefactive prefix *mvn-* is similar in form and function to the BGW benefactive prefix *marne-*. The /ə/ vowel in Enindhilyakwa (represented by *v*) could be indicative of an old retroflex, as was suggested in section 2.6.6. Some speakers of Mayali use the variant form *mene-* (Evans 2003a: 427), which also occurs without a retroflex.

Alpher, Evans & Harvey (2003) use the form of the benefactive applicative found in the Gunwinyguan languages to arbitrarily name two subgroups of this family: the ‘*marne*’ and the ‘*bak*’ subgroup. Wubuy and Ngandi are two of the languages that belong to the latter subgroup (Ngandi benefactive: *bak-*, Wubuy benefactive: *(wa)aG-*, where *G* is an archiphoneme). BGW and Dalabon, amongst others, belong to the ‘*marne*’ subgroup (BGW benefactive: *marne-*, Dalabon benefactive: *marnv-*). An important hypothesis advanced in Chapter 9 is that Enindhilyakwa is genetically related to Ngandi and, especially, Wubuy. If this hypothesis is correct and Enindhilyakwa indeed belongs to the ‘*bak*’ subgroup, this would require renaming this subgroup.

4.6 Summary

This chapter described the typologically unusual high number of eight distinct prefix series in Enindhilyakwa, which distinguishes intransitive and transitive series of four types of mood: realis, irrealis, imperative and hortative. The transitive paradigms were shown to be composable from the corresponding intransitive paradigms, where the relative order of the transitive subject and object prefixes is determined by a person/number/animacy hierarchy: the higher-ranking participant precedes the lower-ranking one. Equipollent prefixes where the subject and the object rank equally high, are frequently irregular forms. Combinations of first and second person never have separate exponence for both participants.

The intransitive realis, imperative and hortative series are fairly transparently composed of identifiable person, number and gender morphemes (in that order). The intransitive irrealis series,

on the other hand, is much more opaque, apart from the presence of an irrealis marker. The transitive realis paradigm, although fairly compositional, shows many irregularities for equipollent prefixes (especially those involving 1st and 2nd person participants) and those involving 3rd person human objects. The irrealis shows both more syncretism and more regularity than the realis paradigm. The imperative and hortative series are almost fully compositional, consisting of morphemes that are used in other contexts. Given that comparable series are absent in other non-Pama-Nyungan languages, this suggests that these series are relatively recent innovations.

The question whether the argument-indexing prefixes constitute the pronominal arguments of the verb, or are agreement markers, was addressed for Enindhilyakwa. It was shown that, due to the existence of arguments of the verb that are not registered on the verb, together with the fact that the argument prefixes can also be used in a variety of non-referential contexts, the verbal prefixes cannot be the sole exponents of the verb's arguments. Instead, the prefixes are polysemous between full-pronoun and agreement-marker interpretations, as has been argued for a number of other languages (e.g. Bresnan & Mchombo 1987 for Chicheŵa; Simpson 1991 for Warlpiri; Evans 2002 for BGW).

Chapter 5: The verb stem

Enindhilyakwa verb stems may be simple or complex. New verbs are formed with a particular suffix: this can be a derivational suffix that creates verbs from nominals (inchoative, factitive), or which has a valency-changing function (reflexive, reciprocal, causative). Verbs borrowed from English or Kriol are admitted into the language by the addition of an element that takes the inflection. All of these suffixes are very productive. They carry the tense and aspect inflection and they determine the conjugational class of the resulting stems. In Enindhilyakwa, as in some other Northern Australian languages (Schultze-Berndt 2000: 540), some stem-forming suffixes can be traced back to former independent verbs.

Verbs fall into six main conjugation classes, to be described in Chapter 6. Class membership is largely determined by the final syllable of the stem. This can be one of the derivational suffixes, or it can be a recurring stem-final submorphemic element. This chapter describes these final syllables that allocate polysyllabic stems to the various conjugations, and investigates the common semantics of stems ending in the same syllable. I will argue that the majority of Enindhilyakwa verb stems are not monomorphemic, historically, but that they consist of a former finite verb root, preceded by an uninflecting element. Some of these inflecting verb roots only survive in fossilised compound stems, whereas others are still attested as synchronically independent verbs, in Enindhilyakwa and/or in other languages.

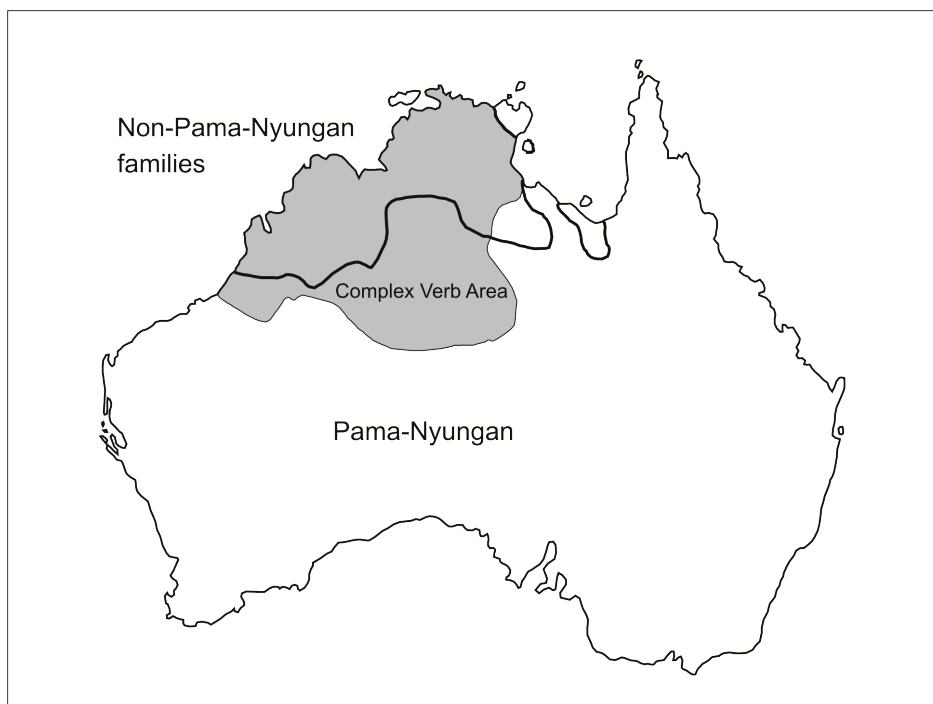
One of the reasons to claim that Enindhilyakwa polysyllabic stems are historically complex is that a number of recurring stem-final submorphemic elements can be identified. For example, the stems in (1) all involve the final syllable *+bi-*, they all belong to conjugation 1A (section 6.3.1), most of them are intransitive, and most of them share the semantics of expelling something through the mouth (all data in this chapter come from the dictionary unless indicated otherwise):

- | | |
|---------------------------------------|---|
| (1) <i>-errek+bi-</i> ‘vomit’ | <i>-errik+bi-</i> ‘throw, collect, spend’ |
| <i>-me+bi-</i> ‘sing’ | <i>-yeng+bi-</i> ‘speak’ |
| <i>-nyi+bi-</i> ‘grunt’ | <i>-yi+bi-</i> ‘swear at’ (JH) |
| <i>-lyik+bi-</i> ‘go fast, blow away’ | <i>-lye+bi-</i> ‘go to fight, make trouble’ |
| <i>-merri+bi-</i> ‘swear’ (JH) | <i>-ngeng+bi-jungwV-</i> (REFL) ‘sigh from sadness’ |

These stems are synchronically tightly fused and unanalyseable, as indicated by the ‘+’ sign. Speakers may feel them to be monolexemic. However, the main point I wish to make in this chapter is that these stems used to be segmentable: although the *+bi-* segment in (1) is not a synchronically independent verb in Enindhilyakwa, the fact that it recurs in a number of stems that share an element of meaning suggests it may once have been a finite verb root. In other words, these complex stems are fossilised compound structures, consisting of an uninflecting portion

followed by an archaic verb root. Often, the uninflecting element is not otherwise attested in the language (e.g. **me* [cf. *-me+bi-* ‘sing’]; **lyik* [cf. *-lyik+bi-* ‘go fast, blow away’]). In the few cases where we can identify it synchronically, it is either a noun or a verb. For example, *-errek+bi-* ‘vomit’ in (1) involves the noun *erra* ‘NEUT.vomit’ (allowing for some morpho-phonemic changes, see section 7.6), and *-yeng+bi-* ‘speak’ involves the incorporated noun *yeng-* ‘speech, voice’ (cf. proto-Gunwinyguan **yang* ‘voice’ [Harvey 2003a]; Chapter 9). Examples of an uninflecting element corresponding to a synchronically independent verb stem include *-andhabv+me-* ‘wonder what you mean’, which contains the stem *-andhaba-* ‘ask’ (as attested in Leeding 1989: 493), and *-ngadhu+wa-* ‘to cry for (transitive)’ involves the common verb *-ngwadhv-* ‘to cry (intransitive)’. Neither *+me-* or *+wa-* synchronically occurs as an independent verb.

So far, the historical complexity of Enindhilyakwa verb stems has gone unnoticed.¹ Leeding (1989: 429-32) posits 251 monomorphemic verb roots, which are arbitrarily assigned to specific conjugational classes. As a result, the language is not included in the ‘complex verb area’ in Northern Australia as identified by several researchers (Schultze-Berndt 2000; Dixon 2002; McGregor 2002; see also Capell 1979). Complex verbs are an areal feature of Northern Australia, spread across almost all non-Pama-Nyungan language families, and also including some languages of the Pama-Nyungan family, as shown in Map 5.1, taken from Schultze-Berndt (2000) (see Dixon 2002: 188 for a similar map).



Map 5.1: Complex verb area in Northern Australia (Schultze-Berndt 2000: 1)

¹ With one exception: Waddy (n.d.-c) glosses the element *+bi-* in *-ngeng+bi-jungwV-* ‘sigh from sadness’ in (1) as ‘verbaliser’ (*-jungwV-* is a reflexive suffix, see section 5.4.1.2).

This map includes the Gunwinyguan languages but not Enindhilyakwa. Based on Leeding (1989), Dixon (2002) classifies this language as having “well over 250 monomorphemic verbs and little evidence of compounding” (p.197). The aim of this chapter is to show that Enindhilyakwa patterns much like some of the Gunwinyguan languages, where the two components of the complex stem “are so tightly fused that they have lost any structural and semantic independence, and may be treated, synchronically, as unanalyseable verb roots” (Schultze-Berndt 2000: 533).

5.1 Organisation of chapter

This chapter starts off with a description of complex verbs in Northern Australian languages in section 5.2, to set up a context for the Enindhilyakwa type of frozen complex stems. Then I turn to a synchronic description of the Enindhilyakwa verb stem: section 5.3 examines the simple, monomorphemic, stems. Section 5.4 describes how new members are admitted to the verb class by the various productive derivational suffixes (section 5.4.1), or by the *-dha-* element that attaches to loan verbs (section 5.4.2). I then turn to an investigation of the historically complex stems in section 5.5. The uninflecting elements (‘preponds’) are examined in section 5.5.1, and the inflecting elements (‘thematics’) in section 5.5.2. Section 5.6 concludes this chapter with a summary.

5.2 Complex verbs in Northern Australian languages

The Gunwinyguan type of frozen complex stems constitutes one extreme end of what is really a continuum of types of complex verb in Northern Australia, ranging from productive phrasal complex verbs in for instance Jaminjung (Schultze-Berndt 2000), Wagiman (Wilson 1999) Bardi (Nicolas 2000; Bower 2004), and Warlpiri (e.g. Nash 1986), where the uninflecting element and inflecting verb are distinct phonological and distributional words, to the Gunwinyguan frozen complex stems (Schultze-Berndt 2000). Schultze-Berndt (2000) identifies the following three types of complex verb (Dixon 2002 distinguishes seven types, with more sub-differentiation):

A) Phrasal complex verbs: the uninflecting element and the inflecting verb are independent words, with flexible ordering, as illustrated here with an example from Jaminjung:

(2) *miri bag burra-ma-nyi gurrubardu-ni*
 leg break 3pl/3sg-hit-PI boomerang-INSTR
 ‘they used to break its legs with a boomerang’ Jaminjung (Schultze-Berndt 2000: 4)

The inflecting verb *-ma-*, which means ‘hit’ when used as an independent verb, is bleached of this meaning when used in a complex verb. It is the uninflecting element that contributes the lexical meaning of the predicate (here: *bag* ‘break’), covering senses that are expressed by locational and manner adverbs in other languages (Schultze-Berndt 2000).

B) Bound discontinuous: the uninflecting element and inflecting element form a single phonological and distributional word, but are separated by inflectional morphology, and their order is fixed. The following is an example from Marra.

- (3) *rang=ng-anyi* *Ø-manuga*
 HIT=1sg/3sg-TAKE.PC MA-rock
 ‘I hit a rock’ Marra (Heath 1981b)

The two elements are discontinuous in that they are separated by verbal inflections, but bound in that they are part of a single distributional unit.

C) Bound continuous: the two elements are contiguous and their order is fixed. Ngalakgan (Gunwinyguan) has this type of complex verb:

- (4) *Ø-bol+ma+nginy*
 3-rub+GET+PC
 ‘s/he was rubbing’ Ngalakgan (Baker & Harvey 2003: 9, ex. 16)

The uninflecting element *bol* provides the lexical meaning ‘rub’ and the inflecting element *-ma-*, which means ‘get’ when used as an independent verb, serves as a base for the tense inflection.^{2,3}

Complex verbs - consisting of constituents belonging to potentially distinct lexical categories, one of which is a closed class - seem to have been a feature of Northern Australian languages for a considerable time (Schultze-Berndt 2000: 532, Capell 1976).

A number of terms can be found in the Australianist literature for the uninflecting element (see Schultze-Berndt 2003: 146 for an overview). The most important ones are ‘coverb’ (e.g. Wilson 1999 for Wagiman; Schultze-Berndt 2000 for Jaminjung; Baker & Harvey 2003 for Ngalakgan; and Dixon 2002 for Northern Australian languages in general), and ‘preverb’, used predominantly for Pama-Nyungan languages (e.g. Nash 1982, 1986; Simpson 1999 for Warlpiri). Other labels include ‘uninflecting verb’ (McGregor 2002), and ‘prebound’ for the bound forms in some Gunwinyguan languages (Evans 2003a; Alpher, Evans & Harvey 2003; Evans & Merlan 2003). The terminology for the inflecting element also ranges, from ‘finite verb’, to ‘generic verb’, ‘light verb’, ‘auxiliary’, and ‘thematic’.

The term ‘coverb’ is especially used in languages where the uninflecting element can be an independent word, as in Jaminjung, Bardi, and Wagiman, or where inflectional material intervenes between the verb and the uninflecting element, as in Marra, Warndarang, and Alawa. In these

² Mangarrayi is atypical for a Gunwinyguan language in this respect, as it has both bound continuous and phrasal complex verbs (Merlan 1982). However, its status as a Gunwinyguan language is disputed (AEH p.308).

³ Schultze-Berndt notes that “[i]nterestingly, these languages, where complex verbs form a tightly-knit unit, also exhibit nominal incorporation and other manifestations of polysynthetic structure, which are completely absent from Jaminjung” (p.538, fn194). This is of course true for Enindhilyakwa as well.

languages, the coverb adds further specification to the inflecting verb, which is often called ‘generic verb’, and which has a broad, generic meaning. Coverbs are taken to be a separate part of speech (Nash 1982; Wilson 1999; Schultze-Berndt 2000; Harvey 2003a; Amberber, Baker & Harvey 2007; Baker & Harvey 2010). They differ from verbs in that they do not take verbal inflections, and they differ from nouns in that they are non-referential, and consequently cannot appear as subcategorised arguments, cannot take determiners, and cannot be quantified. The coverb class is open in Australia, whereas the generic verb class they combine with tends to be closed.

In some Gunwinyguan languages - and, as to be argued in this chapter, Enindhilyakwa - the “coverb” and the “verb” are fused into a complex stem that is often synchronically unanalyseable. Most often, the uninflecting element has no structural or semantic independence (e.g. *-merri+bi-* ‘swear’ in [1] above; cf. **merri*). Sometimes a frozen complex stem can be identified as a noun+verb compound, such as *-yeng+bi-* ‘speak’ in (1), which involves the noun root *yeng-* ‘speech, voice’ (which in itself is a reflex of proto-Gunwinyguan **yang* ‘voice’; see Chapter 9). In other cases, the uninflecting element may correspond to a synchronically independent verb stem. An example is *-ngadhu+wa-* ‘to cry for (transitive)’ mentioned above, which contains the verb *-ngwadhv-* ‘to cry (intransitive)’.

As most complex stems are fossilised structures in Enindhilyakwa, I hesitate to call the uninflecting element a ‘coverb’ in this language, as it cannot be considered a separate part of speech. Instead, I will follow the Gunwinyguan practice of labelling the uninflecting part of a lexicalised compound stem ‘prepond’⁴, and the inflecting verb root ‘thematic’ (Evans 2003a; Alpher, Evans & Harvey 2003; Evans & Merlan 2003, amongst others).

As will become clear from this chapter, the prepond+thematic combinations are lexicalised to different degrees: some former verb roots have lost their productivity and only appear in fossilised structures, whereas others occur both as independent verbs and in frozen structures where they are bleached of their meaning. Again others have grammaticalised into derivational suffixes.

5.3 Simple stems

Simple stems consist of a verb root to which the tense/aspect inflections may be added directly, such as *-ma-* ‘get’, and *-lhvka-* ‘go’. They can be subdivided into three categories, which I have labelled (i) ‘fixed stems’; (ii) ‘free stems’; (iii) ‘bound stems’.⁵ ‘Fixed stems’ are those for which there are no attested instances of an incorporated body part or generic nominal. This is only the case for a handful of simple stems. ‘Free stems’, on the other hand, can optionally incorporate a body part or generic nominal (nominal incorporation is the topic of Chapter 7). And ‘bound stems’

⁴ Heath calls it “compound initial” in Wubuy (1984: 470).

⁵ ‘Bound stems’ are also identified by Leeding (1989: 362) and in the Waddy Dictionary.

obligatorily incorporate a body part nominal or generic and cannot occur on their own. The boundary between bound stems and the historic complex stems that are the topic of this chapter - which may also involve body parts/generics - is not always clear-cut. Section 5.5 discusses some morpho-syntactic tests to distinguish between the two types of complex verb.

Table 5.1 presents a sample of the various fixed, free and bound simple stems in Enindhilyakwa. This list is not exhaustive, but merely shows some of the frequently attested simple stems (the list of ‘fixed stems’ is possibly exhaustive; as mentioned, these are far less common than the other two types of simple stem⁶). The ‘+’ sign is used to represent the bound forms.

Fixed simple stems	Free simple stems	Bound simple stems
<i>-lhvka-</i> ‘go’	<i>-ba-</i> ‘hit, argue’	+ <i>aya-</i> ‘stand’
<i>-kwa-</i> ‘give’	<i>-bukwa-</i> ‘blow’	+ <i>baja-</i> ‘hit’
<i>-ma-</i> ‘do, say’	<i>-bvrra-</i> ‘shake’	+ <i>barra-</i> ‘split’
<i>-ja-</i> ‘eat’	<i>-warda-</i> ‘hit’	+(<i>bi</i>) <i>janga-</i> ‘jump’
<i>-ma-</i> ‘get’	<i>-miji-</i> ‘search’	+ <i>lhalhv-</i> ‘be upright’
<i>-jungwV-</i> ‘die’	<i>-arji(ya)-</i> ‘stand’	+ <i>wanga-</i> ‘chew’
	<i>-lharr-</i> ‘fall’	+ <i>bilya-</i> ‘attach’
	<i>-wurra-</i> ‘throw’	+ <i>abvrra-</i> ‘put down’

Table 5.1: Some Enindhilyakwa simple verb stems

Several fixed stems are monosyllabic roots, and they may correspond to monosyllabic verb roots in other languages (see Table 5.9 and Chapter 9). For example, *-ma-* ‘do, say’, *-ma-* ‘get’ (which belong to different conjugational classes), and *-ja-* ‘eat’ are common roots in Gunwinyguan languages (Alpher, Evans & Harvey 2003), which are also common in Australia in general (Capell 1956; Merlan 1979; Dixon 1980).

Some disyllabic simple stems also appear to be monomorphemic: for instance, *-lhvka-* ‘go’ is probably related to *alhvka* ‘NEUT.foot’, which may in turn be related to Ritharrngu *rluku* ‘foot’ (pPN: **luku* [Alpher 2004]). The Enindhilyakwa free stem *-bukwa-* ‘blow’ corresponds to proto-Gunwinyguan **-buq-* ‘blow’ (**q* represents a glottal stop). The bound root *+baja-* ‘hit’ is reconstructed as the disyllabic verb **-badja-* ‘punch’ for proto-Gunwinyguan⁷ (cf. pPN **baja-* [Alpher 2004: 117]). The verb *-warda-* ‘hit’ is also attested in Wubuy.

⁶ It is even possible that this category of simple stems does not exist: I have based this category on the lack of attestations of incorporated nominals in my corpus, but I have not actually tested this with speakers. It may therefore turn out that it is possible for e.g. *-lhvka-* ‘go’ to incorporate its subject argument, but that this is simply uncommon.

⁷ Although some sources treat *-badja-* as a derived reflexive/reciprocal stem (Alpher, Evans & Harvey 2003: 336).

5.4 Formation of new verbs

Synchronically, new verbs can be created in several ways: by one of four productive derivational suffixes (section 5.4.1) or by adding an inflecting element to a verb borrowed from English or Kriol (section 5.4.3).

5.4.1 Derivational suffixes

There are two derivational suffixes that convert a nominal into a verb: INCHOative *-dhv-*, which creates intransitive stems, and FACTitive *-ka- ~ -kwa-*, which creates transitive stems (Stokes 1982; Leeding 1989; Heath n.d.; Waddy n.d.-a). There are three derivational suffixes that are added to verbs and that change the valency of the verb (Stokes 1982; Leeding 1989; Heath n.d.; Waddy n.d.-a). The CAUSative suffix *-ji-* increases the valency of the verb by one and adds a causative meaning. The REFLEXive *-jungwV-* and RECIPROcal *-yi-* suffixes decrease the verb's valency by one whilst specifying that the subject and the object are co-referential. They are discussed here in turn.

5.4.1.1 Denominalising suffixes: inchoative *-dhv-* and factitive *-ka- ~ -kwa-*

The two denominalising suffixes contribute to the formation of the verb stem, and therefore are not allocated separate slots in the template in Table 4.1, being subsumed under the stem slot. Denominal verb formation is very productive.

• Inchoative *-dhv-*

This suffix turns a noun or an adjective into an intransitive verb, which means 'to become [X]' (Leeding 1989: 370). Nouns maintain their noun class prefix, while human nouns lose their gender prefix.⁸ The INCH suffix belongs to conjugation 1A. Some examples are listed in (5).

- | | |
|--|--|
| (5) <i>-arvma</i> 'big' | <i>-arvmv-dhv-</i> 'to become big' |
| <i>-arrvbdha</i> 'strong' | <i>-arrvbdhv-dhv-</i> 'to become strong' |
| <i>awinyamba</i> 'NEUT.anger' | <i>-awinyamba-dhv-</i> 'to become angry' |
| <i>angbilyuwa</i> 'NEUT.sickness' | <i>-angbilyuwa-dhv-</i> 'to become sick' |
| <i>dh-adhiyuwangwa</i> '3f-old woman' | <i>-adhiyuwangku-dhv-</i> 'to become old (of women)' |
| <i>kvrndina</i> 'leprosy(NEUT)' (< <i>quarantine</i>) | <i>-kurrndina-dhv-</i> 'to quarantine' |
| <i>bungkawa</i> 'boss, ruler' (< <i>Mac pungawa</i>) | <i>-bungkawa-dhv-</i> 'to become ruler, govern' |

As the last two examples show, the INCH suffix can also be added to recent loanwords.

The following are some sentence examples. The meaning of 'becoming' expressed by the inchoative in (6) contrasts with the meaning of 'being' in (7), expressed by a nominal.

⁸ This supports the distinction made in section 3.4.1 between non-human noun class prefixes that are frozen to the stem, and human gender prefixes that are flexible.

- (6) a. *Wurr-adhvdhiyara karrv-rrvngkv-na-manja akina karrvm-abuwarrkv-na-ma*
 3a-young.girl IRR.3pl/NEUT-see-NP2-LOC NEUT.that IRR.3a/VEG-cover-NP2-*ma*
abvrra-lhangwa mingeemina mena kym-arvmv-dhv-mv=baba.
 3a.PRO-POSS VEG.breast because IRR.VEG-big-INCH.NP1-*ma*=REAS
 ‘If young girls see them [*engeemina* ‘NEUT.legless lizard’] they cover their breasts because they will get bigger.’ (GED p.101)
- b. *Biya dh-akina-lhangwa dhv-dharrvngka arndvrnda na-werrik-arda-dha arakba.*
 and 3f-that-POSS 3f-woman NEUT.heart NEUT-chest-hot-INCH.P1 compl.act
 ‘And his wife got very angry inside.’ (Lit: ‘her heart became hot’) (GED p.189)
- c. *yirrv-ma-ngamba-ju-wa-ma nvvmv-mvrrkbalya-dhv-nv-ma ambaka*
 13a-VEG-bathe-CAUS-P2-*ma* VEG-soft-INCH-P2-*ma* later
 ‘we soaked them [*mvnhvnga* ‘VEG.burrawang’] in water, and later they became soft’
 (‘Burrawang’ o73)
- (7) a. *Ngayuwa nvng-ena nvng-arvma.*
 1.PRO 1-this 1-big
 ‘I am big.’ (anin3_tr_dl_002)
- b. *yarningkwarba mama yirru-kulyadhadha, mama yirrv-balanda,*
 1a.man nevermind 1a-white nevermind 1a-non.Aborigine
yarningkwarba ngawa
 1a.man still
 ‘it doesn’t matter if we men are white, it doesn’t matter if we are non-Aborigines, we are still men’
 (‘Mixed marriages’ e39-41)

The Enindhilyakwa suffix is cognate to the INCH suffix in Gunwinyguan languages, which is reconstructed *-*dhi*- for proto-Gunwinyguan (Alpher, Evans & Harvey 2003: 344). Section 9.3.5 compares the inflectional paradigms of the Enindhilyakwa and the Gunwinyguan INCH.

There are some examples of class 1A intransitive stems that end in *-dhv*-, but where the preceding element is a cranberry morph. These stems might be lexicalised inchoatives, which is supported by the fact that they can be followed by a factitive or causative suffix, which the INCH suffix normally cannot. This is illustrated by the following dictionary entries:

(8) <u>Lexicalised inchoative</u>	<u>Derived verb</u>
<i>-alyadhv</i> - ‘be hanging’ (< <i>-balya</i> - ‘be stuck’?)	<i>-alyadhi-ji</i> - (CAUS) ‘hang (tr.)’
<i>-lyandhv</i> - ‘be painful’ (< <i>lyang</i> - ‘head’?)	<i>-lyandhv-ka</i> - (FACT) ‘make suffer’
<i>-ngwadhv</i> - ‘cry’ ⁹ (<i>ngwa</i> ‘?’)	<i>-ngwadhi-ji</i> - (CAUS) ‘make cry’
<i>-wuldhv</i> - ‘go well’ (<i>wul</i> ‘?’)	<i>-wuldhv-ka</i> - (FACT) ‘make go well’
<i>-lyvmadhv</i> - ‘disappear, become lost’ (<i>lyuma</i> ‘?’)	<i>-lyvmadhv-ka</i> - (FACT) ‘lose, kidnap’

• **Factitive -ka- ~ -kwa-**¹⁰

The FACT converts a noun or adjective into a transitive verb meaning ‘to make something [X]’. Nouns marked with the suffix sometimes keep their class marker, as in (9c-e), but sometimes they lose it, as in (9f,g).

⁹ This could also be a borrowing from Ritharrngu, which has *-ngaadhi*- ‘cry’. This verb also occurs in (PN) Pilbara languages, where it is reconstructed for proto-Ngayarda as *-*ngadhi*- ‘cry’ (Alpher 2004: 110, fn23).

¹⁰ Leeding (1989) labels this suffix ‘causative’ and Waddy (n.d.) calls it ‘transitive verbaliser’.

variation with *-ka-*. Examples are *-dharrbv-ka-* ~ *-dharrbu-kwa-* [short-CAUS] ‘shorten’ and *-mvrav-ka-* ~ *-mvravu-kwa-* [quiet-CAUS] ‘quieten’ (Leeding 1989: 369). However, there are exceptions to these statements, such as the stem *-lhawurra+ka-* ‘make return’ (which I take to be lexicalised), which does not have the *-kwa-* allomorph, and the FACT stem *-kalharu-kwa-* in (10c), which does have the *-kwa-* allomorph but is neither lexicalised (in my analysis), nor preceded by a rounded or bilabial peripheral consonant. Hence more work is needed to determine what causes the rounding of the velar in the FACT suffix.¹¹

(11) <u>Lexicalised factitive [class 4]</u>	<u>Derived verb</u>
<i>-lhawurra+ka-</i> ‘bring back’ (tr.)	<i>-lhawurra+ka-ji-</i> (CAUS) ‘make return’
<i>-yangmarng+kwa-</i> ‘be happy’ (intr.)	<i>-yangmarng+kwa-ji-</i> (CAUS) ‘praise, thank, worship’
<i>-ikbvrru+kwa-</i> ‘disappear’ (intr.)	<i>-ikbvrru+kwa-ji-</i> (CAUS) ‘make disappear’
<i>-mvrndu+kwa-</i> ‘come together’ (intr.)	<i>-mvrndu+kwa-ji-</i> (CAUS) ‘make gather up’
<i>-ekberr+kwa-</i> ‘be soaking’ (intr.)	<i>-ekberr+kwa-ji-</i> (CAUS) ‘soak, put in water’
<i>-warru+kwa-</i> ‘go across, miss’ (tr.)	<i>-warru+kwa-ji-</i> (CAUS) ‘(ex)change, turn over’
	<i>-warru+kwee-yi-</i> (RECP) ‘take turns’
	<i>-warru+kwa-jungwV-</i> (REFL) ‘repent, convert’

There are some instances of a FACT suffix attaching to a verb, as in (12). Examples of a FACT attaching to frozen inchoatives were given in (8) above.

(12) <u>Verb</u>	<u>Factitive [class 4]</u>
<i>-warr-</i> ‘move’ (intr.)	<i>-warru+kwa-</i> ‘go across, miss, confuse’ (tr.)
<i>-ngunji-</i> ‘suck’ (intr.)	<i>-ngunji-ka-</i> ‘suckle’ (tr.)
<i>-war-dha-</i> ‘work’ (< <i>work</i>)	<i>-war-dhv-ka-</i> ‘make work, control’ (tr.)

The FACT appears to function as an applicative here, changing the argument structure of the verb. It is unclear what the difference is with the CAUS derivational suffix discussed below, which also occurs on verbs with a similar meaning and function.

As has become clear from the above examples, the FACT suffix has a wide range of uses, and varying degrees of lexicalisation. The suffix can attach to nominals and to verbs, it can occur in unanalyseable stems or be very productive, it can function as a denominaliser and as an applicative, and it has two allomorphs. Moreover, the *-kwa-* segment also functions as an independent verb meaning ‘give’, which belongs to the same conjugation as the FACT suffix. This could mean that this suffix originates from an independent verb. This is what Schultze-Berndt (2000: 540) observes for derivational suffixes in other Australian languages, which may have grammaticalised from independent verbs. Grammaticalisation of independent verbs into

¹¹ We can observe that Wubuy has a similar pattern: this language has two distinct FACT suffixes: *-wa-* ~ *-ka-* (with regular hardening after a stop/nasal, and *-ka-*, which has no allomorph (Heath 1984: 398). It is possible that the former corresponds to the Enindhilyakwa *-kwa-* allomorph, and the latter to the *-ka-* allomorph. Both FACT suffixes in Wubuy belong to conjugation A₁, which corresponds to the Enindhilyakwa FACT conjugation 4.

derivational affixes is most likely for elements that occur in a large number of combinations (Bybee 1985: 106). An example is *-wo-* ‘give’ in Bininj Gun-Wok, which has grammaticalised into a factitive verbaliser.

Grammaticalisation of ‘give’ into the FACT suffix also seems to have happened in Enindhilyakwa. The ‘give’ verb is in complementary distribution with the FACT suffix: the verb was listed in Table 5.1 as a ‘fixed stem’, hence there are no examples in the data of this verb incorporating a nominal. The FACT suffix, by contrast, only occurs attached to nominals (and occasionally verbs). If the verb *-kwa-* ‘give’ were to attach to a nominal this would be ambiguous between a ‘give’ reading and a FACT reading.

The fact that the FACT suffix attaches to a range of segments (nominals, verbs and cranberry morphs), is then not so surprising since it is implicit in the very concept of grammaticalisation that the boundary between lexical and grammatical forms is not clear-cut.

Finally, in some examples the FACT suffix is preceded by *-rr-*, as shown in Table 5.3.¹²

Nominal	Inchoative (intr.)	Factitive (tr.)
<i>-arvma</i> ‘big’	<i>-arvmv-dhv-</i> ‘become big’	<i>-arvmv-rr-ka-</i> ‘make big, bring up’
<i>-arrvbdha</i> ‘strong’	<i>-arrvbdhv-dhv-</i> ‘become strong’	<i>-arrvbdhv-rr-ka-</i> ‘strengthen’
<i>-ingbvdha</i> ‘strong’	<i>-ingbvdhv-dhv-</i> ‘become strong’	<i>-ingbvdhv-rr-ka-</i> ‘strengthen’
<i>ariba</i> ‘NEUT.land’		<i>-ribe-rr-ka-</i> ‘go ashore’ (intr.)
?	<i>-ambvdhv-dhv-</i> ‘be delayed’	<i>-ambvdhv-rr-ka-</i> ‘stop, hesitate’
?	<i>-lyi-dhv-</i> ‘be rubbed off’	<i>-lyv-rr-kwa-</i> ‘rub out’
<i>-eningma</i> ‘knowing’	<i>-eningmv-dhv-</i> ‘get to know’	<i>-eningmv-ka-</i> ~ <i>-eningmv-rr-ka-</i> ‘teach’

Table 5.3: Examples of factitive preceded by *-rr-*

A possible account of these forms is that there used to be an intransitive denominaliser suffix *-rr-* (*-rrV-* is widespread in Australia as an intransitive denominaliser [Dixon 1980]). These verbs could become transitive by the FACT suffix (e.g. **-arrvbdhv-rr-* ‘be/become strong’ > *-arrvbdhv-rr-ka-* ‘make strong’). The *-rr-* suffix then was lost and only occasional traces remain, namely when followed by the FACT suffix.

5.4.1.2 Relation-changing suffixes: causative *-ji-*, reflexive *-jungwV-*, reciprocal *-yi-*

Three valency-changing derivational suffixes may be added to verbs. They are allocated separate slots in the verbal template in Table 4.1. The CAUS occurs in slot [(+1)] and is the only member of conjugation 5. The REFL and RECP both occupy slot [(+2)], and they both belong to class 1A.

¹² Leeding (1989: 369) labels the *-rr-* segment here ‘stem-formative’.

• **Causative -ji-¹³ [(+1)]**

The most usual meaning of the CAUS suffix is causal, hence ‘to make [X] verb’. The verb to which the suffix is added is normally intransitive. Some examples are listed in (13) (the vowel change preceding the CAUS suffix is partly phonologically and partly lexically conditioned; section 5.4.2).

(13) <u>Intransitive verb</u>	<u>Derived causative verb</u>
-jungwV- ‘die’	-jungwa-ji- ‘kill’
-lharr- ‘fall’	-lharri-ji- ‘drop’
-warr- ‘move’	-warri-ji- ‘make someone or something move’
-alkaya- ‘be upright’	-alkayi-ji- ‘raise’
-mvrndabarrv- ‘be startled’	-mvrndabarri-ji- ‘startle’
-mungkulha- ‘sleep’	-mungkulhi-ji- ‘put to sleep’
-dhvrrvrndv- ‘go down’	-dhvrrvrndi-ji- ‘take down’
-ikbvrrukwa- ‘disappear’	-ikburrukwa-ji- ‘make something disappear, kidnap’

The following are textual examples of causativised intransitive verbs.

- (14) a. *Adhvnbawiya nv-ma-beka-ju-wa m-akina dvraka amalyirra-mvrra.*
 first 3m-VEG-drink-CAUS-P2 VEG-that truck(VEG) NEUT.petrol-INSTR
 ‘First he filled the truck with petrol.’ (Lit: ‘he made the truck drink’) (GED p.164)
- b. *Kureya ngv-ma-ngarre-na-ma m-ibina kv-ma-ngamba-ji-ni=yadha*
 have.a.try HORT.1-VEG-visit-NP2-ma VEG-that.same IRR.1-VEG-bathe-CAUS-NP2=PURP
 ‘Let me go and see if they [*mvnhvnga* ‘VEG.burrawang’] are ready for me to soak them’
 (‘Burrawang’ o18-9)

The CAUS suffix can also be added to frozen FACT stems, as was illustrated in (11). Finally, there are some examples where the element preceding the CAUS suffix is a cranberry morph. These will be assumed to be lexicalised causatives:

(15) Frozen causatives

-mvrrika+ji-	?’ follow’	(-mvrrika- ‘?’)
-adhangma+ji-	‘dig for water, bail’	(-adhangma- ‘?’)
-akurra+ji-	‘wait for, look after’	(-akurra- ‘?’)

Thus, the CAUS suffix -ji- most productively attaches to intransitive verbs, but there are instances where the suffix attaches to transitive verbs, or where the preceding element is unanalyseable.

• **Reflexive -jungwV- [(+2)]**

The REFL suffix reduces the valency of the verb by one and indicates that the subject and object are co-referential. It is normally added to transitive verbs, which also include factitives and causatives, as illustrated by the dictionary entries in (16). See section 5.4.2 for an account of the stem-final vocalic change that occurs in some forms (e.g. -dhida- ‘imprison’, -dhidi-jungwV- ‘be in prison’).

¹³ Leeding (1989) calls this suffix ‘transitiviser’, whereas Waddy (n.d.-a) calls it ‘causative’.

(16) Transitive verb

-*ikbilyaja*- ‘drop, throw down’
 -*lhaba*- ‘test, try, taste, judge’
 -(*lyi*)*lya*- ‘take, carry’
 -*rvngka*- ‘look after’
 -*yangkuruwurrka*- ‘make crooked’
 -*ngekburaka*-¹⁴ ‘make, create, fix, heal’
 -*ngurdhvrruwa*- ‘dip’
 -*yukujiya-ka*- ‘make something small’
 -*akurraji*- ‘look after’
 -*dhida*- ‘imprison’

Derived reflexive verb

-*ikbilyaja-jungwV*- ‘throw oneself down’
 -*lhaba-jungwV*- ‘try oneself out, practise’
 -*lyi-jungwV*- ‘take oneself’
 -*rvngka-jungwV*- ‘look after oneself’
 -*yangkuruwurrka-jungwV*- ‘curl up’
 -*ngekburaka-jungwV*- ‘happen, take care’
 -*ngurdhvrruwa-jungwV*- ‘dive, drown’
 -*yukujiya-ka-jungwV*- ‘make oneself small’
 -*akurraja-jungwV*- ‘look after oneself’
 -*dhidi-jungwV*- ‘be in prison’

The following are some sentence examples, where the verb to which the REFL attaches is transitive.

(17) a. *yingv-ngamba-ja-jungu-na*

3f-bathe-CAUS-REFL-P2

‘she washed herself’

(*anin2_pw_au_004*)

b. *mema ma-mv-ki-yelhiya m-ibina nvmi-yelhiye-na-ma*

VEG.this VEG-INALP-NSR-be.shy VEG-that VEG-be.shy-NP2-*ma*

nvm-abuwarrka-jungu-na-ma

VEG-hide-REFL-NP2-*ma*

‘the name *mamvkiyelhiya* means “that one that is shy” [because] it always hides itself’

(GED p.137)

c. *Kemba kv-lhvka-ja-ma nvngk-ena m-ardvdarra-manja*

then IRR.2-go-NP2-*ma* 2-this VEG-hot-LOC

kv-karri-jungu-na-ma m-ardvdarra-manja.

IRR.2-roast.in.ashes-REFL-NP2-*ma* VEG-hot-LOC

‘Then you should go in the hot [sun(VEG)] and roast yourself in the hot [sand(VEG)].’

(‘Yininya’ m8-9)

The detransitivising REFL suffix can co-occur with the transitivity BENEFactive applicative prefix (section 4.5). The resulting verb is morphologically intransitive:

(18) a. *ngarrvbukurra-lhangwa engengkuwa ngarrv-bv-mvrv-rvngka-jungwa ajungwa*

12tri.PRO-POSS NEUT.life 12a-tri-BENE-look.after-REFL.NP1 NEUT.sickness

‘we three must start looking after our own lives and sicknesses’

(WD)

b. *m-akinee=ka dvraka ngakurra-lhangwa, nvma-mvnu-wardhi-jungu-na-ma*

VEG-that=EMPH truck(VEG) 12a.PRO-POSS VEG-BENE-work-REFL-NP2-*ma*

‘that truck of ours, it has to work for itself’

(‘Vehicle hire’ k23-4)

c. *Nungkuwa-lhangwa ngv-mvni-yakuwerribika-jungu-ma nara, wurri-yukwayuwa*

2.PRO-DAT NEG-BENE-think-REFL.NP1-*ma* NEG 3a-small.PL

yakuwa-lhangwa wurra-mvni-yakuwerribiki-na ...

12.PRO-DAT IMP.2a/3a-BENE-think-NP2

‘Don’t think about yourself, think about our children ...’

(‘Mixed marriages’ e99-101)

¹⁴ This verb is formed as the factitive of *ngekbvrna* ‘good’, which is a common Australian pattern (Evans 2003a: 341, fn10): e.g. Kayardild -*mirrayalatha*- ‘make’ (*mirra*- ‘good’), Warlpiri -*ngurrjmani*- ‘make’ (*ngurrju* ‘good’), and Dalabon -*monwon*- ‘make’ (*mon* ‘good’).

From these examples it appears that the reflexive overrides the BENE applicative. In (18c), for example, the intransitive verb *-yakuwerribiki-* ‘think’ is made transitive by the BENE (‘think of our children’), which in turn is detransitivised by the REFL (‘think of yourself’): [BENE-think]-REFL. Regarding the ordering of semantic composition, it has not been tested with speakers if reflexive formation can precede the benefactive. The question of how examples such as ‘he cut himself for them’ are realised, i.e. whether the object slot can be re-filled by the benefactive argument (i.e. BENE-[cut-REFL]), is an interesting topic for further research (see Evans 2003a: 439-41 for a discussion of semantic ordering in BGW).

The REFL suffix is homophonous to the verb *-jungwV-* ‘to die’, which belongs to the same class. The REFL suffix and the ‘die’ verb can co-occur, suggesting they are not the same morpheme:

- (19) *akina akwalya na-jungwa-ja-jungu-nv-ma*
 NEUT.that NEUT.fish NEUT-die-CAUS-REFL-P2-*ma*
 ‘the fish killed itself’ (anin2_pw_tr_004)

In section 9.3.4.7 I propose that the Enindhilyakwa REFL suffix descends from the pGN REFL **-yi-* in a complex way. This supports the hypothesis that the REFL and the ‘die’ verb involve two different forms which happen to be homophonous.

• **Reciprocal *-yi-* [(+2)]**

The RECP suffix *-yi-* occurs in the same slot as the REFL and also decreases the verb’s valency by one, whilst specifying that the subject and object are co-referential, plus adding the reciprocal meaning of two or more agents each engaging in the same action (i.e. ‘to *verb* each other’). The suffix is usually added to a transitive verb, which may also include causatives, as shown in (20). A textual example is given in (21).

- | (20) <u>Transitive verb</u> | <u>Derived reciprocal verb</u> |
|--------------------------------------|---|
| <i>-ardhvrra-</i> ‘spear’ | <i>-ardharri-yi-</i> ‘spear each other’ |
| <i>-warda-</i> ‘hit, kill’ | <i>-wardi-yi-</i> ‘fight each other’ |
| <i>-yardhi-ji-</i> ‘marry someone’ | <i>-yardhi-jee-yi-</i> ‘marry each other’ ¹⁵ |
| <i>-milya-</i> ‘put on top of, hold’ | <i>-milyi-yi-</i> ‘lie on top of each other’ |
| <i>-wurra-</i> ‘throw away, discard’ | <i>-abvrraku-wurri-yi-</i> ‘separate from one another’ |
| <i>-kwar-</i> ‘hook, catch fish’ | <i>-kwari-yi-</i> ‘be hooked together’ |
| <i>-rndvrrka-</i> ‘grab’ | <i>-rndvrrkee-yi-</i> ‘commit adultery’ |
| <i>-lyungkwe-</i> ‘paint’ | <i>-lyungkwee-yi-</i> ‘paint each other’ |

¹⁵ The CAUS suffix *-ji-* followed by the RECP is always *-jee-yi-* (section 6.3.5).

- (21) *kembirra arakba na-kwee-yi-nv-ma na-mvng-barri-yi-nv-ma yimvrnda,*
 then compl.act 3a-give-RECP-P2-*ma* 3a-small.and.round-split-RECP-P2-*ma* MASC.louse
na-kwee-yi-nv-ma arvngka-manja nuw-arrka-milyi-jee-yi-nv-ma...
 3a-give-RECP-P2-*ma* NEUT.head-LOC 3a-small.and.many-hold-CAUS-RECP-P2-*ma*
 ‘then they gave lice to each other and shared them and they held each other’s heads...’
 (Akarrikarra 1990)

The RECP suffix also has a collective reading, which is not uncommon cross-linguistically (see Evans 2003a: 495 and references therein), and which also happens in BGW (Evans 2003a) and Wubuy (Heath 1984). In (22) the RECP attaches to an intransitive verb, and in (23) to a transitive verb.¹⁶

- (22) a. *nenv-rrvngka wurr-ambilyuma wurrajija nuw-angkarree-yi-na-ma*
 3m/COLL-see.P2 COLL-two COLL.bird COLL-run-RECP-NP2-*ma*
 ‘he saw the two birds flying away’ (VL1 p.448)
 b. *Narrvngv-mebee-yi-nv-ma emeba*
 3fdu-sing-RECP-P2-*ma* NEUT.song
 ‘They were singing songs together’ (‘Brolga’ q8)
- (23) a. *yirr-akina yirrv-mvrndukwee-yi-nv-ma yirrv-dharrvngka akinu-wa ayakwa*
 1a-that 1a-gather-RECP-P2-*ma* 1a-woman NEUT.that-ALL NEUT.word
 ‘we women were discussing matters’ (Lit: ‘gather words together’) (VL1 p.448)
 b. *yirrv-mvrv-jiri-yi-na-mvrra...*
 1a-BENE-push-RECP-NP2-*ma*
 ‘we push them [*yinungungwangba* ‘MASC.animals’] out’ (‘Ekalhara’ g13)

Emeba ‘NEUT.song’ in (22b) is a cognate object that is not cross-referenced on the verb (see section 4.3.1 for a discussion of cognate objects). The examples in (23) show that the valency of the verb is also decreased with the collective reading of the RECP suffix (contrary to e.g. BGW, where the collective reading of the RECP does not decrease the verb’s valency [Evans 2003a: 496]).

Like the REFL, the RECP suffix can also co-occur with the transitivising BENEFactive applicative prefix. In the few available examples, the resulting verb is morphologically intransitive:

- (24) *Kvrr-ambarrngarna arakba karna na-mvn-angkvree-yi-nv-ma?*
 2a-how.many? now 2a.this 3a-BENE-run-RECP-P2-*ma*
 ‘How many of you [Aboriginal women] have they [whitefellas] run off with now?’
 (‘Mixed marriages’ e208)

¹⁶ Leeding (1989: 447-9) interprets this suffix as a non-singular number marker. Consequently, number can be marked twice in her analysis, with a prefix and a suffix (my orthography but original glosses):

- (i) *ngarru-wurrakv-dharrbu-kwa-ji-na*
 12a/NEUT-O.PL-short-FACT-O.NSG-P2
 ‘we all put the things together’ (VL1 p.449)

Dixon (2002: 423) cites this example and concludes that Enindhilyakwa is the only known language in Australia that has both a prefix and a suffix slot for number markers. However, if one views the suffix *-ji-* as a hardened reciprocal suffix which can have a collective reading, as I do, then Enindhilyakwa is no different from other Australian languages.

In this example, the RECP takes the output of the valency increase as its input: [BENE-run]-RECP. The question whether the opposite ordering is also possible, e.g. ‘they swore at each other for them’ BENE-[swear-RECP], will be left to future research.

The RECP suffix often co-occurs with reduplicated intransitive verb stems. This is related to the collective reading: reduplication of the verb stem indicates repetition or prolongation of the event - in other words, a ‘collection’ of events.

(25) <u>Intransitive stem</u>	<u>Reduplicated RECP stem</u>
<i>-abvrangka-</i> ‘look for’	<i>-a-bv-bvrangkee-yi-</i> ‘keep on looking for’
<i>-angkvrarvkv-</i> ‘make faces’	<i>-a-ngkv-ngkvrarvkee-yi-</i> ‘keep on making faces’
<i>-malyangka-</i> ‘play’	<i>-malyv-malyangkee-yi-</i> ‘keeping on playing’

As the RECP can be used to refer to a group of individuals or items, it is not surprising that it is also used in the context of a group of events.

The *-yi-* suffix has the hardened variants *-ji-* (Leeding 1989) and *-nji-*. These are listed in the Dictionary as irregular reciprocals. For example, the RECP of the verb *-akbvrranga-* ‘find, meet’ is listed as *-akbvrranga-nji-*. But the form *-ji-* and the regular RECP form *-yi-* are also attested, as in (26a) and (26b), respectively:

- (26) a. *Biya wun-alh-akina nen-akbvrrangee-yi-na arakba erriberriba-manja.*
 then 3a.du-du-that 3mdu-meet-RECP-P2 compl.act NEUT.bush-LOC
 ‘They two (men and woman) met with each other in the bush.’ (GED p.188)
- b. *nanga-maka ayakwa dh-akina nen-akbvrranga-jv-mv-lhangwa wun-alh-akina*
 3f/3f-tell.PST NEUT.word 3f-that 3mdu-meet-RECP.NP1-*ma*-ABL 3mdu-du-that
 ‘she told her about the two of them meeting each other’ (GED p.188)

The aberrant forms may also show up in nominalised verbs (27), and in negative forms (28):

- (27) *a-kv-bv-ba-nja* [NEUT-NSR-RDP-argue-RECP] ‘quarrel’ < *-bee-yi-* ‘argue-RECP’
a-ku-wardi-ja [NEUT-NSR-fight-RECP] ‘fighting’ < *-wardee-yi-* ‘fight-RECP’
- (28) *e-ba-jv-ma* [NEG-argue-RECP-NP3] ‘don’t argue’ < *-bee-yi-* [argue-RECP] (anin2_em_au_002)
ngu-wardu-wardi-jv-ma [NEG-RDP-fight-RECP-NP3] ‘don’t keep on fighting each other’
 < *-wardi-yi-* ‘fight-RECP’ (‘Children’ h4)

In section 9.3.4.7 I propose that these irregular forms of the suffix link it to the reconstructed proto-Gunwinyguan RECP **-nji-*.

5.4.2 Stem-final vowel when followed by a derivational suffix

The stems for the three derivational suffixes are not always the same as the root forms, as they may differ in the final vowel. They therefore need to be listed as part of each verb’s conjugation,

as I do in Chapter 6.¹⁷ I mostly take as the root form the P2 form minus the suffix, as justified in section 6.3 (this tends to be the most ‘neutral’ form). For example, the P2 of the root *-ma-* ‘get’ (conjugation 2A) is *-ma-nga* (cf. NP1 *-mi-ya*, NP2 *-me-na*). In this case (as well as for the complex stems built from thematic *+ma-*) the stems for the CAUS and REFL suffixes are equivalent to the root and maintain the final *a* vowel: *-ma-ji-* and *-ma-jungwV-*, respectively. The RECP stem is *-mee-yi-*, where the *ee* vowel can be assumed to be conditioned by the following lamino-palatal. For other verbs, however, the form of the stem that takes the derivational suffixes is unpredictable. For example, for the root *-dhida-* ‘shut’ (conjugation 2B), which also ends in *a*, the stem for the derivational suffixes is *-dhidi-*: CAUS *-dhidi-ji-*, REFL *-dhidi-jungwV-*, RECP *-dhidi-yi-* (P2 *-dhida-nga*). And for the compound stems *-errik+bi-* ‘throw’ and *-me+bi-* ‘sing’, which contain the same historical root *+bi-* and which belong to the same conjugation [1A], the stems taking the derivational suffixes even differ from each other. The CAUS, REFL and RECP of the former are: *-errikbi-ji-*, *-errikbi-jungwV-* and *-errikbee-yi-*, respectively. The CAUS and RECP forms of the latter are: *-meba-ji-* and *-mebee-yi-* (the REFL is unattested).

The forms of the CAUS suffix itself, when followed by a REFL or RECP suffix, must also be listed (section 6.3.5). The citation form of the suffix is *-ji-*, which is the NP2 form minus the suffix (NP2 *-ji-na*). The P2 form is *-ju-wa*, where the suffix-final *u* vowel is conditioned by the labio-velar of the P2 suffix (which is why I do not take the P2 as the root form of the CAUS suffix). The REFL and RECP forms are *-ja-jungwV-* and *-jee-yi-*.

Thus, the forms of the stem when followed by a derivational suffix is part of the conjugational paradigm of the verb. The various tense/aspect categories also frequently take different stem forms (e.g. NP1 *-mi-ya*, NP2 *-me-na* and P2 *-ma-nga* from *-ma-* ‘get’ mentioned above). This is a common feature of the Gunwinyguan languages (Alpher, Evans & Harvey 2003; Baker & Harvey 2003; Baker 2004, 2008) and is discussed further in Chapter 6.

5.4.3 The *-dha-* suffix

Verbs borrowed from English enter the language as uninflecting elements that require an additional element to carry the inflection. The productive use of inflecting verbs as a host for loan verbs happens in languages from all over the world (Bower 2008: 173). English loans into Enindhilyakwa are typically mediated through the English-based creole (Kriol) spoken widely in the Top End. In many cases the Kriol form of the verb has a final *-im*, serving as a transitivity marker ultimately derived from English *him* (Heath 1984: 625; Evans 2003a: 344). The transitive *-im* Kriol morpheme is often realised as *-vm* in Enindhilyakwa, where it frequently assimilates to the following interdental stop.

¹⁷ Heath (1984: Chapter 11) does the same for Wubuy.

- (29) *-banvsh-vm-dha-* ‘punish’ (anin2_pw_tr_005)
-rikord-vm-dha- ‘make a recording’ (anin2_pw_tr_005)
-beey-inh-dha- ‘pay’
-rid-im-dha- ‘read’

- (30) a. *wun-alh-akina abvrna nenv-meri-dha-ngv-ma church-manja wun-alh-akina*
 3mdu-du-that 3mdu.PRO 3mdu-marry-dha-P2-ma " -LOC 3mdu-du-that
 ‘those two were married in the church’ (‘Mixed marriages’ e79)
 b. *nu-kurdukurdee=ka n-akina, nara kenv-tatj-vm-dha-nga warnvmamalya*
 3m-sacred=EMPH 3m-that NEG IRR.3a/3m-touch-TRVSR-dha-P2 3a.people
 ‘he was a sacred man, he wasn’t touched by the people’ (‘Wurramara’)

This construction is very productive: informants readily produce such forms and examples are plentiful in texts. The *-dha-* suffix belongs to conjugation 2B, one of the two largest conjugations. It can also be attached to cranberry morphs in frozen complex stems, such as *-mar+dha-* ‘covet’ and *-akbar+dha-* ‘be afraid’, which are also conjugation 2B (see Table 5.9 below for more examples).

The borrowed verb may or may not be phonologically assimilated: ‘punish’, for example, can be heard as *-banvsh-vm-dha-*, with a fricative (which is otherwise absent in the language), and *-banij-im-dha-*, with a lamino-palatal stop. Being regular verbs, these complex stems can enter the same derivational processes as any other verb, such as being nominalised:

- (31) a. *yi-nu-m-amuwa a-kv-brai-vm-vnh-dha*¹⁸
 MASC-m-INALP-round NEUT-NSR-fry-RDP-TRVSR-dha
 ‘fried eggs’ (‘Mixed marriages’ e133)
 b. *nv-beey-inh-dha-ngv-ma n-env-kv-mvnu-wardhu-wardha warka*
 3m-buy-TRVSR-dha-P2-ma 3m-m-NSR-BENE-RDP-work work
 ‘he bought (him) to work for him’ (WD)

The treatment of loan verbs is not limited to the *-dha-* suffix; although much less common, *-yama-* ~ *-ma-* ‘do, say’ is also attested forming intransitive Enindhilyakwa verbs from English loans. These loans do not take the transitivising morpheme *-vm-*:

- (32) *-bvri-yama-* ‘pray’
-brei-ma- ‘pray’ (anin2_pw_tr_005)

Many Northern Australian languages have a suffix that derives indigenous verbs from Kriol loans. In Biniŋ Gun-Wok this is *-me-*, where the *m* merges with the *m* of the transitivity marker *-im* that ends up as part of the verbalising suffix (e.g. *-bayahme-* ‘buy’ < Eng *buy*’*im* [Evans 2003a: 344]). In Ngalakgan and Rembarrnga, Kriol loans take the suffix *-mi-* which descends from pGN **-ma-*

¹⁸ There is an interesting agreement mismatch here: ‘egg’ is MASC but the modifier is NEUT. One possible explanation is that since the frying of eggs is an introduced activity, it is given a NEUT class prefix (the majority of introduced items are classified as NEUT - with the notable exception of vehicles - section 3.4.1.1). The NEUT class clashes with the MASC class of the egg, which encodes that the egg comes from a MASC animal.

‘do/say’ (e.g. *-bayimh-mi-* ‘buy’ [Baker 2004]). Like Enindhilyakwa, Wubuy uses *-dha-* to accommodate loan verbs (Heath 1984: 625). The conjugations to which the suffix belongs in each language are also parallel (section 9.3.4.1).

5.5 Complex stems

The majority of Enindhilyakwa verb stems are polysyllabic, with a recurring final syllable that determines the conjugational class of the stem as a whole, as was illustrated in (1) above. This section investigates these recurring submorphemic elements and shows that some of them are related to free verbs in other languages or even language-internally. The preceding part of the stem may also be attested as an independent word in Enindhilyakwa and/or other languages, or it may recur in several stems.

For example, the independent verb *-ma-* ‘get, take’ recurs as the final syllable of a number of stems, which belong to the same conjugation as the independent verb (conjugation 2A). However, in these polysyllabic verbs *+ma-* no longer means ‘get’ or ‘take’. Instead, these verbs have an element of motion in common:

- | | | | | |
|------|-------------------|------------------|----------------------|----------------|
| (33) | <i>-yirr+ma-</i> | ‘swim’ | <i>-weng+ma-</i> | ‘come towards’ |
| | <i>-warv+ma-</i> | ‘rise, fly away’ | <i>-lharr+ma-</i> | ‘chase’ |
| | <i>-lyeng+ma-</i> | ‘lead’ | <i>-yerrerr+vma-</i> | ‘shake’ |

The elements that precede the *+ma-* segment can also be found in other contexts. For instance *lyeng* in *-lyeng+ma-* ‘lead’ is related to the incorporated nominal *lyang-* ‘head’ (with raising of the vowel due to the preceding lamino-palatal; rule P-4) (thus: ‘head+take’ > ‘lead’). And *lharr* in *-lharr+ma-* could derive from the verb *-lharr-* ‘fall’ (cognate with Wubuy *-lharri-* ‘untie, release’; section 9.3.4.4) (thus: ‘release+take’ > ‘chase’). Alternatively, it could be related to the incorporated nominal *lharr-* ‘bones’ (i.e. ‘bones+take’ > ‘chase’).

Hence my proposal is that the vast majority of stems are not monomorphemic roots that are arbitrarily assigned to the various conjugational classes, as Leeding (1989: 429-30) claims, but the inflections are organised around the final inflecting portion of the stem. In common with Gunwinyguan practice, I will call the inflecting portion of the historically complex stem the ‘thematic’ and the uninflecting part the ‘prebound’ (Evans 2003a; Alpher, Evans & Harvey 2003; Evans & Merlan 2003, amongst others). As mentioned in section 5.2, more common terms in the literature are ‘coverb’ or ‘preverb’ for the uninflecting element, and ‘generic verb’ for the inflecting element, amongst others. However, I propose that these are not appropriate labels for the Enindhilyakwa forms, as ‘coverb’ implies a separate word class, whereas the Enindhilyakwa complex stems are fossilised structures. The formation of new stems by compounding an

uninflecting and an inflecting element is not productive. Moreover, some ‘prepounds’ can be identified as nominal or verbal roots, which are not a separate word class.

Therefore, I use the following terminology to describe Enindhilyakwa verb stems:

- *Prepound*: cover term for the uninflecting portion of historical noun+verb compounds, verb+verb compounds and cranberry morph+verb compounds. The majority of prepounds are not attested as free forms, though they may recur in a number of stems. Prepounds may well include former ‘coverbs’, but these no longer exist as an independent word class today, as they are fused to the verb
- *Thematic*: cover term for the inflecting part of the frozen compounds. Some thematics are synchronically attested as independent verbs, either in Enindhilyakwa or in other languages, whereas others only survive in compound stems
- *Derivational suffixes*: productive stem-forming elements, described in section 5.4. They are similar to thematics in that they determine the conjugation of the verb stem and they probably derive from former verb roots - but they differ from thematics in their productivity and structural transparency. Another difference is the fact that the element to which they attach is an independent word

Prepounds may be of a number of types: they may be nominal roots, verb roots, or else they are limited to being prepounds. As Evans (2003a: 337) points out for BGW, even in the latter case there is a range in the degree of semantic independence: from prepounds occurring in a number of verbs sharing some semantic characteristic, to those limited to one verb but having clear etymologies in another language, to those that are totally unanalyseable. Since the prepound contributes to the formation of the verb stem, it is not given a separate prefix position in the verbal template in Table 4.1, being subsumed under the stem slot.

Some complex stems are frozen noun+verb compounds, which exist alongside the productive noun+verb compounds to be discussed in Chapter 7 (which I refer to as ‘noun incorporation’). The frozen and productive noun+verb compounds may be difficult to tell apart: this is especially the case when the prepound can be identified as a nominal root and the thematic also occurs as an independent verb. For example, is the verb stem *-lyang+baja-* [head+hit] ‘to hammer’ a lexicalised compound consisting of the prepound *lyang-* plus the thematic *+baja-*, or is *lyang-* ‘head’ a productively incorporated body part into the bound stem *+baja-* ‘hit’ (referring to say, the head of a hammer)?

Evans (2003a: 323ff.) discusses a similar problem in BGW, where the same nominal roots can occur in both lexicalised compound stems and in productive noun incorporation patterns. He proposes that the two structures can be distinguished by the following criteria: lexicalised

compound stems are non-productive, non-compositional and need to be entered as separate lexical items. According to these criteria, *-lyang+baja-* ‘hammer’ should be taken as a lexicalised compound stem: the *lyang-* segment cannot be omitted, and the meaning of the compound is non-compositional and needs to be entered as a separate lexical item. The incorporation of body parts and generics, on the other hand, is productive, compositional and allows unincorporated paraphrases. Even though it results in a single phonological and morphological word, it is a syntactic process: the constraints on what root incorporates, and the semantic interpretation of the resulting verb complex, can be characterised in terms of clause-level syntax (see Chapter 7). Following Evans (see also Baker & Harvey 2003), I will place a ‘+’ between preponds and thematics in discussions where the internal structure of the stem is at issue, and a ‘-’ between syntactically incorporated nominal roots and their hosts.

Evans (2003a: 328-30) outlines the following morphosyntactic tests to distinguish between lexicalised compound stems and productive syntactic noun incorporation. These tests are also applicable to the two constructions in Enindhilyakwa:

OPTIONALITY: Syntactically incorporated body part nominals and generics are optional, whereas nominal preponds are not. There is typically no other way of expressing the resultant meaning, and no option of paraphrasing by omitting the prepond or having it appear as an external nominal. For example, the verb *-werriki+jira-* [chest+push] ‘to persuade’ is a lexicalised stem, the meaning of which is non-compositional and the structure is inflexible. This contrasts with the verb *-jira-* ‘push’ which can productively incorporate a body part nominal, as in (34a). The meaning is compositional and incorporation is optional, in that the nominal can also appear external to the verb, as in (34b) (note that incorporated nominals are often suppletive; see section 7.6).

- (34) a. *ngv-nu-werriki-jira-nga*
 1.O-3m.S-chest-push-P2
 ‘he pushed me on the chest’ (Waddy n.d.-c)
- b. *ngv-ni-jira-nga yukudhukudha-manja*
 1.O-3m.S-push-P2 MASC.chest-LOC
 ‘he pushed me on the chest’ (constructed)

This contrast in flexibility suggests that complex stems composed of a prepond are frozen, whereas syntactically incorporated nominals are productive.

PRODUCTIVITY: Syntactically incorporated body parts and generics can appear with most semantically compatible verb lexemes (with the exception of the ‘fixed stems’ in Table 5.1), whereas preponds occur in inflexible, frozen structures. Productively incorporated nominals are more semantically transparent than frozen structures (cf. [chest-push] ‘push on chest’ in [34a] vs. [chest+push] ‘persuade’ mentioned above).

POSITION: Complex stems can productively incorporate a body part or generic nominal in slot ([-1]), which can only contain one nominal at the time. This means that, when two nominal roots occur in the verbal word, the outer one must be a productively incorporated root, while the inner one is a lexicalised prepound:

- (35) *narrv-balki-lyang+barrkv-na*
 3a/NEUT-flat.ground-head+move-NP2
 ‘they are sweeping the floor’

Here *balki-* is a productively incorporated generic nominal, and *lyang-* is a prepound that forms a complex stem with the thematic *barrkv-*.

In deciding whether an incorporated nominal is a productively incorporated body part/generic nominal or a prepound, we can use these positional criteria. Note, however, that this does not mean that *lyang-* is always a prepound, or that *balk-* is always a generic. The same nominal root can participate in several incorporation types; *lyang-*, for instance, is also attested as a productively incorporated body part (e.g. *nanga-lyang-barra-ngv-ma* [3m/3f-head-hit-P2-*ma*] ‘he hit her on the head’ [Fieldnotes DL 6/4/09]). Each verb must therefore be analysed separately.

GRAMMATICAL RELATIONS BETWEEN INCORPORATED NOMINAL AND VERB: Syntactically incorporated nominals are predictable in their grammatical relations with their verb: only intransitive subjects and transitive objects incorporate, to be argued extensively in Chapter 7. Nominal prepounds, by contrast, may bear a variety of grammatical relations to the incorporating thematic verb root. They may be the same as those permitted for syntactic incorporation, but they may also bear other grammatical relations, such as instrument, location, destination, and so forth. For example, the prepound *lyang-* in (35) can be conceived of as the instrument, namely the head of the broom. This contrasts with the syntactically incorporated form *balk-*, which represents the direct object argument, namely the floor.

Related to the previous point, nouns in lexicalised compounds may AFFECT THE ARGUMENT STRUCTURE OF THE VERB, rendering a transitive root intransitive, or advancing a different argument into direct object position (see Mithun 1984a; Rosen 1989). The root *-lyungkwe-* ‘rub’, for example, is usually transitive, as in (36a), but lexicalised complex stems composed of this root may be intransitive, as in (36b).

- (36) a. *wurrv-dharrvngka ... narrv-ma-lyungkwe-nv-ma mamvngba-manja*
 3a-female 3a-VEG-rub-P2-*ma* VEG.hair-LOC
 ‘women used to ... rub their hair [with the seed pods of *dhvngadhilyenjirka*
 ‘FEM.white.cloud.tree’]’ (GED p.25)
- b. *na-mangbi+lyungkwe-nv-ma ayarrka-kiya-manja*
 3a-hand+rub-P2-*ma* NEUT.hand-du-LOC
 ‘they rubbed it [fruit of *angkayuwaya* ‘NEUT.tamarind’] in their two hands’ (GED p.44)

In (36a) the object *mamvngba* is cross-referenced on the verb (the LOC case is a quirky case here; see section 8.5). In (36b) the prepound *mangbi-* does not denote the object of the verb, but the instrument or location. The external nominal is not cross-referenced on the verb and bears LOC case.

In addition, Baker & Harvey (2003) discuss a PHONOLOGICAL DISTINCTION between the two types of incorporation in Ngalakgan: lexicalised compound stems display a different stress pattern to that of syntactically incorporated nominals. In the latter, the individual constituents have stress on the same syllable(s) as they do when they occur as independent words. Lexicalised compound stems, by contrast, have a stress pattern of a single simplex word. The phonological patterning of complex words thus correlates to their productivity. This has not been investigated for Enindhilyakwa, but a phonological analysis of the different types of complex words may well bring up an additional distinction between the two.

In sum, verbs formed by the optional incorporation of a body part or generic nominal occupy a different space in Enindhilyakwa grammar from the frozen complex stems formed by noun+verb compounding. The following sections are concerned with lexicalised compound stems only; the reader is referred to Chapter 7 for a discussion of productive noun incorporation.

5.5.1 Prepounds

Prepounds may be of a number of types: nouns, verbs, cranberry morphs, or recurring unanalyseable forms. They are discussed here in turn.

5.5.1.1 Nouns as prepounds

These prepounds can be identical in form, and semantically related to, productively incorporated body part or generic nominals, as was shown above. They are fossilised structures that need to be entered as separate lexical items. Their semantics may be semi-transparent, as for *-ngurr+baja-* [mouth+hit] ‘interrupt’, or non-transparent, as for *-lyang+ba-* [head+?hit] ‘go across’. Many complex stems of this type originate as incorporated nominals, and in some cases they may be difficult to distinguish from productively incorporated body parts/generics, as discussed above. Table 5.4 lists some examples of complex stems formed with noun prepounds. Recall that incorporated nouns are often suppletive (section 7.6), so they are not attested as free nouns. Evidence for their noun status comes from the fact that the incorporated forms may correspond to free nouns in GN languages (section 9.1 and Appendix P).

Complex verb stem	Incorporated nominal
<i>-lyang+ba-</i> ‘go across’	<i>lyang-</i> ‘head’
<i>-lyang+baja-</i> ‘hammer’	
<i>-lyang+barrkv-</i> ‘sweep’	
<i>-lyangku+wamv-</i> ‘nod’	
<i>-lyang+bvrrukwa-</i> ‘fill’	
<i>-lharrk+baka-</i> ‘tell the truth’	<i>lharr-</i> ‘bones’
<i>-mam+baji-</i> ‘rub with hands’	<i>mam(b)-</i> ‘hand’
<i>-ngurr+baja-</i> ‘interrupt’	<i>ngurr-</i> ‘mouth’
<i>-mungk+wardhv-</i> ‘scavenge’	<i>mung-</i> ‘eyes, cheeks’
<i>-ngarrv+ma-jungwV-</i> (REFL) ‘listen’	<i>ngarr-</i> ‘ear’
<i>-mvrak+bi-</i> ‘wear around neck’	<i>mvra-</i> ‘throat’
<i>-yeng+bi-</i> ‘speak’	<i>yeng-</i> ‘voice, speech’
<i>-lyik+bi-</i> ‘blow away, go fast’	? <i>lyi-</i> ‘lips’
<i>-ngeng+bi-jungwV-</i> (REFL) ‘sigh from sadness’	<i>ngeng-</i> ‘breath’
<i>-werri+bi-ki-</i> (FACT) ‘feel, remember’	<i>werri-</i> ‘chest’
<i>-ruk+bijangv-</i> ‘jump down, get off’	<i>rukwV-</i> ‘body’

Table 5.4: Prepounds identical to productively incorporated nominals

The prepounds in this table are all used as body part nominals that can be productively incorporated into verbs or adjectives. The complex stems in this table, however, are frozen structures with non- or semi-compositional meanings. They function as simple stems in their ability to incorporate an additional body part or generic nominal, as was illustrated in (35) above and again in (37). More examples can be found in Chapter 7.

- (37) *ne-keki-lyangku+wamv-na*
 3a-RDP.light-head+nod-NP2
 ‘they flick the light switch on or off’ (Ansec2)

The prebound and the productively incorporated body part/generic are both frequently suffixed with *-k*. This velar insertion is phonologically conditioned, as proposed in section 7.6.

In some cases there is no corresponding form - free or bound - to the prebound in Enindhilyakwa. However, a corresponding free nominal may be attested in Wubuy:

Enindhilyakwa complex stem	Wubuy free nominal
<i>-lhakar+mv-</i> ‘choke’	<i>lhakar</i> ‘saliva’
<i>-rerr+mv-</i> ‘dry’	<i>rarri</i> ‘dry’

Table 5.5: Prepounds similar to Wubuy free nominals

Alternatively, a prebound can be similar to an Enindhilyakwa free noun, minus its class prefix (the boundary between the class marker and the root is indicated with ‘+’ for expository purposes):

Complex verb stem	Free nominal
<i>-edhvrre+mi-</i> ‘deny’	<i>edhvrra</i> ‘NEUT.mouth’
<i>-ngaruku+mv-</i> ‘fish by line’	<i>mv+ngarukwa</i> ‘VEG+fishing line’
<i>-nyirr+mv-</i> ‘blow nose’	<i>e+nyirra</i> ‘NEUT+runny nose’
<i>-lhvlhvl+mv-</i> ‘blow fire till it lights’	<i>a+lhvlha</i> ‘NEUT+kindling for starting fire’
<i>-yukwa+mv-</i> ‘ask (e.g. for food)’	<i>a+yakwa</i> ‘NEUT+word’
<i>-rak+bv-</i> ‘blow didgeridoo’	<i>yi+raka</i> ‘MASC+didgeridoo’
<i>-mvdhilyak+bv-</i> ‘cough’	<i>a+mvdhilya</i> ‘NEUT+cold in the chest’

Table 5.6: Prepounds similar to free nominals

The major difference between the complex stems in the above three tables is whether the prepond is synchronically attested as a free form in Enindhilyakwa: in Table 5.4 and 5.5 there is no free noun counterpart, while in Table 5.6 there is. Note that the thematics in Table 5.5 and 5.6 are all *+mv-* or *+bv-* (and one example of *+mi-*), and that the complex stems composed from them are intransitive.

A possible explanation for this asymmetry is that the thematics in Table 5.5 and 5.6 represent an historical denominalising suffix. Since they appear in intransitive stems where the prepounds are synchronically attested as free nominals, they could be related to the proto-Gunwinyguan inchoative suffix **-me-* (see Alpher, Evans & Harvey 2003: 329-33).¹⁹ An Enindhilyakwa reflex of proto-Gunwinyguan **e* is proposed in section 9.2.2.2.1 to be *v*. The Enindhilyakwa *-bv-* form could then be a hardened variant of *-mv-* (the hardening of continuants to their homorganic stop counterparts when following a stop is not uncommon in Enindhilyakwa: see Appendix D). In contrast to the Gunwinyguan languages, this inchoative suffix is no longer productive in Enindhilyakwa and only survives in fossilised structures.

Noun prepounds can thus occur in different frozen stem structures: they can originate from noun incorporation (Table 5.4), where the prepounds are suppletive forms that are still used in productive noun incorporation. Or the noun prepond occurs in complex stems that are historical inchoatives (Tables 5.5 and 5.6). In the latter case the prepounds are sometimes still attested as free nouns, though the historical INCH suffix is no longer productive.

5.5.1.2 Verbs as prepounds

In some complex stems, the prepond may be formally similar, and sometimes also semantically related, to a verb root:

¹⁹ Alpher, Evans & Harvey suggest that the Gunwinyguan INCH suffix may go back to an independent verb **-me-* ~ **-mi-* ‘do, say’ at a deeper level than proto-Gunwinyguan (p.333).

Complex stem	Free verb
<i>-ngadhu+wa-</i> ‘cry for’ (tr.)	<i>-ngwadhv-</i> ‘cry’ (intr.)
<i>-warde+mi-</i> ‘cry out’	<i>-arda-</i> ‘cry out, shout’
<i>-lhvhlvl+mv-</i> ‘blow fire till it lights’	<i>-lhvhlv-</i> ‘blow on fire to get it going’
<i>-ambilyu+wardhv-</i> ‘be anchored’	<i>-ambilya-</i> ‘be in fixed location’
<i>-marra+wa-</i> ‘wander’	<i>-marra-</i> ‘push fish through billabong’
<i>-lharr+ma-</i> ‘chase’	<i>-lharr-</i> ‘fall’
<i>-arrngarv+mv-</i> ‘sneeze’	<i>-arrngara-</i> ‘burp’
<i>-jira+ba-</i> ‘pour’	<i>-jira-</i> ‘push’
<i>-errukulhi+yama-ji-</i> (CAUS) ‘be sorry for’	<i>-errukulhv-</i> ‘be sorry for’
<i>-andhabv+me-</i> ‘wonder what you mean’	<i>-andhaba-</i> ‘ask’ (VL1 p.493)

Table 5.7: Prepounds similar to free verb roots

These complex stems are clearly composed of an independent verb by addition of a thematic. In some cases the thematic does not appear to contribute any meaning: for example, the simple stem *-arda-* and the complex stem *-warde+mi-* derived from it both mean ‘cry out’ (see Appendix Q for some suggestions regarding stem-initial *w* in Enindhilyakwa). In other cases the thematic appears to determine the argument structure of the verb, as in transitive *-ngadhu+wa-* ‘cry for’, which is composed of the intransitive verb *-ngwadhv-* ‘cry’. And in yet other cases the thematic contributes a generic meaning while the preposition supplies a manner of the action meaning: the stem *-marra+wa-* ‘wander’, for instance, is composed of the root *-marra-*, which as an independent verb means ‘push fish through billabong’. Its semantic contribution to the complex stem is along the lines of ‘to move in a non-linear, meandering way’. The form *+wa-* also occurs as a thematic in many Gunwinyguan languages and as an independent verb meaning ‘follow’ in Dalabon, Rembarrnga, Mangarayi and Ngalakgan (Alpher, Evans & Harvey 2003: 323).

5.5.1.3 Unanalyseable prepounds

In some unsegmentable complex stems the preposition is a one-off cranberry morph that is not attested anywhere else in the language, such as the *yu* in *-yu+wa-* ‘follow’ (cf. proto-Gunwinyguan **-wa-* ‘follow’) and the *lhek* in *-lhek+ba-* ‘accuse’. In others, the preposition is also an unanalyseable element, unrelated to independent verbal or nominal roots, but it recurs in several stems. Table 5.8 (next page) lists some complex stems taken from the dictionary with synchronically unanalyseable prepounds.

These prepounds do not occur as independent elements in Enindhilyakwa, but in some cases they do in Gunwinyguan languages. For example, the Wubuy verb root *-bilya-* ‘be tilted’ may be related to the preposition in the Enindhilyakwa complex stems *-ikbilya+ja-* ‘drop down’, *-ikbily+arrngv-* ‘push over’, and so on. And *-ngu-* is a common Gunwinyguan verb root meaning ‘eat’. In Enindhilyakwa it only appears as a preposition in frozen complex stems such as *-ngu+jalha-* ‘eat while walking’.

Prepound	Complex stems
<i>dhvrr</i>	- <i>dhvrru+wa-</i> ‘bury, dip’ - <i>ngur-dhvrr+wa-jungwV-</i> ‘dive’ (- <i>jungwV-</i> ‘REFL’) - <i>mvn-dhvrru+wa-</i> ‘stop (vehicle)’ (<i>mvn-</i> ‘BENE’) - <i>dhvrrv+mindha-</i> ‘thunder’ - <i>adhvrr+bvlha-</i> ‘bang, knock’ - <i>mvn-dhvrrv+mee-yi-</i> ‘put hands on each others shoulders’ (<i>mvn-</i> ‘BENE’; <i>-yi-</i> RECP) - <i>dhvrr+mvru-kwa-</i> ‘prevent/stop doing something’ (- <i>kwa-</i> FACT)
<i>err</i>	- <i>err+bilya-</i> ‘spread (and stick)’ - <i>err+balhv-</i> ‘be separate’ - <i>erre+ja-yelyukwa</i> ‘walk in rain’ - <i>yerrerrv+ma-</i> ‘shake’ - <i>errv+lha-</i> ‘lean over’ - <i>erri+riji-</i> ‘shake food from tree’
(<i>ik</i>) <i>bilya</i>	- <i>ikbilye+mv-</i> ‘spray when boat hitting waves’ - <i>ikbilya+ja-</i> ‘drop, throw down’ - <i>ikbily+arrngv-</i> ‘push over’ - <i>wabilyu+wendha-</i> ‘bend down, tip over’
<i>mar</i>	- <i>mar+dha-</i> ‘covet, take over’ - <i>ang+mar+dha-</i> ‘hate’ - <i>marv+ma-</i> ‘stop, prevent fighting’ - <i>mar+dhv-</i> ‘be painful’ (- <i>dhv</i> ‘INCH’)
<i>ngu</i>	- <i>ngu+jalha-</i> ‘eat while walking’ (cf. <i>-yen+jalha-</i> ‘talk while walking’) - <i>ngu+nji-</i> ‘suckle’
<i>bvrr</i>	- <i>bvrru+kwV-</i> ‘disappear’ (intr.) - <i>bvrru+kwa-ji-</i> ‘make disappear’ (- <i>ji</i> ‘CAUS’) - <i>bvrru+mv-</i> ‘?’ - <i>arnda-bvrrv+mv</i> ‘carry under arm’ - <i>bvrru+wa-</i> ‘crawl, creep, slide’ - <i>bvrrv+dha-</i> ‘shake, tremble’
<i>lyi</i>	- <i>lyik+bi-</i> ‘go fast, float away’ - <i>lyi-lyv+mv-</i> ‘flowing fast of water’

Table 5.8: Synchronically unanalyseable prepounds

To summarise, Enindhilyakwa prepounds can be nominal or verbal roots, cranberry morphs, or recurring unanalyseable forms. Some of the unanalyseable prepounds have close correspondences in Wubuy or other languages, suggesting that they may have originated as simple roots, whose basic form has been lost in Enindhilyakwa but survives in complex stems.

5.5.2 Thematics

A thematic can be formally identical to a simple independent root bleached of its meaning. Examples of complex stems built from *+ma-*, which as an independent verb means ‘get’, were given in (33) above, where it is bleached of the meaning ‘get’. Instead, the complex stems built from this thematic have an element of motion in common (see also Table 5.9 below). Or a thematic may only appear in combination with prepounds, such as *+ka-*, which has no independent meaning or form but occurs in a number of complex stems of conjugation 3: *-lhawurr+ka-* ‘taste,

test', *-wal+ka-* 'sneak up on', *-lharr+ka-* 'send', *-ngurr+kwa-* 'hunt', *-ingkirri+ka-* 'hear', *-enjirri+ka-* 'hurry'. Some thematics have cognate forms in other languages: *-ka-*, for instance, is a common Gunwinyguan verb meaning 'take, carry' (Alpher, Evans & Harvey 2003: 324-5). This verb root can also function as a causative marker in Ngalakgan (Baker & Harvey 2003). It is also widespread in Pama-Nyungan including in Warlpiri with preverbs like 'sneak up' (Jane Simpson, p.c.). The thematic determines the conjugation-dependent form of the tense and aspect inflections. Thus, once one knows how to inflect the thematic *+ka-* for tense and aspect, this generalises to all verb stems constructed with *+ka-*.

Table 5.9 below, spread over several pages, lists the recurring thematics I have identified. This list is by no means exhaustive: it does not include unanalyseable stems, with potential thematics that do not re-appear elsewhere, such as *-lhamvra-* 'tie, wrap up' [2], or *-lhakulhv-* ~ *-dhakulhv-* 'be joined together' [1A]. However, such unanalyseable stems are not common: the majority of stems are demonstrably complex, with recurring prepounds and/or thematics, or formed with a derivational suffix. I do not claim to have identified all existing (recurring) thematics, and further research may bring to light additional ones. Nevertheless, Table 5.9 contains the most common thematics.

A major difficulty in examining thematics is determining the quality of the stem-final vowel. As can be seen in Table 5.9, some thematics only differ in their final vowel, such as *+ma-*, *+mv-* and *+mi-*. The first problem one encounters when trying to identify thematics is that the previous work did not distinguish between /ə/ and /i/, representing both as *i* or sometimes *u* (see Chapter 2). Secondly, [i] may vary with [ə] in unstressed positions, such as *-yengbi-na* 'speak-NP2', which can be heard as [jɛ'ŋpina] or [jɛŋpəna]. In choosing between stem-final /i/ or /ə/ I mostly rely on the preceding vowel: stem-final /i/ may trigger the raising of a preceding /a/ to [ɛ] (rule P-5). An example is *-warde+mi-* 'cry out', which contains the root *-arda-* 'cry out': I propose it is the /i/ of the thematic *+mi-* that conditions the raising of the preceding historic */a/ to [ɛ]. No raising occurs with stem-final /ə/, as can be seen in *-lhakar+mv-* 'choke' (cf. Wubuy *lhakar* 'saliva'). Thus, I assume that the thematics *+mi-* in 'cry out' and *+mv-* in 'choke' are different morphemes, which differ in their final vowel. As will be shown below, they probably correspond to different verb roots in other languages.

The numbers in square brackets indicate the conjugational classes the thematics belong to (which are discussed in Chapter 6). Some thematics may look homophonous on the surface, but they are distinguished by the conjugation class (e.g. there are two *+ma-* thematics, which belong to conjugation classes [2] and [4]). If a thematic also functions as an independent or bound root of the same conjugation, this is given in parentheses.

Thematics	Complex stems
+ <i>ma</i> - [2] (- <i>ma</i> - ‘get, take’) (cf. pGN * <i>-ma</i> - ‘get’)	- <i>yirr+ma</i> - ‘swim’ - <i>warv+ma</i> - ‘rise, fly away’ - <i>lyeng+ma</i> - ‘lead’ - <i>weng+ma</i> - ‘come towards’ - <i>lharr+ma</i> - ‘chase’ - <i>yerrerrv+ma</i> - ‘shake’
+ <i>ma</i> - [4] (- <i>ma</i> - ‘do, say’) (cf. pGN *(+) <i>ma</i> - ‘thematic, do, say’) ²⁰	- <i>ya+ma</i> - ‘do, say’ ²¹ - <i>kurarr+ma</i> - ‘spit’ - <i>rndang+ma</i> - ‘make an intermittent noise (ring of bell, bang of gun, etc.)’
+ <i>ba</i> - [4] (- <i>ba</i> - ‘argue, hit’) (cf. pGN * <i>-bu</i> - ‘hit’)	- <i>jira+ba</i> - ‘pour’ - <i>ar+ba</i> - ‘pull out’ - <i>lharrk+ba-ka</i> - (FACT) ‘tell the truth’ - <i>arrang+ba</i> - ‘collect, gather’ - <i>yadhak+ba</i> - ‘live in waters’ - <i>lyang+ba</i> - ‘go across’
+ <i>baja</i> - [2] (+ <i>baja</i> - ‘hit’) (cf. pGN * <i>-badja</i> - ‘hit’)	- <i>ngurr+baja</i> - ‘interrupt’ - <i>lyang+baja</i> - ‘hammer’ - <i>yeng+baja</i> - ‘cut smooth (when you start working on a spear)’ - <i>adhak+baja</i> - ‘smash, crush, hammer, break in pieces’ - <i>lharrm+baja</i> - ~ - <i>lhan+baja</i> - ‘knock, bump’
+ <i>baji</i> - [1]	- <i>maki-lying+baji</i> - ‘rain heavily’ - <i>mam+baji</i> - ‘rub with hands’
+ <i>ba</i> - [3]	- <i>lhek+ba</i> - ‘accuse, blame’ - <i>kwiyerr+ba</i> - ²² ‘miss the mark’ - <i>lha+ba</i> - ‘test, try, taste’
+ <i>wa</i> - [1B(i)] (cf. pGN * <i>-wa</i> - ‘follow’)	- <i>mvndhvrru+wa</i> - ‘bring to a halt’ - <i>dhvrru+wa</i> - ‘bury’ - <i>mvrndu+wa</i> - ‘count, sort’
+ <i>wa</i> - [1B(ii-a)] (cf. pGN * <i>-wa</i> - ‘follow’)	- <i>yarru+wa</i> ‘go past’ - <i>marra+wa</i> ‘wander’ - <i>yu+wa</i> ‘follow’ - <i>bvrru+wa</i> ? ‘crawl’ - <i>kurru+wa</i> ‘get excited about’ - <i>ngadhu+wa</i> ‘cry for’ - <i>kerru+wa</i> ‘try but fail’ - <i>jiju+wa</i> ‘chop out honey, cut someone in fighting’ - <i>erru+wa</i> - ? ‘check’

²⁰ Wubuy INCH *-ma-* belongs to class A₁, which corresponds to Enindhilyakwa class 4 (section 9.3.4.2). Wubuy A₁ verbs predominantly end in *-ka-*, *-wa-* and *-ma-* (Heath 1984: 417), which includes the FACT suffixes *-wa-* ~ *-ka-* and *-ka-*. Enindhilyakwa class 4 verbs predominantly end in *-ka-* ~ *-kwa-*, *-ma-* or *-ba-*, which includes the FACT suffix *-ka-* ~ *-kwa-*.

²¹ Warray and BGW, Ngandi and Wubuy have a similar ‘do/say’ verb, which is reconstructed as **-yama-* (AEH p.339). AEH treat this verb as a compound of the prepound root **ya(ng)* ‘speech’ and the thematic **+ma-*. This is a plausible analysis for Enindhilyakwa *-ya+ma-* also.

²² This is a dictionary entry. In my analysis of Enindhilyakwa phonology in Chapter 2, [k^wi] is not a possible sequence, because /i/ absorbs the rounding of the preceding rounded velar and is realised as [u]. I do not know this word, but I suspect that it is pronounced as either [kujerba] or [kijerba]. If the phonetics of this word turns out to be [k^wijerba], then my analysis will need to be revised, so that following lamino-palatals can somehow block a preceding non-low vowel from absorbing the labialization of the preceding velar. The Wubuy correspondence is *-wajirr+badja-* ~ *-kajirr+badja-* ‘miss with thrown object’ [A₂], where the initial *w* varies with *k*. This may have something to do with the mysterious Enindhilyakwa spelling.

<p>+mv- ~ +bv- [1A] (cf. pGN INCH *-me-)</p>	<p>-ngaruku+mv- ‘fish by line’ -nyirr+mv- ‘blow nose’ -lhakar+mv- ‘choke’ -lhvlhvl+mv- ‘blow fire till it lights’ -lyi+lyv+mv- (RDP) ‘noise of water falling’ +rrv+mv- ‘make noise’ +wa+mv- ‘nod’ -bvrrov+mv- ‘carry under arm’ -rak+bv- ‘blow didgeridoo’ -mvdhilyak+bv- ‘cough’ -mvrak+bv- ‘wear around neck’ -jarak+bv- ‘shuffle, flip sand over with feet while dancing’ -wurvm+bv- ‘cover up, be covered’</p>
<p>+mi- ~ +bi- [1A] (cf. Wubuy INCH -wi- ~ -bi-)</p>	<p>-warde+mi- ‘cry out’ -dhvrreng+mi- ‘explode, thunder’ -edhvrrre+mi- ‘deny’ -errek+bi- ‘vomit’ -errik+bi- ‘throw, collect, spend’ -ngeng+bi-jungwV- (REFL) ‘sigh from sadness’ -lyik+bi- ‘go fast, blow away’ -lye+bi- ‘go to fight, make trouble’ -me+bi- ‘sing’ -yeng+bi- ‘speak’ +nyi+bi- ‘grunt’ -werri+bi-ki- (FACT) ‘feel, remember’ -merri+bi- ‘swear’ (JH)</p>
<p>+bvrre- [2] (+bvrre- ‘split, hit’)</p>	<p>-war+bvrre- ‘chop down’ -adheng+bvrre- ‘smash’ -ik+bvrrov-kwa- (FACT) ‘disappear’ -lhvk+bvrrov-kwa- (FACT) ‘look for place to lay eggs (of turtle)’ -lyang+bvrrov-kwa- (FACT) ‘be filled’ -lyikarr+bvrrov-kwa- (FACT) ‘slip’ -mam+bvrrov-kwa- (FACT) ‘drop from hand’</p>
<p>+arrngv- [1] (+arrngv- ‘break’ [4B(ii)])</p>	<p>-ikbily+arrngv- ‘push over’ -lyu+warrngv- ‘bend (of something strong)’ -yik+arrngv- ‘stop breathing, faint’ -abvb+arrngv- ‘lift legs in dancing’ -ikbikb+arrngv- ‘unable to lift because too heavy’</p>
<p>+ka- [3] (cf. pGN *-ka- ‘carry’)²³</p>	<p>-lhawurr+ka- ‘taste, try, test’ -wal+ka- ‘sneak up on’ -lharr+ka- ‘send’ -ngurr+kwa- ‘hunt’ -ingkirri+ka- ‘hear’ -enjirri+ka- ‘hurry’ -yi+ka- ‘fetch’ -wurrvmv+ka- ‘whistle, beep’ -arnda+ka- ‘hunt’</p>

²³ Many Wubuy stems in the corresponding class N (section 9.3.4.3) are also composed of thematic +ka-, which may derive from an old verb root *-ka- ‘carry’ (Heath 1984: 419).

+ka- ~ +kwa- [4] (FACT -ka- ~ -kwa-) ²⁴ (cf. pGN *-wo- 'give')	-rndarr+ka- 'pick up' -warr+ka- 'sew' -ma+ka- 'tell' -yamarr+ka- 'do what?' -adhu+kwa- 'stab' -rrvng+ka- 'see' -wilya+ka- 'hold, take, carry' -mvrndu+kwa- 'come together'
+lhalhv- [6] (cf. pGN *-dha- 'stand')	-enja+lhalhv- 'lean out' -maku+lhalhv- 'sit' -mvraku+lhalhv- 'sit up, be awake'
+lha- [6]	-murrku+lha- 'lie' -mungku+lha- 'sleep'
+lha- [2] (cf. pGN *-dha- 'stand')	-wurrv+lha- 'drown, sink' -rungku+lha- 'knead, crush' -arrnga+lha- 'itch' -erri+lha 'lean over' -ngku+lha- 'be stretched out'
+dha- [2] (cf. Wubuy +dha- [A ₂])	-mar+dha- 'covet, take over' -akbar+dha- 'be afraid/frightened' +burrv+dha- 'shake' -rvngan+dha- ~ -rv+dha- 'chop' -min+dha- 'flash' -dha+dha- 'burn, poke' -ja+dha- 'appear' -aka+dha- 'bark, snore, hiss' -kurrv+dha- 'scratch, rumble' -lha+dha- 'be satisfied with food'
+ja- [2] (-ja- 'eat') (cf. pGN *-ja(ra)- 'eat')	-ikbilya+ja- 'drop, throw down' -arri+ja- 'shave wood' -arri+ja-kwV- (FACT) 'scatter' -ri+ja- 'scrape, rub' -biyin+ja- 'finish, none left to share' -lyingvrra+ja- 'crush'
+lhv- [1A]	-lhaku+lhv- ~ -dhaku+lhv- 'be mixed, be joined together' -abv+lhv- 'be mixed' -erruku+lhv- 'have pity on, have mercy on, be sorry for, respect' -lhv+lhv- 'blow on fire'
+balhv- [1] (+balhv- 'spread out')	-err+balhv- 'separate' -lyang+balhv- 'spread across' -mam+balhv- 'be crossed (sticks)' -rrak+balhv- 'come out suddenly' -ngurrk+balhv- 'be open'
+adha- [2] (+adha- 'shine')	-lharr+adha- 'become light' -lhukwarr+adha- 'glow in sky before sunrise' -b+adha- 'shine' -ikb+adha- 'become dawn' -yengk+adha- 'track'

²⁴ Wubuy FACT suffixes: -wa- ~ -ka- and -ka-. These belong to class A₁, which corresponds to Enindhilyakwa class 4 (section 9.3.4.2).

<i>+balya-</i> ~ <i>+bilya-</i> ~ <i>+walya-</i> ~ <i>+wilya-</i> [2] (<i>+bilya-</i> ‘stick’)	<i>-err+bilya-</i> ‘spread (and stick)’ <i>-ak+bilya-</i> ‘patch, attach, stick’ <i>-yam+balyi-ka-</i> (FACT) ‘leave track on ground to show where hole is’ <i>-wek+bilya-</i> ‘give freely’ <i>-abu+walya-</i> ‘hungry for meat’
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Table 5.9: Enindhilyakwa thematics

This table lists 23 different thematics (without claiming that this list is exhaustive). Not only do thematics determine the conjugational class of the complex stem, but often also its valency. For example, stems with thematics *+mv-* ~ *+bv-*, *+mi-* ~ *+bi-*, *+lha-* and *+balhv-* are always intransitive, whereas those composed of *+baja-* and *+ja-* are transitive (though the independent verb *-ja-* ‘eat’ itself is morphologically intransitive). Stems composed of thematic *+wa-* are mostly transitive, except for some of those that express motion (e.g. *-marra+wa-* ‘wander’ and *+bvrru+wa-* ‘crawl’), which are intransitive.

The list seems to contain a semantic range, from having some common element of meaning (e.g. motion in stems composed of *+ma-* [2A]; sound or substance emission in stems composed of *+ma-* [4]; and impact in stems containing *+baja-* [2A]), to having no common element of meaning (e.g. those composed of *+dha-* [2B], which is also the thematic that accommodates loanverbs).

The number of Enindhilyakwa thematics falls in between the numbers of thematics in the Northern Australian languages that have them, which range from 16 in Ngalakgan (Merlan 1983) to 38 in Marra (Heath 1981). Languages where the ‘prebound’ and ‘thematic’ are individual words (often labelled ‘coverb’ and ‘generic verb’, respectively, in the literature) tend to have similar numbers of ‘generic verbs’, ranging from five to about thirty or forty (Dixon 2002: 188-91). But, as mentioned above, further research will have to determine whether 23 is the final number of Enindhilyakwa thematics.

It may turn out, for instance, that some of the thematics are variants of the same form. This could be the case for the thematics *+dha-* and *+ja-* [class 2]. The *-ja-* root also occurs as an independent verb meaning ‘eat’, but most stems composed of this thematic are semantically unlike ‘eat’. Heath also describes thematics *+dha-* and *+ja-* in Wubuy (which he calls ‘minor derivational suffixes’), and suggests that they “seem to be essentially the same morpheme” (1984: 401). Thematic *+lha-* belonging to the same conjugation could also be related through lenition (**dh > lh* being a common sound change in Enindhilyakwa, as will be argued in detail in section 9.2.1.2.2).

The thematic *+lhalhv-* [6] could be a reduplicated version of *+lha-* of the same conjugation: the latter meaning ‘be in a horizontal position’, and its reduplicated version ‘be in a vertical position’.

I proposed above that *+mv-* and *+bv-* are variants of the same form, with the *+bv-* variant occurring after a velar stop. I also take *+mi-* and *+bi-* to represent the same form, even though the hardening environment is less clear; this is because most stems built from these thematics share

the semantics of producing a sound, or something else, through the mouth. Since *+mv-* ~ *+bv-* and *+mi-* ~ *+bi-* are formally and semantically very similar (both may occur in intransitive stems denoting an action with the mouth: e.g. *-rak+bv-* ‘blow didgeridoo’, *-me+bi-* ‘sing’), it could be that these also represent the same morpheme. However, I distinguish them for the reasons outlined above: *+mi-* ~ *+bi-* causes a preceding *a* to raise to *e*, which *+mv-* ~ *+bv-* does not. I suggested that the latter may correspond to the proto-Gunwinyguan INCH suffix **-me-*: the stems constructed of *+mv-* ~ *+bv-* are intransitive, and the thematic can attach to synchronically attested free nominals. The *+mi-* ~ *+bi-* thematic also creates intransitive stems, but the forms to which it attaches have no synchronic free counterpart. This thematic could correspond to the Wubuy INCH suffix *+wi-* ~ *+bi-* (the hardened allomorph occurring after a stop or nasal). This suggests the following diachronic scenario:

- (38) 1. noun + INCH suffix *-Ci-* (C = [+labial]) > intransitive verb (Wub, Enin)
 2. lexical replacement of some free nouns and loss of productive use of INCH *-Ci-* (Enin)
 3. noun + INCH suffix **-me-* > intransitive verb (pGN)
 4. INCH **-me-* > *-mv-* ~ *-bv-* and loses its productivity (Enin)

According to this scenario the INCH *-Ci-* was productive in Enindhilyakwa at a time when incorporated nominals were still formally identical to free nominals. The INCH **-me-* entered the language at a later stage, after some nominals had been replaced. Both INCH suffixes lost their productivity in Enindhilyakwa, and only the INCH *-dhv-* remains (pGN **-dhi-*; section 9.3.5).

Grammatical affixes frequently develop from independent verbs (Schultze-Berndt 2000: 540 and the references therein). In fact, Heath points out this very possibility for the Wubuy INCH *-wi-* ~ *-bi-*, which he suggests is conceivably thought of as the reflexive of *-wu-* ~ *-bu-* ‘hit, kill’ (1984: 398). This verb also functions as a thematic in Wubuy and is very frequent in verbs of bodily function, such as *-warrkard+bu-* ‘belch’, *-yaaki+bu-* ‘sneeze’ and *-yaali+bu-* ‘cough’ (Heath 1984: 469-70). Enindhilyakwa thematic *+mi-* ~ *+bi-* is also frequent in complex stems denoting a bodily function, especially involving the mouth, as we saw from Table 5.9. That could mean that thematic *+mi-* ~ *+bi-* is ultimately related to Wubuy *-wu-* ~ *-bu-* ‘hit’ and pGN **-bu-* ‘hit’. However, more work is needed to explain the change from **-bu-* to *-bi-*, the presence of the allomorph *-mi-*, and the absence of an allomorph involving *w*.

To summarise, some thematics can function as simple stems and others may have cognates that are independent words in other languages (e.g. thematic *+ka-* is an independent verb in Gunwinyguan meaning ‘take’ or ‘carry’). The historical segmentability of the majority of Enindhilyakwa verb stems reflects their origin as complex verbs. Synchronically these complex stems are frozen, unproductive and non-decomposable. The only productive stem-forming elements are the derivational suffixes, and the *-dha-* suffix that accommodates loanverbs.

5.5.2.1 Flexible thematics

A handful of complex stems show some flexibility, as their thematic can be supplanted by a derivational suffix, such as FACT *-ka-* ~ *-kwa-* or CAUS *-ji-*. This results in a change in valency and/or meaning:

Stems with thematic	Stems with derivational suffix
<i>-kurarr+ma-</i> ‘spit’ (intr.)	<i>-kurarr-ka-</i> ‘spit at’ (tr.)
<i>-yerrerri+ma</i> ‘shake (intr.)’	<i>-yerrerri-ka-</i> ‘shake (tr.)’
<i>+bvrrov+dha-</i> ‘shake’ (intr.)	<i>+bvrri-ji-</i> ‘destroy, break up, smash’ (tr.)
<i>-mvrndu+wa-</i> ‘count’ (tr.)	<i>-mvrndu+kwa-</i> ‘come together, gather up’
<i>+nyi+bi-</i> ‘grunt’	<i>-rraki+nyi+kee-yi-</i> ‘scowl in anger’ (FACT-RECP)
<i>-jira+ba-</i> ‘pour, spill’ (tr.)	<i>-jira-ka-</i> ‘whisper’ (tr.) (OBJ: <i>ayakwa</i> ‘words’)
<i>-dhidv+mv-</i> ‘water rising’ (intr.)	<i>-dhidi-ka-</i> ‘shut in’ (tr.)

Table 5.10: Thematics replaced by derivational suffix

Examples such as these show that complex stems need not be completely frozen but can display some variation in their degree of lexicalisation: from totally frozen and unsegmentable, to frozen but segmentable, to allowing some flexibility.

5.6 Summary

In this chapter I have shown that Enindhilyakwa is to be included into the complex verb area of Northern Australia. The language fits in with the Gunwinyguan languages at one extreme end of the complex verb continuum, where historically complex verbs have fused into complex stems, which may be synchronically unanalyseable. As in the Gunwinyguan languages, Enindhilyakwa verb conjugations are organised around a limited set of thematics (23 were identified), from which a much larger set of verb lexemes was historically derived by compounding with prepounds. Prepounds can be nominal, verbal, cranberry morphs, or recurring unanalyseable forms. Complex stems involving nominal prepounds may originate as incorporated nominals (and may therefore be hard to distinguish from productively incorporated body part or generic nominals). Also like the Gunwinyguan languages, at least some of the thematics can function as simple stems, while others may have cognates that are independent monosyllabic verbs in other Australian languages (Alpher, Evans & Harvey 2003: 310). Alpher, Evans & Harvey (2003: 310) suggest that historically it appears that all of the thematics which can be reconstructed for proto-Gunwinyguan correspond to an independent verb in at least some Gunwinyguan language.

Enindhilyakwa prepounds and thematics may correspond to independent forms in other languages, or language-internally. This reflects their origin as complex verbs (Schultze-Berndt 2000).

Most likely, Enindhilyakwa, as many other Northern Australian languages, has gone through several cycles of complex verb formation, with different stages in this cycle reflected by the synchronically observable types (Capell 1979; Schultze-Berndt 2000, 2003; McGregor 2002). Enindhilyakwa complex verbs range from being productive and compositional (e.g. those formed with the derivational suffixes [section 5.4], or productive noun incorporation [Chapter 7]), to being semi-compositional (e.g. the INCH-FACT pairs in Table 5.2 that attach to a cranberry morph, or the bound roots that obligatorily take a body part or generic nominal), to being fully lexicalised (e.g. the fossilised prepound+thematic structures, which includes lexicalised noun+verb compounds). In overall, Enindhilyakwa complex verbs constitute a continuum, ranging from productive and compositional forms, to forms that are so tightly fused that they have lost any structural and semantic independence, and may be treated, synchronically, as unanalyseable verb roots. These roots may again enter into complex verb formation.

Chapter 6: Tense, aspect and mood

The various tense, aspect and mood (TAM) categories in Enindhilyakwa are expressed by a combination of prefixes and suffixes on the verb: the pronominal prefixes encode mood and the inflectional suffixes express tense and aspect. There are two tenses (non-past and past), and two aspectual readings (neutral aspect and a subtype of perfective aspect which signals atomic events). Each inflectional suffix simultaneously encodes both tense and aspect, which gives rise to four different tense/aspect categories: atomic non-past (NP1), neutral non-past (NP2), atomic past (P1) and neutral past (P2). These are used in positive polarity contexts. Negative polarity distinguishes negated non-past (represented by a distinct NP3 suffix) from negated past (conveyed by an irrealis prefix plus a P2 suffix).

The tense/aspect suffixes combine with the four pronominal prefix series discussed in Chapter 4, which distinguish an equal number of moods: realis, irrealis, imperative and hortative. This yields a system of composite mood marking typical of the non-Pama-Nyungan languages (Verstraete 2005), where prefixes and suffixes are combined to mark a variety of modal meanings. The majority of non-Pama-Nyungan languages discussed in Verstraete (2005) have a basic distinction between three broad categories of prefixes, including “realis” (non-modal), “irrealis” (modal) and “other” (e.g. future, or imperative) (p. 228-9). Enindhilyakwa is rather unusual in displaying a fourth, formally distinct, hortative category.

The atomic event markers signal non-scalar, instantaneous changes-of-state that have no internal subparts (Caudal 1999). Atomic events are often signalled by phonologically null suffix. The following examples illustrate the distinct aspectual readings: a realis prefix is combined with an unsuffixed verb stem signalling atomic past (P1) in (1a), and with an overt neutral past suffix P2 in (1b). In (2a) an irrealis prefix is combined with an unsuffixed verb stem signalling atomic non-past (NP1), and in (2b) with a neutral non-past suffix (NP2). The negated past is illustrated in (3a), and the negated non-past, using the specific NP3 suffix, in (3b).

- (1) a. *akina akwalya na-jungu-ma*
 NEUT.that NEUT.fish NEUT-die.P1-*ma*
 ‘the fish died’ (anin2_pw_au_004)
- b. *akina akwalya na-jungu-nv-ma*
 NEUT.that NEUT.fish NEUT-die-P2-*ma*
 ‘the fish was dying’ (anin2_pw_au_004)
- (2) a. *dhukwa kv-mvdhilyakba*
 maybe IRR.1-cough.NP1
 ‘I might cough (one cough)’ (anin2_pw_au_004)
- b. *dhukwa kv-mvdhv-mvdhilyakbv-na*
 maybe IRR.1-RDP-cough-NP2
 ‘I might cough (many coughs)’ (anin2_pw_au_004)

- (3) a. *nara kv-mvdhilyakbv-na*
 NEG IRR.1-cough-P2
 ‘I did not cough’ (ainin2_pw_au_004)
- b. *nara ngv-mvdhilyakbv-ma*
 NEG NEGNP-cough-NP3
 ‘I will not cough’ OR ‘I am not coughing’ (ainin2_pw_au_004)

The verbs that signal atomic aspect express instantaneous ‘point’ events that cannot be interrupted and then resumed (Caudal 2005a). The atomic events are realised by phonologically null suffixes in these examples, but in some conjugation classes (see Table 6.2) they are marked by the phonologically overt suffix *-ya*, as in *k-engkvrivki-ya* [IRR.1-hear-NP1] in (5b) below. These atomic events contrast with verbs marked with an aspectually neutral tense suffix, which have no such implication.

Cross-cutting the TAM system, we find the very common suffix *-ma*, and its less common variant *-mvrra*, which directly follow the tense/aspect inflections, as in (1). This suffix is analysed as a ‘first person focalisation’ marker, which entails that the speaker or narrator expresses his or her perception of an event or state of affairs. Thus a more accurate gloss of (1a) would be “I saw/thought/am of the opinion that the fish died”. The suffix is glossed as *-ma* in this thesis, for reasons outlined in section 6.7.

Both the Enindhilyakwa TAM system and the *-ma* ~ *-mvrra* suffix have received wildly differing analyses in the previous work. Only Heath (n.d.) observes an aspectual distinction in the tense suffixes, which he labels ‘Punctual’ and ‘Continuous’ aspect (similar to how he analyses the inflectional suffixes in Wubuy in Heath 1984). By contrast, Reid, Stokes & Waddy (1983), Leeding (1989) and Waddy (n.d.-a) assume that these suffixes encode only tense, not aspect. Reid, Stokes & Waddy (1983) and Waddy (n.d.-a) do not discuss aspect, and in the stories collected by Judith Stokes and Judie Waddy (which constitute a major source of my data), the phonologically null NP1 and P1 suffixes are often glossed as ‘Unidentified Verbal Suffix’. Leeding (1989), on the other hand, claims that all tense suffixes are optional (p.437). She argues that aspect is represented by the *-ma* ~ *-mvrra* suffix, which encodes both imperfective aspect and tense. The suffix has two more variants in her analysis: *-ama* ~ *amvrra* denotes non-past imperfective, while *-ma* ~ *-mvrra* denotes past imperfective. Thus in Leeding’s account tense may be marked twice: by the ‘regular’ tense suffixes and by the ‘imperfective’ suffix. As both of these are optional, tense and aspect can also remain unmarked. According to Leeding perfective aspect is identified by the absence of a suffix (1989: 441). This means that the lack of a suffix in her analysis is ambiguous between perfective aspect, and any tense/aspect due to omission of the suffix.

Whereas Leeding takes the *-ma* ~ *-mvrra* suffix to be a marker of imperfective aspect, Heath (n.d.) suggests it to be meaningless. Stokes (1982), Reid, Stokes & Waddy (1983) and Waddy

(n.d.-a) propose this suffix is a “marker of a fact”. However, these analyses cannot account for simple sentences such as the following.

- (4) a. *kv-lharrv-ma*
 IRR.2-fall.NP1-*ma*
 ‘you will fall’ (JH Tape 68 p.3)
- b. *arnungkwaya kvnv-lharrv-na(-ma)*
 tomorrow IRR.MASC-fall-NP2(-*ma*)
 ‘tomorrow it will rain’ (Lit: ‘it [*yelyukwa* ‘MASC.rain’] will be falling’) (anin4_dl_au_005)

In Leeding’s account, the *-ma* suffix in (4a) would denote past imperfective, but this example is neither past, nor imperfective.¹ In the Reid, Stokes & Waddy (1983) and Waddy (n.d.-a) analyses the *-lharr-* stem in (4a) (the *v* [ə] following the stem is taken to be epenthetic; rule P-1) would involve an ‘Unidentified Verbal Suffix’. The *-ma* suffix in (4a,b) would denote a “statement of a fact”, but it is unclear how this suffix is compatible with an irrealis prefix expressing a hypothetical event in the future. Reid, Stokes & Waddy (1983) state that the *-ma* suffix only occurs in the past tense, but this is clearly not the case, as can be seen in both examples in (4).

This chapter attempts to resolve these controversies, by arguing that: (i) the inflectional suffixes encode both tense and aspect (following Heath n.d.); and (ii) the *-ma* ~ *-mvrra* suffix is unrelated to tense and aspect, but is used when the speaker expresses his or her perception of an event (and is consequently very common in elicited sentences). The unsuffixed NP1 stem in (4a) expresses an instantaneous (atomic) falling event without any subparts, which may be predicted or witnessed by the speaker, as conveyed by *-ma*. The *-ma* suffix contributes a meaning along the lines of ‘I say/think/feel/...’. The NP2 suffix in (4b) has no aspectual restrictions, and the optionality of the *-ma* suffix means that the possibility of rain tomorrow can be expressed as an objective statement of a fact, or as a speaker’s opinion or perception.

6.1 Organisation of chapter

This chapter is structured as follows. Section 6.2 explains the Enindhilyakwa TAM system in more detail, while section 6.3 outlines the tense/aspect paradigms of the six main inflectional classes and their subclasses. The classes are numbered one to six and are identified by their unique combination of NP2 and P2 suffixes. Section 6.4 lists some stems that show class alternations accompanied by a change in transitivity. The semantics of aspect is examined in section 6.5. Composite mood marking, by combining the suffixes with the four different pronominal series, is investigated in section 6.6. Section 6.7 then turns to the meaning and function of the elusive *-ma* ~

¹ In Leeding’s analysis, this example would lack a tense suffix. And (4b) would involve the non-past imperfective suffix *-ama* in her account, so she would put the morpheme boundaries as follows: *kvnv-lharrv-n-ama*.

-*mvrra* suffix. Possible historical sources for this suffix are suggested in section 6.7.2. Section 6.8 finishes this chapter with a summary.

6.2 The tense, aspect and mood system

Table 6.1 presents the possible combinations of verbal inflectional categories in Enindhilyakwa, where mood is represented by prefixes and tense and aspect by suffixes. Unlike most Gunwinyguan languages (Alpher, Evans & Harvey 2003), but in common with Wubuy (Heath 1984), tense and aspect are not confined to the realis mood, but appear in all four positive moods, with some neutralisations. Negative contexts involve the negative particle *nara*. In the negated non-past the pronominal prefixes are replaced by *a-* or *ng-*, and this category takes a distinct NP3 suffix. The numbers ‘1’ and ‘2’ designate atomic and neutral aspect, respectively.

	Past		Non-past			
Positive	Realis Past1	Irrealis Past2	Realis Npast1	Irrealis Npast1	Imperative Npast1	Hortative Npast1
	Realis Past2		Realis Npast2	Irrealis Npast2	Imperative Npast2	Hortative Npast2
Neg.	<i>nara</i> Irrealis Past2		<i>nara</i> <i>a- / ng-</i> Npast3			

Table 6.1: Enindhilyakwa tense, aspect and mood inflectional categories

Thus, the various TAM categories are expressed formally by complex combinations of (i) inflectional suffixes (see paradigms in the next section); (ii) choice of four series of pronominal prefixes expressing mood (see paradigms in Chapter 4); and (iii) presence or absence of the Negative element *nara*, which always precedes the verb.

The following examples illustrate some of the TAM combinations in Table 6.1. Realis mood is unmarked in the glosses, while Irrealis, Imperative and Hortative are glossed IRR, IMP and HORT, respectively.

(5) a. Realis + P1 and P2:

Nvng-engkvrrvka arakba nuw-akadha-ngv-ma amarda.
 1-hear.P1 compl.act NEUT-make.own.sound-P2-*ma* NEUT.grass
 ‘I heard the grass crackling.’ (‘Bujikeda’ y16)

b. Irrealis + NP2 and NP1

biya kvnu-wardu-wardemi-na n-akina, nganja k-engkvrrvki-ya kember=dha
 and IRR.3m-RDP-cry.out-NP2 3m-that 1.PRO.CofR IRR.1-hear-NP1 then=TRM
 ‘he will keep on crying out, and then I will hear [him]’ (‘Yabungurra’ 18-9)

c. Irrealis + P2

dh-akvna kvnga-ma-ngv-mvrra kembirra arakba ki-yengbi-nv-ma ngayuwa
 3f-that IRR.1/3f-take-P2-*ma* then compl.act IRR.1-speak-P2-*ma* 1.PRO
 ‘had I married her, then I could have spoken to her’ (‘Old days’ f13)

d. Imperative + NP1

Yelhakwa ma-ngwanja-ji-ya-lhangwa=yi!
 at.here IMP.2/VEG-stop-CAUS-NP1-ABL=EXCL
 ‘Stop [the car(VEG)] here please!’ (‘Search’ z82)

e. Hortative +NP2

Yawu kwa env-lhyka-ja kajungwa kvnv-rrvngkv-ni=yadha yilyakwa
 yes here HORT.3m-go-NP2 so.that 3m/MASC-see-P2=PURP MASC.honey
 ‘Yes, let him come so that he can see the honey.’ (VL1 p.487)

f. Negated irrealis + P2

akena nara kabv-mvn-arndvrra-nga
 but NEG IRR.3pl/1sg-BENE-disapprove-P2
 ‘but they didn’t criticise me’ (‘A trip south’ a101)

g. Negated non-past

Nara arndaka-ngvma nvng-ena akwalyu-wa arnungkwaya.
 NEG NEGNP.spear.fish-NP3 1-this NEUT.fish-ALL tomorrow
 ‘I am not fishing here tomorrow.’ (VL1 p. 439)

A realis prefix combined with a past suffix gives a non-modal ‘statement of a fact’, which can be instantaneous, as signalled by the P1 suffix in (5a), or aspectually neutral, as signalled by the P2 suffix in (5a). An irrealis prefix combined with a non-past tense suffix may express non-modal ‘future’, which can also be either aspectually neutral or signal an instantaneous event, as in (5b). The irrealis prefix combined with a past suffix in (5c) expresses a ‘counterfactual’, i.e. an event that could have happened in the past but did not. The imperative in (5d) takes a distinct prefix and a NP1 suffix. Hortative is another mood distinguished in the prefixes, which in (5e) takes a NP2 suffix. The negated past is expressed by an irrealis prefix and a P2 suffix in (5f). The example in (5g) illustrates the negated non-past, where the pronominal prefixes are replaced by *a-* or *ng-* and the verb takes the NP3 suffix *-ngvma*. The NEGNP prefix in this example is *a-*, which merges with the stem-initial /a/ vowel according to the rule proposed in (84) in section 2.6.3.

6.3 Tense and aspect paradigms

Six main inflectional classes or conjugations can be distinguished on the basis of the forms of the aspectually neutral NP2 and P2 suffixes. There is no semantic or valency basis underlying the different classes (except for perhaps class 6, which mainly includes intransitive stance verbs - see section 6.3.6). The NP2 and P2 suffixes are the most variable and thus most diagnostically useful. Each conjugation is defined by a unique pair of NP2 and P2 suffixes. Most conjugations can be

further subdivided, based on the quality of the stem-final vowel, amongst other factors. Table 6.2 presents the paradigms of the six main conjugations.²

	1	2	3	4	5	6
NP1	-Ø	-ya	-ya	-Ø	-ya	-nga-Ø ~ -ya
NP2	-na / -rna	-na	-ja	-na	-na	-Ø ~ -na
NP3	-ma (? ~ -ngvma)	-ma	-ma ~ -ngvma	-ma ~ -ngvma	-ma	-ma ~ -ngvma
P1	-Ø	-Ø ~ -nga	-Ø	-Ø	-Ø	-nga-Ø
P2	-rnv / -nv	-ngv	-rnv ~ -nv	-Ø	-wa	-Ø ~ -nv

Table 6.2: Basic paradigms of tense/aspect inflections, organised by conjugation class

The NP1, NP3 and P1 categories are often formally identical across the different conjugations, such as NP1 *-ya*, NP3 *-ma* and P1 *-Ø*. The P2 category varies most; when the P2 categories of two conjugations are represented by identical suffixes, as in conjugations 1 and 3, the conjugations are distinguished by their NP2 categories. In common with the Gunwinyguan languages (Baker 2004), the NP2 suffix in Enindhilyakwa typically involves an apico-alveolar nasal (an exception being conjugation 3 - but see section 9.3.4.3 for a diachronic analysis where this category does involve a nasal). Conjugation 6 (stance verbs) is a highly distinct class that has an allomorph *-Ø* in all positive categories (i.e. all but NP3, the negated non-past). The NP1 and P1 stems, however, are distinct due to the augment *-nga-* that precedes the tense/aspect inflection, which is absent in the NP2 and P2, as shown in the Table (see sections 6.3.6, 9.3.4.5 and 9.3.4.6 for further discussion of the *nga-*augment).

There are two types of variation displayed in Table 6.2, represented by the symbols ‘~’ and ‘/’. The former is used for tense/aspect suffixes that are in free variation: for example, the P2 suffix in

² The phonologically overt NP1 suffix *-ya* and P1 *-nga* have, of course, been noticed by the previous authors. Both Leeding (1989) and Waddy (n.d.-a) propose that NP1 *-ya* can freely replace the regular non-past tense suffixes. Waddy suggests it is “a command form [...] which can be used as an alternative to the Non-Past form”, whereas Enindhilyakwa speakers provided Leeding the information that the suffix is used “when talking to a child” (1989: 433). An analysis of *-ya* as a suffix that signals atomic changes of state - which include inceptive readings - may explain these observations: the NP1 suffix is particularly common with commands, as in (5d) above, which typically have an inceptive reading, and children are often spoken to in commands (e.g. ‘Sit down!’, ‘Go to sleep!’). However, it also occurs on other forms, such as (5b), with an inceptive reading.

Leeding (1989) accounts for the phonologically null suffixes by making all tense suffixes optional, which corresponds to my *-Ø* suffix. This is, however, a huge overgeneralisation, because tense/aspect is often obligatorily realised by a non-null suffix - see Table 6.2. Only *some* categories may be realised by a phonologically null suffix. Waddy (n.d.-a) posits a ‘specific past’ suffix *-a*, which also can correspond to a null suffix: *-Ø* will be realised as [a] in word-final position (see e.g. *-engkvrrvka* in [5a]; in the original story the final [a] of this verb is glossed ‘specific past’). But note that this runs into problems when the ‘specific past’ is followed by a suffix, such as *-ma* in (4a) above, and [a] does not surface but is realised as [ə ~ ʊ].

Stokes (1982) distinguishes two forms of the past and future tenses: ‘normal’ past and future, and ‘near’ past and future. She furthermore establishes two distinct imperative forms, one anticipating a more immediate response than the other. The ‘normal’ past and future corresponds to my P2 and NP2, respectively, and the ‘near’ past and future/immediate imperative correspond to my P1 and P2, respectively.

conjugation 3 freely varies between *-na* and *-rna* (e.g. *-lhvke-na* ~ *-lhvka-rna* ‘go-P2’). The forward slash is used to separate subclass allomorphs, such as *-na / -rna* in conjugation 1: the former is the NP2 allomorph of subclass 1A (e.g. *-yengbi-na* ‘speak-NP2’), whereas the latter is the subclass 1B allomorph (e.g. *-yuwa-rna* ‘follow-NP2’).

These variations aside, the paradigm displays remarkable conjugational regularity: except for the \emptyset suffix, each suffix marks one and only one tense/aspect category. For instance, the suffix *-ya* always represents NP1, and the *-na* suffix is always NP2. Such regularity is atypical of the Gunwinyguan languages, where the same suffix may mark different categories in different conjugations (Evans 2003a: 359-61; Alpher, Evans & Harvey 2003). This regularity will be suggested in section 9.3.4 to be due to rather recent paradigmatic levelling.

The analysis of the paradigms outlined in this section leans heavily on Heath’s (n.d.) sketch grammar, and differs significantly from those proposed by Stokes/Waddy and Leeding, who claim that the suffixes denote tense only. (It is quite common for non-Pama-Nyungan languages for the tense suffixes to also incorporate aspect; see Verstraete 2005). The number of conjugations presented here is different from the assumed numbers in all previous work: Heath (n.d.) lists nine different conjugations (some of which are merged in my analysis); Leeding (1989) argues for five different classes (she fails to recognise classes 4 and 5); and the dictionary contains about 23 different classes (many of which only differ in the quality of the final vowel of the verb stem).

The paradigms proposed here differ from those in Heath (n.d.) in that most verb stems end in a vowel (as is the case in Wubuy, and in the Gunwinyguan languages in general). According to Heath, all verb stems end in a consonant, and an epenthetic vowel is inserted between the stem and a consonant-initial suffix. The problem with this idea is that some of these ‘epenthetic’ vowels are not indistinct, short or unstressed, as would follow from Heath’s analysis. They may receive primary stress, which makes them unlikely to be epenthetic. In the Stokes/Waddy and, to some extent, Leeding, accounts these vowels do not belong to the stem, but are taken to be suffix-initial. But such an analysis results in a very large number of conjugations that only differ in the quality of the suffix-initial vowel (up to 23 in the Stokes/Waddy analysis). Assuming these vowels to be stem-final, rather than suffix-initial, gives a simpler account, which involves only six classes.

Nonetheless, in many verb forms it is rather difficult to decide where the morpheme boundary lies, and what the underlying quality of the stem-final vowel or the exact form of the suffix is. This is because the same verb may have a number of different stem forms for different TAM categories. This is a common feature of the Gunwinyguan languages (Alpher, Evans & Harvey 2003; Baker & Harvey 2003; Baker 2004, 2008). For example, the different stem forms of the root *-dhida-* ‘shut’ (Table 6.6 below) are: NP1 *-dhidi-ya*, NP2 *-dhide-na*, P1 *-dhidv-nga*; P2 *-dhida-ngv*; CAUS *-dhidi-ji-*. We could account for this by setting up suffix base forms like *-iya*, *-ena*, *-vnga*, and so forth, but

this is not very satisfactory since some of the suffixes in question are attested elsewhere with different preceding vowels (e.g. NP2 *-makv-na* ‘tell’, Table 6.8, or *-yengbi-na* ‘say’, Table 6.3), or lacking the initial vowel (e.g. NP2 *-lharr-na* ‘fall’, Table 6.3). Furthermore, some stem forms appear to be phonologically conditioned, such as NP1 *-dhidi-ya* and CAUS *-dhidi-ji-*, where stem-final [i] is conditioned by the following palatal. Phonological differences between other stem forms may be explained by now unproductive phonological processes, as investigated in detail in Chapter 9. For example, the NP2 *-me-na* of the root *-ma-* ‘get’ is proposed to be a reflex of **-ma-ni*, preserved in Wubuy and Ngandi. The stem-final *a* has raised to *e* in Enindhilyakwa due to the *i* in the next syllable (rule P-5). And yet again other forms cannot be explained away by some phonological rule or historical reconstruction, such as P1 *-dhidv-nga* of *-dhida-* ‘shut’. I will generally take the P2 form minus the suffix as the citation form of the verb root, as this tends to be the most “neutral” form, least subject to conditioning (cf. P2 *-dhida-ngv*). It is also the stem form that corresponds best to the Gunwinyguan verb stems, as we will see in Chapter 9. The stem forms of each tense/aspect category, as well as the stem forms of the derivational suffixes, need to be listed as part of each verb’s conjugation.

Finally, another important feature to note is that most P2 suffixes, as well as some of the NP1 and P1 unsuffixed stems, typically end in *-v* (the orthographic symbol for /ə/). But this vowel rarely surfaces with this quality: when word-final, it is always realised as [a] (word-final vowel conversion rule P-7B). For example, the P2 suffix *-nv* of *-yengbi-* ‘speak’ (conjugation 1A) becomes *-na* in word-final position: *-yengbi-na* ‘speak-P2’. When followed by another suffix /ə/ assimilates to the initial consonant of the suffix. /ə/ is invariably realised as [u] when followed by a labialised velar (vowel rounding and backing rule P-2): e.g. /jɛŋpi-nə-wa/ ‘speak-P2-ALL’ is phonetically [jɛŋpinuwa] (since there is no variation this is represented as *-yengbi-nu-wa* in the orthography). When followed by a bilabial consonant /ə/ may obtain some rounding and vary with [ɔ] (vowel rounding and backing rule P-8): e.g. /jɛŋpi-nə-ma/ ‘speak-P2-ma’ varies between [jɛŋpinəma] and [jɛŋpinɔma] (and is therefore transcribed as *-yengbi-nv-ma*). When followed by a lamino-palatal, /ə/ is invariably realised as [i] (vowel fronting rule P-9): e.g. /jɛŋpi-nə=jaṭa/ ‘speak-P2=PURP’ [jɛŋpinijaṭa] (orthographically: *-yengbi-ni=yadha*).

Due to the word-final vowel conversion rule P-7B two underlyingly distinct suffixes can be identical on the surface: *-yengbi-na* ‘speak-tense’ can be either NP2 (underlying: /jɛŋpi-na/) or P2 (underlying: /jɛŋpi-nə/). This underlying difference only shows up when followed by another suffix: NP2 *-yengbi-na-ma* [jɛŋpinama] vs. P2 *-yengbi-nv-ma* [jɛŋpinəma ~ jɛŋpinɔma].³ It should thus be kept in mind that although suffixes and stems in the following tables can end in /ə/, this is

³ In fact, Heath (n.d.) proposes that the function of the otherwise meaningless *-ma* suffix is to distinguish between NP2 and P2 in some conjugations. We will see in section 6.7 that this cannot be the full story, and that this suffix does have meaning.

rarely their surface quality: all word-final vowels are realised as [a], whereas they may assimilate in place to a following consonant.

6.3.1 Conjugation 1: *-na* ~ *-rna*, *-nv* ~ *-rnv*

Conjugation 1 is the largest conjugation, comprising altogether 61% of the 251 verb roots in Leeding's corpus (1989: 432). It is characterised by the NP2 suffixes *-na* / *-rna* and P2 suffixes *-nv* / *-rnv*. The NP1 and P1 suffixes are both \emptyset , and the NP3 is *-ma*. Several subclasses can be distinguished based on the presence of the retroflex nasal, and also on the quality of the stem-final vowel. The verb stems in this class end in /i/, /ə/, or a consonant.

- **Subclass 1A: *-na*, *-nv* [JH classes 8E (*-na*, *-n*), 8F (*-ena*, *-en*); JW multiple classes (*-ina*, *-ina*; *-una*, *-una*; etc.); VL classes 1A (*-ni*, *-ni*), 2A (*-a(r)ni*, *-a(r)ni*)]**

Subclass 1A is characterised by the absence of retroflexion in the NP2 and P2 suffixes. This is the largest class, containing 51% of verb roots in Leeding's corpus, plus the REFL, RECP and INCH derivational suffixes. Subclass 1A itself can be subdivided into five subclasses, based on the quality of the stem-final vowel in the citation form (which is the P2 form minus the suffix), and when followed by a derivational suffix. They are presented in Table 6.3.

	Suffix	1A(i): <i>-errikbi-</i> 'throw' C _[-nasal] V +	1A(ii): <i>-mebi-</i> 'sing' Ci +	1A(iii): <i>-bijangv-</i> 'jump' C _[+nasal] V +	1A(iv): <i>-ngambe-</i> 'bathe' Ce +	1A(v): <i>-jungwV-</i> 'REFL, die' C ^w V +	1A(vi): <i>-lharr-</i> 'fall' C +
NP1	\emptyset	<i>-errikbv-\emptyset</i>	<i>-mebv-\emptyset</i>	<i>-bijangv-\emptyset</i>	<i>-ngambv-\emptyset</i>	<i>-jungu-\emptyset ~ -jungwa-\emptyset</i>	<i>-lharr-\emptyset</i>
NP2	<i>-na</i>	<i>-errikbi-na</i>	<i>-mebi-na</i>	<i>-bijangv-na</i>	<i>-ngambe-na</i>	<i>-jungu-na</i>	<i>-lharr-na</i>
NP3	<i>-ma</i>	<i>-errikbv- ma</i>	<i>-mebv- ma</i>	<i>-bijangv- ma</i>	<i>-ngambv- ma</i>	<i>-jungu- ma</i>	<i>-lharr- ma</i>
P1	\emptyset	<i>-errikbv-\emptyset</i>	<i>-mebv-\emptyset</i>	<i>-bijangv-\emptyset</i>	<i>-ngambv-\emptyset</i>	<i>-jungwa-\emptyset ~ -jungu-\emptyset</i>	<i>-lharr-\emptyset</i>
P2	<i>-nv</i>	<i>-errikbi-nv</i>	<i>-mebi-nv</i>	<i>-bijangv-nv</i>	<i>-ngambe-nv</i>	<i>-jungu-nv</i>	<i>-lharr-nv</i>
REFL	<i>-jungwV-</i>	<i>-errikbi- jungwV-</i>	<i>(rarrka- jungwV-)</i>	<i>-bijanga- jungwV-</i>	<i>-ngamba- jungwV-</i>	<i>-jungwa- jungwV-</i>	<i>-lharr- jungwV-</i>
RECP	<i>-yi-</i>	<i>-errikbee-yi-</i>	<i>-mebee-yi-</i>	<i>-bijangee-yi-</i>	<i>-ngambee-yi-</i>	<i>-jungwee-yi-</i>	<i>-lharree-yi-</i>
CAUS	<i>-ji-</i>	<i>-errikbi-ji-</i>	<i>-meba-ji-</i>	<i>-bijanga-ji-</i>	<i>-ngamba-ji-</i>	<i>-jungwa-ji-</i>	<i>-lharr-ji-</i>

Table 6.3: Conjugation 1A: *-na*, *-nv* (verb stems ending in /i/, /ə/, /ɛ/ or a consonant)

In subclass 1A(i) the stem-final vowel is either /i/ or /ə/. This vowel is preceded by a non-nasal consonant and is realised as [i] when followed by the REFL *-jungwV-* or CAUS *-ji-* suffixes. Stems in subclass 1A(ii) end in /i/, which becomes [a] for the CAUS suffix. In subclass 1A(iii) the stem-final vowel is /i/ or /ə/, which is preceded by a nasal consonant. It is realised as [a] when followed by REFL or CAUS suffixes. In subclass 1A(iv), the stem-final vowel is /ɛ/, which is realised as [a]

when followed by the REFL or CAUS suffix. In subclass 1A(v) the stem-final vowel is preceded by a labialised velar and absorbs its labialisation and is realised as [u] (vowel rounding and backing rule P-3). Since both /i/ and /ə/ can absorb the labialisation of preceding labialised velars, it is impossible to determine the underlying quality of the stem-final vowel, which is represented as /V/. This vowel is realised as [a] when followed by the REFL or CAUS suffix and the labialisation of the velar is preserved. Finally, subclass 1A(vi) involves stems ending in a consonant. An epenthetic vowel is inserted between the stem and the suffix (which becomes [a] when word-final). In all five subclasses, the RECP suffix *-yi-* is preceded by *ee* (the orthographic symbol for [e]). Recall that the stem- and suffix-final vowels in this and the following tables are underlying values, which may only surface when followed by another suffix; when word-final, all vowels are realised as [a]. So the NP1 stem *-errikbv-* is [ɛrikpa] when not followed by a suffix, but [ɛrikpəma ~ erikpoma] when followed by *-ma*.

Some of the verbs belonging to the various 1A classes are (including the number of attested roots from Leeding 1989 and the dictionaries where possible):

<p>(6) <u>Class 1A(i)</u></p> <p><i>-dhv-</i> ‘INCH’ <i>-yi-</i> ‘RECP’ Thematic +<i>bi-</i> (e.g. <i>-yeng+bi-</i> ‘speak’ <i>-errik+bi-</i> ‘throw’ <i>-errek+bi-</i> ‘vomit’) Thematic +<i>bv-</i> (e.g. <i>-mvdhilyak+bv-</i> ‘cough’ <i>-rak+bv-</i> ‘blow didgeridoo’ <i>-dharr+bv-</i> ‘move away’) Thematic +<i>lhv-</i> (e.g. <i>-lhaku+lhv-</i> ‘be joined together’ <i>-abv+lhv-</i> ‘be mixed’)</p>	<p><u>Class 1A(ii) (5 roots)</u></p> <p><i>-mebi-</i> ‘sing’ <i>-beki-</i> ‘drink’ <i>-marngki-</i> ‘laugh’⁴ <i>-ngwanji-</i> ‘stop’ <i>-rarrki-</i> ‘be ready’</p>	<p><u>Class 1A(iii)</u></p> <p><i>-akbijangv-</i> ‘jump’ Thematic +<i>mv-</i> (e.g. <i>-lhakar+mv-</i> ‘choke’ <i>-rerr+mv-</i> ‘become dry’ <i>-ngaruku+mv-</i> ‘fish by line’ <i>-nyirr+mv-</i> ‘blow nose’) Thematic +<i>mi-</i> (e.g. <i>-warde+mi-</i> ‘cry out’ <i>-dhvrreng+mi-</i> ‘explode’ <i>-edhvrre+mi-</i> ‘deny’) <i>+arrngv-</i> ‘bend’ <i>+barrngv-</i> ‘be heavy’</p>
<p><u>Class 1A(iv) (19 roots)</u></p> <p><i>-ngambe-</i> ‘bathe’ <i>-awiyebe-</i> ‘enter, wear’ <i>-wilyake-</i> ‘spin, go around’ <i>-lyingkwe-</i> ‘spread’ <i>-angmardhe-</i> ‘hate’</p>	<p><u>Class 1A(v) (5 roots)</u></p> <p><i>-jungwV-</i> ‘REFL, die’ <i>-walyuwV-</i> ‘be/come ripe’ <i>-rnjirrkwV-</i> ‘move’ <i>-ajabangwV-</i> ‘creep’ <i>-ebirrangwV-</i> ‘defecate’</p>	<p><u>Class 1A(vi) (6 roots)</u></p> <p><i>-lharr-</i> ‘fall’ <i>-angkarr-</i> ‘run’ <i>-alyvbar-</i>⁵ ‘eat’ <i>-warr-</i> ‘move’ <i>+barr-</i> ‘split’</p>

⁴ The dictionary lists the CAUS form of this verb as *-marngka-ji-* ~ *-marngki-ji-* ‘to laugh at’.

⁵ In Leeding’s (1989) material the stem form of this verb is *alyvb*, not *alyvbar*. This verb takes NP2 and P2 suffixes *-arnv*, *-arnv* in her analysis. However, the nominalised form of this verb in the Waddy Dictionary is *a-kw-alyelyvbara* ‘food’, which indicates that the stem is *-alyvbar-* (with reduplication in the nominalised form). Leeding’s analysis in fact confirms the one proposed here, because I claim that an epenthetic vowel is inserted between the stem *-alyvbar-* and the tense/aspect suffixes *-na*, *-nv*. Being epenthetic, this vowel may be barely audible: [aɬəpaɪəna ~ aɬəpaɪna]. Leeding presumably only heard [aɬəpaɪna] and thus concluded that the suffix must involve a retroflex nasal (i.e. belong to my subclass 1B).

Determining the underlying quality of the stem-final vowel is complicated by the fact that the Leeding and Stokes/Waddy orthographies do not distinguish between [i] and [ə], representing both as *i* (or, in the Stokes/Waddy orthography, also as *u*; see Chapter 2). However, the distinction between say, thematic *+bv-* and *+bi-* is important: as we will see in Chapter 9, these correspond to different verb roots in Wubuy. They are therefore not the same morphemes, and recognising the distinction helps in reconstructing proto-forms.

- **Subclass 1B: *-rna ~ -na, -rnv ~ -nv* [JH class 8J (*-rna, -arn*); JW multiple classes (*-arna, -arna; -irna, -arna, etc.*); VL class 2A (*-a(r)ni, -a(r)ni*)]**

The NP2 and P2 suffixes in subclass 1B freely vary between an alveolar nasal and a retroflex nasal. The NP1, NP3 and P1 suffixes are the same as in subclass 1A. Subclass 1B constitutes 10% of all roots in Leeding’s corpus, and they all end in /a/. Based on the vocalic contrast that accompanies the apical contrast, subclass 1B can be split in two: in subclass 1B(i), the retroflex nasal is preceded by the mid-vowel [a], and the alveolar nasal by the front vowel [ɛ]. This subclass only contains thematic *+wa-*. In subclass 1B(ii), the alveolar and retroflex nasal vary without affecting the preceding vowel. Table 6.4 presents the paradigm of subclass 1B(i).

	Suffixes	1B(i): <i>+wa-</i> (e.g. <i>-mvrndu+wa-</i> ‘count’)
NP1	<i>-∅</i>	<i>-mvrndu+wa-∅</i>
NP2	<i>-rna ~ -na</i>	<i>-mvrndu+wa-rna ~ -mvrndu+we-na</i>
NP3	<i>-ma (~ -ngvma?)</i>	<i>-mvrndu+wa-ma</i>
P1	<i>-∅</i>	<i>-mvrndu+wa-∅</i>
P2	<i>-rnv ~ -nv</i>	<i>-mvrndu+wa-rnv ~ -mvrndu+we-nv</i>
REFL	<i>-jungwV-</i>	<i>-mvrndu+wa-jungwV-</i>
RECP	<i>-yi-</i>	<i>-mvrndu+wee-yi-</i>
CAUS	<i>-ji-</i>	<i>-mvrndu+wa-ji-</i>

Table 6.4: Conjugation 1B(i): *-rna ~ -na, -rnv ~ -nv* (thematic *+wa-*)

Three complex stems are composed of this thematic:

- (7) *-mvndhvrru+wa-* ‘bring to a halt’
-dhvrru+wa- ‘bury’
-mvrndu+wa- ‘count, sort’

The vocalic contrast that accompanies the apical contrast occurs in other contexts too, such as the P2 of conjugation 3 below, and in demonstratives (e.g. *-arna ~ -ena* ‘this’) (section 2.5.8). It may be expected given the compatibilities between vowel place and apical place (Flemming 2003).

Subclass 1B(ii) lacks the vocalic contrast and can be further subdivided based on the quality of the stem-final vowel when followed by a derivational suffix. In subclass 1B(ii-a) the retroflex

nasal does not vary with an alveolar, whereas in subclass 1B(ii-b) both apicals are attested in the NP2. Table 6.5 presents the paradigms.

	Suffixes	1B(ii-a): + <i>wa-</i> (e.g. <i>-yu+wa-</i> ‘follow’)	1B(ii-b): <i>-arrka-</i> ‘pull’
NP1	-Ø	<i>-yu+wa-Ø</i>	<i>-arrkv-Ø</i>
NP2	<i>-rna ~ -na</i>	<i>-yu+wa-rna</i>	<i>-arrkv-rna ~ -arrkv-na</i>
NP3	<i>-ma (~ -ngvma)</i>	<i>-yu+wa-ma ~ -yu+wa-ngvma</i>	<i>-arrkv-ma ~ -arrka-ma</i>
P1	-Ø	<i>-yu+wa-Ø</i>	<i>-arrka-Ø ~ -arrkv-Ø</i>
P2	<i>-rnv</i>	<i>-yu+wa-rnv</i>	<i>-arrka-rnv</i>
REFL	<i>-jungwV-</i>	<i>-yu+wa-jungwV-</i>	? <i>-arrka-jungwV-</i>
RECP	<i>-yi-</i>	<i>-yu+wee-yi-</i>	? <i>-arrkee-yi-</i>
CAUS	<i>-ji-</i>	<i>-yu+wa-ji-</i>	? <i>-arrka-ji-</i>

Table 6.5: Conjugation 1B(ii): *-rna ~ -na, -rnv*

The forms marked with ‘?’ in this table are not attested but are extrapolated from other verbs in the same subclass. The retroflex nasal in the NP2 is not attested for all 1B(ii-a) verbs, but their NP2 suffix is always preceded by [ə], which suggests the former presence of an retroflex (see Chapter 2). Verbs belonging to the two 1B(ii) subclasses include:

(8) Class 1B(ii-a) (2 roots)

-ma- ‘light a fire’
 Thematic +*wa-*
 (e.g. *-yu+wa-* ‘follow’
-yarru+wa- ‘go past’
-ngadhu+wa- ‘cry for’
-marra+wa- ‘wander’
-bvrru+wa- ‘crawl’)

Class 1B(ii-b) (7 roots)

-akbvrranga- ‘find’
-yaka- ‘take away from’
+arrnga- ‘break, split, bend’
-arrka- ‘pull’
-akuma- ‘put’
-lhvmakba- ‘look for turtle eggs’
-angka- ‘fetch’

More complex stems composed of thematic +*wa-* can be found in Chapter 5, Table 5.9. The RECP form of *-akbvrranga-* ‘find’ varies between *-akbvrrangee-yi-* and *-akbvrranga-nja-*. In Chapter 9 I will argue that the latter aberrant form is a remnant of the proto-Gunwinyguan RECP form **-nyji-*.

6.3.2 Conjugation 2: *-na, -ngv* [JH class 8B (*-ena, -ang*); JW class *-ena, -anga*; VL class 2B (*-ani, -anga*)]

This is another large conjugation, containing 31% of the 251 verb roots in Leeding’s corpus. It is characterised by the NP2 ending *-na* and the P2 ending *-ngv*. The stems in this class presumably end in /a/, but this vowel undergoes the most changes in comparison with the other conjugations. One important change is its realisation as [ɛ] in the NP2 forms. Two subclasses can be distinguished based on the quality of stem-final vowel when followed by a derivational suffix, which is fully predictable: in subclass 2A, this vowel is preceded by a peripheral consonant, and

/a/ quality is preserved when followed by a derivational suffix (though as usual it raises to *ee* [e] when followed by RECP *-yi-*). In subclass 2B, the stem-final vowel is preceded by a coronal consonant and is realised as [i] when followed by a derivational suffix. Subclass 2B is the only context in which the RECP suffix is preceded by [i] instead of [e].

	Suffixes	2A: (+)ma- ‘get, thematic’ C [-coronal] a]+	2B: -dhida- ‘shut’ C [+coronal] a]+
NP1	-ya	-mi-ya	-dhidi-ya
NP2	-na	-me-na	-dhide-na
NP3	-ma (~ -ngvma?)	-mv-ma ~ -ma-ngvma	-dhidv-ma
P1	-Ø ~ -nga	-mv-Ø	-dhidv-Ø ~ -dhidv-nga
P2	-ngv	-ma-ngv	-dhida-ngv
REFL	-jungwV-	-ma-jungwV-	-dhidi-jungwV-
RECP	-yi-	-mee-yi-	-dhidi-yi-
CAUS	-ji-	-ma-ji-	-dhidi-ji-

Table 6.6: Conjugation 2: *-na*, *-ngv* (verb stems ending in /a/)

The verbs belonging to conjugation 2 include the thematics *+ma-* and *+dha-* (see Table 5.9). Other verbs belonging to this conjugation are listed in (9).

(9) Class 2A (3 roots)	Class 2B	
-ma- ‘get’	+dha- ‘thematic’	-jira- ‘push’
Thematic +ma-	+bvr-ra- ‘hit’	-arndvrra- ‘criticise’
(e.g. -wurv+ma- ‘rise, fly away’	-ridha- ‘chop’	+badja- ‘hit, punch’
-lharr+ma- ‘chase’	-warda- ‘hit’	-rija- ‘scrape’
-yirr+ma- ‘swim’)	-wurda- ‘climb’	-arda- ‘yell’
-lhawulhawa- ‘be stretched out’	-kura- ‘pull in fish’	-arrikarra- ‘write’
	-aya- ‘be upright’	-wurra- ‘throw’

Conjugations 1 and 2 comprise 92% of verb roots in Leeding’s corpus. The remaining four conjugations account for 8% of Enindhilyakwa verbs.

6.3.3 Conjugation 3: *-ja*, *-rnv* ~ *-nv* [JH class 8H (*-aja*, *-arn* ~ *-en*); JW *-aja*, *-ena* ~ *-arna*; VL class 2C (*-atja*, *-a(r)ni*)]

Conjugation 3 is characterised by the NP2 *-ja* and the P2 with two allomorphs: one involving a retroflexed nasal and preservation of the stem-final /a/, and one involving an alveolar nasal and a vocalic change from stem-final /a/ to [ɛ]. Table 6.7 presents the paradigms.

	Suffixes	3: <i>-lhvka-</i> ‘go’ C _[coronal] a] ⁺
NP1	<i>-ya</i>	<i>-lhvki-ya</i>
NP2	<i>-ja</i>	<i>-lhvka-ja</i>
NP3	<i>-ma ~ -ngvma</i>	<i>-lhvkv-ma ~ -lhvka-ngvma</i>
P1	<i>-Ø</i>	<i>-lhvka-Ø</i>
P2	<i>-rnv ~ -nv</i>	<i>-lhvka-rnv ~ -lhvke-nv</i>
REFL	<i>-jungwV-</i>	<i>(-lhaba-jungwV-)</i>
RECP	<i>-yi-</i>	<i>-lhvkee-yi-</i>
CAUS	<i>-ji-</i>	<i>-lhvka-ji-</i>

Table 6.7: Conjugation 3: *-ja*, *-rnv ~ -nv* (verb stems ending in /a/)

This conjugation contains the thematics *+ba-* and *+ka-* (see Table 5.9), and the verb *-lhvka-* ‘go’, as listed in (10).

(10) Class 3 (3 roots)

Thematic <i>+ka-</i> (e.g. <i>-lhawurr+ka-</i> ‘taste, try, test’ <i>-arnda+ka-</i> ‘hunt’ <i>-wal+ka-</i> ‘sneak up on’ <i>-lharr+ka-</i> ‘send’ <i>-ngurr+kwa-</i> ‘hunt’)	Thematic <i>+ba-</i> (3 examples) (<i>-lhek+ba-</i> ‘accuse, blame’ <i>-lhaba</i> ‘taste, try, test’ <i>-kwierrba</i> ‘make a mistake’)	<i>-lhvka-</i> ‘go’ ⁶
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The majority of verbs in this conjugation are composed of thematic *+ka-*, which may derive historically from the stem **-ka-* ‘carry’ (cf. pGN **ka-* ‘take, carry’). However, this verb no longer exists separately and no synchronic segmentation is viable (Heath 1984: 470 suggests the same for Wubuy).

6.3.4 Conjugation 4: *-na*, *-Ø* [JH class 8C (*-na*, *-a*); JW (*-ina*, *-a*; *-una*, *-a*); VL: -⁷]

This class is characterised by the P2 ending *-Ø*. The stem-final vowel in this class is /a/, which is preserved in all environments except in the NP2 and one allomorph of the NP3, where it is weakened to [ə]. Table 6.8 presents the paradigm, and some verb roots belonging to this class are listed in (11). This is the only conjugation where there is no formal distinction between P1 and P2; these are thus glossed ‘PST’ in the examples (e.g. [21b] below).

⁶ This verb does not contain thematic *+ka-*, but derives from *alhvka* ‘NEUT.foot’, which in turn may be related to Ritharrngu *rluku* ‘foot’ (pPN: **luku* [Alpher 2004]).

⁷ Leeding (1989) does not identify this verb class, which is probably because tense suffixes are optional in her analysis. The absence of a tense suffix has the same effect as the *-Ø* suffix proposed here. According to Leeding, any verb without an inflectional suffix can represent either past or non-past tense. This is however a huge overgeneralisation, because the tense/aspect suffixes are mostly obligatorily realised by overt material. In conjugation 3 above, for instance, the only category that is realised as *-Ø* is the P1; all other categories take non-null suffixes.

	Suffixes	4: <i>-maka-</i> ‘tell’
NP1	<i>-Ø</i>	<i>-maka-Ø</i>
NP2	<i>-na</i>	<i>-makv-na</i>
NP3	<i>-ma ~ -angvma</i>	<i>-makv-ma ~ -maka-ngvma</i>
P1	<i>-Ø</i>	<i>-maka-Ø</i>
P2	<i>-Ø</i>	<i>-maka-Ø</i>
REFL	<i>-jungwV-</i>	<i>-maka-jungwV-</i>
RECP	<i>-yi-</i>	<i>-makee-yi-</i>
CAUS	<i>-ji-</i>	<i>-maka-ji-</i>

Table 6.8: Conjugation 4: *-na*, *-Ø* (verb stems ending in /a/)

(11) Class 4

Thematic <i>+ka-</i> ~ <i>+kwa-</i> (e.g. <i>-warr+ka-</i> ‘sew’ <i>-rndarr+ka-</i> ‘pick up’ <i>-ma+ka-</i> ‘tell’ <i>-adhu+kwa-</i> ‘stab’)	FACT <i>-ka-</i> ~ <i>-kwa-</i> <i>-kwa-</i> ‘give’ <i>-ba-</i> ‘argue, hit’ <i>-(ya)ma-</i> ‘do, say’	Thematic <i>+ma-</i> (2 examples) (<i>-rndang+ma-</i> ‘make an intermittent noise’ <i>-kurarr+ma-</i> ‘spit’)
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In Chapter 5 I suggested that the FACT suffix originates from grammaticalisation of *-kwa-* ‘give’. Independent verbs are a common source for derivational suffixes in Australian languages (Schultze-Berndt 2000: 540).

6.3.5 Conjugation 5: *-na*, *-wa* [JH class 8D (*-na*, *-wa*); JW (*-ina* ~ *-uwa*); VL -⁸]

This conjugation is characterised by the P2 suffix *-wa*. Its sole member is the CAUS suffix *-ji-* (section 5.4.1.2).⁹ Its paradigm is illustrated in Table 6.9 with the verb *-yawkabi-ji-* ‘forget’.

	Suffixes	5: CAUS <i>-ji-</i>
NP1	<i>-ya</i>	<i>-yawkabi-ji-ya</i>
NP2	<i>-na</i>	<i>-yawkabi-ji-na</i>
NP3	<i>-ma</i>	<i>-yawkabi-jv-ma</i>
P1	<i>-Ø</i>	<i>-yawkabi-ji-Ø</i>
P2	<i>-wa</i>	<i>-yawkabi-ju-wa</i>
REFL	<i>-jungwV-</i>	<i>-yawkabi-ja-jungwV-</i>
RECP	<i>-yi-</i>	<i>-yawkabi-jee-yi-</i>

Table 6.9: Conjugation 5: *-na*, *-wa* (causative suffix)

⁸ This class is also not recognised as a separate class by Leeding, who subsumes it under her class 1A (*-ni*, *-ni*), which corresponds to my class 1A. It is unclear why Leeding fails to recognise the suffix *-wa* as a tense suffix; it may be due to transcriptional errors, e.g. NP2 verbs that have been mistakenly transcribed as P2. Her data do contain some causatives with the *-wa* suffix, which she glosses as ‘stem formative’ (e.g. 1989: 385).

⁹ Heath also includes the stem *-ngaja-* ‘hit’ in this conjugation, but this stem belongs to conjugation 4 (*-na*, *-Ø*) in the dictionary, and this is also how my informants inflected it. It is unclear whether this difference can be attributed to the dialect of Heath’s single informant, or to language change.

The causative suffix is very productive and derives transitive verbs from intransitive stems. Most often the derivation is transparent, such as *-lharr-* ‘fall’ > *-lharri-ji-* ‘drop’. In some instances the root that the suffix attaches to is unknown, such as *-akurra+ji-* ‘wait for’ (cf. *akurra* ‘?’). These are taken to be lexicalised causatives; see section 5.4.1.2 for further discussion.

6.3.6 Conjugation 6: $-\emptyset$, $-\emptyset$ [JH class 8G (*-a*, $-\emptyset$); JW multiple classes; VL 1B (*-ni*, *-nga*)]

This is a highly distinct class, composed mainly of stance verbs. It is characterised by the allomorph $-\emptyset$ in all positive categories (i.e., all but the NP3). It is furthermore distinguished by an ‘augment’ *-nga-* that is added to the stem in the NP1 and P1, and to which the tense/aspect suffixes are added. Although this augment may have the appearance of an inflectional suffix, as it can be replaced by a regular suffix (for example, the two allomorphs of the NP1 of *-mungskulha-* ‘sleep’ are: *-mungskulhv-nga* and *-mungskulhi-ya*), I will assume that the *nga*-segment is part of the NP1 and P1 stems, rather than an independent tense/aspect suffix.¹⁰ This is because nominalised verbs in conjugation 6 are also *nga*-augmented. A nominalised verb is generated from a bare verb stem by the nominalising prefix *k-* (section 3.4.6). For example, the nominalised form of *-lhvka-* ‘go’ is *-kv-lhvka* (with epenthetic *v* between the prefix *k-* and the initial consonant of the stem; rule P-1), which can take the full range of nominal prefixes. Nominalised forms of conjugation 6 verbs, by contrast, are *nga*-augmented, as illustrated in (12). The NP2 stems of these verbs are: *-arjiya-* (12a), *-mungskulha-* (12b), and *-ambilya-* (12c).

- (12) a. *a-kv-rrak-arjiyinga dhalvda*
 VEG-NSR-forehead-stand toilet(VEG)
 ‘toilet’ (Lit: ‘toilet for forehead being upright’) (Angurugu Linguistics)
- b. *ma-mv-kv-mungskulhvnga*
 VEG-INALP-NSR-sleep
 ‘bed, mattress’ (Lit: ‘something of VEG class belonging to sleeping’) (WD)
- c. *Nvngu-warv-mv=baba nvng-env-k-ambilyinga ...*
 1-not.want.P1-*ma*=REAS 1-m-NSR-stay
 ‘Because I didn’t want to stay ...’ (‘Search’ z117)

It thus appears that nominalised verbs are built from the NP1 / P1 stem.

Three subclasses can be distinguished in conjugation 6, based on the shape of the suffix allomorphs. Subclass 6A is characterised by variation of $-\emptyset$ with *-ya* in the NP1. Only the $-\emptyset$ variant appears on the *nga*-augmented stem, whereas the *-ya* suffix replaces the augment. Subclass 6B is distinguished by replacement of the NP2 and P2 suffixes by those of conjugation 1A, the largest conjugation. And subclass 6C is identified by the absence of the NP1 allomorph *-ya*, and by the alternation of NP2 $-\emptyset$ with *-na*. Another feature that sets this subclass apart from the other two

¹⁰ Although at this point it cannot be ruled out that the *nga*-element is meaningful, for instance that it derives inchoatives from stance verbs (Eva Schultze-Berndt, p.c). Hence more research is needed to determine the distribution of this element.

is the vocalic change in the P2 stem forms. What unites these subclasses is the *nga*-augment in (at least one allomorph of) the NP1 and P1 and in the nominalised forms, as can be seen in the following three tables. Furthermore, all conjugation 6 verbs are intransitive stance verbs and lack a REFL form.

Table 6.10 presents the paradigm of subclass 6A; this subclass has no attested RECP forms.¹¹

	Augments + suffixes	6A: -mungskulha- ‘sleep’	6A: -ambilya- ‘be in one place’
NP1	<i>-nga-Ø ~ -ya</i>	<i>-mungskulhv-nga-Ø ~ -mungskulhi-ya</i>	-
NP2	<i>-Ø</i>	<i>-mungskulha-Ø</i>	<i>-ambilya-Ø</i>
NP3	<i>-ma (~ -angvma?)</i>	<i>-mungskulhv-ma</i>	<i>-ambilyv-ma</i>
P1	<i>-nga-Ø</i>	<i>-mungskulhv-nga-Ø</i>	-
P2	<i>-Ø</i>	<i>-mungskulhv-Ø</i>	<i>-ambilyv-Ø</i>
RECP	<i>-yi-</i>	---	-
CAUS	<i>-ji-</i>	<i>-mungskulhi-ji-</i>	-
NSR	<i>-nga</i>	<i>-kv-mungskulhv-nga</i>	<i>-k-ambilyi-nga</i>

Table 6.10: Conjugation 6A: -Ø, -Ø (with augment -nga-)

Subclass 6A comprises five verbs:

(13) Class 6A (5 verbs)

- mungskulha-* ‘sleep’
- mvrkulha-* ‘lie down’
- ambilya-* ‘stay, live, be in one place’
- dhvrrvrnda-* ‘descend’
- abilyuwendha-* ~ *-abvlhuwendha-* ‘bow down’

In subclass 6B, the NP2 and P2 suffixes are the same as those in conjugation 1. The three verbs belonging to this subclass are listed in (14), while Table 6.11 presents the paradigm, illustrated with the verb *-ambarr-* ‘sit’. This verb undergoes a vocalic change in the P1.

(14) Class 6B (3 verbs)

- ambarr-* ‘sit’
- +lha(lhv)-* ‘be upright’
- kvrruwanji-* ‘smell’

¹¹ However, these are expected to exist, as the RECP also has a collective reading. Hence a RECP stance verb, as in a hypothetical example such as ‘we were all sleeping’, is expected to be possible. Indeed, an attested example with a stance verb from subclass 6B is:

(i) *wurraminya nuw-angmakulhee-yi-na-ma awuruku-manja*
 COLL.goose COLL-sit-RECP-NP2-ma NEUT.billabong-LOC
 ‘the geese are sitting in the billabong’

(anin4_dl_au_003)

	Augments + suffixes	6B: -ambarr- ‘sit’
NP1	<i>-nga-Ø ~ -ya</i>	<i>-ambarrv-nga-Ø ~ -ambarri-ya</i>
NP2	<i>-na</i>	<i>-ambarrv-na</i>
NP3	<i>-ngvma ~ -ma</i>	<i>-ambarrv-ngvma ~ -ambarrv-ma</i>
P1	<i>-nga-Ø ~ -Ø</i>	<i>-ambvrrv-nga-Ø ~ -ambvrra-Ø</i>
P2	<i>-nv</i>	<i>-ambarrv-nv</i>
RECP	<i>-yi-</i>	<i>(-angmakulhee-yi-)</i>
CAUS	<i>-ji-</i>	<i>-ambarri-ji-</i>
NSR	<i>-nga</i>	<i>-k-ambarrv-nga ~ -k-ambvrrv-nga</i>

Table 6.11: Conjugation 6B: *-na*, *-nv* (with augment *-nga*-)

Subclass 6C includes only two verbs: *-arjiya-* ~ *-ajjiya-* ~ *-adhiya-* ‘stand’ and *-andhiya-* ‘look around’, which undergo a vocalic change in the P2: *-arjeeyv-* and *-andheeyv-*, respectively. Heath (n.d.) points out the close similarity in the canonical stem-shapes of the two verbs. Both paradigms are given in Table 6.12. There are no attested RECP forms.

	Augments + suffixes	6C: -arjiya- ‘stand’	6C: -andhiya- ‘look around’
NP1	<i>-nga-Ø</i>	<i>-arjiyi-nga-Ø</i>	<i>-andhiyi-nga-Ø</i>
NP2	<i>-Ø ~ -na</i>	<i>-arjiya-Ø ~ arji:-na</i>	<i>-andhiya-Ø</i>
NP3	<i>-ma ~ -ngvma</i>	<i>-arji-ngvma ~ arjiyv-ma</i>	<i>-andhv-ma</i>
P1	<i>-nga-Ø</i>	<i>-arjiyi-nga-Ø</i>	<i>-andhiyi-nga-Ø</i>
P2	<i>-Ø</i>	<i>-arjeey-Ø</i>	<i>-andheey-Ø</i>
RECP	?	-	-
CAUS	<i>-ji-</i>	<i>-arjiya-ji-</i>	<i>?andhiya-ji-</i>
NSR	<i>-nga</i>	<i>-arjiyi-nga</i>	<i>-andhiyi-nga</i>

Table 6.12: Conjugation 6C: *-arjiya-* ‘stand’, *-andhiya-* ‘look around’

The *nga*-augment that is present on Enindhilyakwa stance verbs is of considerable historical importance, because it is also present in other languages. Stance verbs in the eastern Gunwinyguan languages Wubuy, Ngandi, Ngalakgan, Rembarrnga use a distinct *ngV*-augment in certain tense/aspect categories of some stance verbs, which is also marginally present in Bininj Gun-Wok (Alpher, Evans & Harvey 2003). The Wubuy *nga*-augment occurs on stance verbs in the same categories as the Enindhilyakwa augment: NP1 and P1. Compare the (augmented) NP1 and (non-augmented) NP2 forms of the verb ‘lie down’ in the two languages:

- (15)
- | | <u>Wubuy</u> | <u>Enindhilyakwa</u> |
|-----|--------------------------|----------------------|
| NP1 | <i>-murrkulha-nga-ng</i> | <i>-mvrkulhv-nga</i> |
| NP2 | <i>-murrkulhaa</i> | <i>-mvrkulha</i> |

The corresponding verbs and inflectional paradigms of Wubuy and Enindhilyakwa, as well as the *nga*-augment is discussed in greater depth in Chapter 9.

6.4 Stems showing class alternations

A number of intransitive verbs class 6 have a transitive counterpart that belongs to class 2:

(16) <u>Intransitive class 6</u>	<u>Transitive class 2</u>
-ambarr- ‘sit’	-abvrra- ‘put down’
-ambilya- ‘stay, live’	-bilya- ‘attach’
-(lha)lhv- ‘be upright’	-lha- ‘stretch’

Note that class 2 as a whole has no specific association with transitivity.

A more common class alternation that is accompanied by a change in valency involves Enindhilyakwa classes 1 and 2, though the semantic connection between the verbs is not always obvious (see Leeding 1989: 430). Class 1 verbs are intransitive and class 2 verbs are transitive:

(17) <u>Intransitive class 1</u>	<u>Transitive class 2</u>
-kuwarrv- ‘be torn’	-kuwarra- ‘tear’
-dhadhv- ‘become burnt, cooked’	-dhadha- ‘burn, cook’
+waji- ‘twist’	-waja- ‘brush away’
+baji- ‘rub’	+baja- ‘hit’
-miji- ‘search’	-mija- ‘wait for’
-mardhv- ‘be painful’	-mardha- ‘covet, hate’
-karrv- ?‘move’, ?‘hit’	-karra- ‘roast in hot ashes’

Both transitivity alternations, with conjugations corresponding to the Enindhilyakwa classes (Chapter 9), are also described for Wubuy (Heath n.d., 1984: 418-20):¹² for example, the intransitive Wubuy stance verb *-burra-* ‘sit’ (class NGA₁, which corresponds to Enindhilyakwa class 6) has the transitive counterpart *-burra-* ‘put down’ (class A₂, corresponding to Enindhilyakwa class 2). And intransitive A₂ verbs have transitive counterparts that show I₁ inflection (corresponding to Enindhilyakwa class 1). An example is intransitive *-akarlawaja-* ‘go across’ (A₂) and transitive *-akarlawaji-* ‘take across’ (I₁).

6.5 Semantics of aspect

Enindhilyakwa tense suffixes simultaneously encode aspect, which can either be neutral aspect (NP2, P2), or a subtype of perfective viewpoint aspect which is sensitive to atomic event structures (NP1, P1). Atomic events are non-durative changes of state, which (i) do not have any proper subparts and (ii) are not associated with a scalar change of state (Caudal 1999, 2005a). They are either signalled by a phonologically null suffix in Enindhilyakwa, or by an overt suffix: NP1 *-ya*

¹² In his Enindhilyakwa sketch grammar, Heath (n.d.) mentions this transitivity alternation in Wubuy and notes that to his knowledge this does not occur in Enindhilyakwa. However, as shown in (16) and (17), it does.

(conjugations 2, 3, 5 and one allomorph in conjugation 6), or P1 *-nga* (one allomorph in conjugation 2). The NP1 and P1 stems in conjugation 6 are *nga*-augmented.

Atomic events require non-durative telic events, such as *die*, *arrive*, *return*, *stop*, as their input, as illustrated in (18). When they are fed atelic event structures such as states, they will coerce these into inchoative change of state readings, as illustrated for *be in pain* and *be upright* in (19). When the atomic event markers are fed atelic event structures such as activities, they will impose an inceptive reading onto these events, as exemplified for *go*, *jump* and *run* in (20).

- (18) a. *akina akwalya na-jungu-ma*
 NEUT.that NEUT.fish NEUT-die.P1-*ma*
 ‘the fish died’ (anin2_pw_au_004)
- b. *Yingi-yardha yenjerra dhv-rnd-enungwa?*
 3f-arrive.P1 around.here 3f-mother-2a.KIN
 ‘Has your mother arrived yet?’ (‘Search’ z74)
- c. *yelhakwa ma-ngwanja-ji-ya-lhangwa=yi!*
 at.here IMP.2/VEG-stop-CAUS-NP1-ABL=EXCL
 ‘stop [the car(VEG)] here please!’ (‘Search’ z82)
- (19) a. *Kamv-dhaka-ma nvngk-akina m-akina makarda akwa*
 IRR.VEG/2-sting.NP1-*ma* 2-that VEG-that VEG.sea and
kv-mvrnda-mardhv-ma nvngk-envng-arngk-awura
 IRR.2-all.over-be.in.pain.NP1-*ma* 2-M.ALP-times-alone
 ‘The sea (where the bristleworm has been) will sting you, and you will be in pain at once.’
 (‘Yininya’ m6-7)
- b. *Ying-errikba m-ingka bi...ya Kururrumanja nvm-arjiyinga*
 FEM-throw.P1 VEG-other and K. VEG-be.upright.P1
 ‘They threw another one [*menungkwa* ‘VEG.spear’] and it stood up (in the sandbar) at
 Kururrumanja’ (‘Brolga’ q39-40)
- (20) a. *Lhvk-ye=ka nungkwa-lhangu-wa angalya!*
 IMP.2-go-NP1=EMPH 2.PRO-POSS-ALL NEUT.place
 ‘You go to your place!’ (‘Crocodile and Bluetongue’)
- b. *N-angkarrv-nv-mvrru...wa, nu-kuwabijanga eeka-manja.*
 3m-run-P2-*ma*...XTD 3m-jump.P1 NEUT.tree-LOC
 ‘He kept on running (until) he jumped behind a tree.’ (‘Kurirra’)
- c. *Akwa n-angkarra.*
 and 3m-run.P1
 ‘And he ran off.’ (‘Chasm Island’ 21)

The inchoative change of state meaning of the NP1 and P1 markers is especially clear for stance verbs: these have a clear difference in meaning when marked with a (possibly zero) atomic suffix, from when marked with an aspectually neutral suffix. The former denote ‘assuming the stance or state’ (e.g. ‘stand up’, ‘fall asleep’), whereas the latter usually express ‘being in stance/state’ (e.g. ‘be standing’, ‘be asleep’). This semantic contrast is illustrated in the following pairs of examples: the NP1 or P1 verbs in (a) signal atomic events that entail a change of stance or state, while the NP2

and P2 verbs in the (b) examples express being in a stance or state (aspect on the verb in [21b] and [22b] is unglossed, because *-rrvngka-* is ambiguous between P1 and P2).

- (21) a. *warma-junga, arjiyinga*
 IMP.2.rise-REFL.NP1 IMP.2.stand.NP1
 ‘Get up! Stand!’ (JH tape 68, ex. 113)
- b. *ngarra-rrvngka-ma nuw-arjeeyv-ma*
 1/3a-see.PST-*ma* 3a-stand.P2-*ma*
 ‘I saw them standing there’ (anin4_dl_au_003)
- (22) a. *Nen-alhvlhvke-nu...wa, nenv-dhvrrvrndvnga, adhalyvma-manja.*
 3mdu-RDP.go-P2...XTD 3mdu-descend.P1 NEUT.river-LOC
 ‘The two of them kept on walking (until) they got down to the river.’ (‘Kurrirda’)
- b. *A-yukujiya cloud na-lhvke-nv-ma, na-dhvrrvrndv-ma akina na-rrvngka-ma.*
 NEUT-small " NEUT-go-P2-*ma* NEUT-descend.P2-*ma* NEUT.that 3a-see.PST-*ma*
 ‘There was a small cloud coming from above and they saw it coming down.’ (‘Wurramara’)
- (23) a. *nvngv-rrak-ajeeyv-ma kamba nvng-ebilyuwendhvnga-ma*
 1-forehead-be.upright.P2-*ma* then 1-bow.P1-*ma*
 ‘I was sitting up and then I bowed down’ (anin4_mm_au_002)
- b. *ying-bvlhuwendhv-ma*
 3f-bow.P2-*ma*
 ‘she sat with her head down’ (JS2 p.108)

The NP1 and P1 stems are *nga*-augmented. A similar semantic contrast between augmented and non-augmented stems is found with stance verbs in some Gunwinyguan languages, where the augmented form is associated with assuming the stance (Alpher, Evans & Harvey 2003). It thus appears that *ngV*-augmented stems go a long way back to proto-Gunwinyguan (see Chapter 9).

The INCH suffix, which inherently denotes a change of state, is compatible with both the perfective viewpoint and the aspectually neutral suffixes. Inchoative structures that signal an atomic event have an instantaneous reading, while aspectually neutral inchoatives do not have such restrictions. The INCH marked for atomic aspect in (24a) entails a sudden outburst of anger, which contrasts with the INCH taking a neutral P2 suffix in (24b).

- (24) a. *Biya dh-akina-lhangwa dhv-dharrvngka arndvrnda na-werrik-arda-dha arakba*
 and 3f-that-POSS 3f-woman NEUT.heart NEUT-chest-hot-INCH.P1 compl.act
 ‘And his wife got very angry inside.’ (Lit: ‘her heart became hot’) (GED p.189)
- b. *ni-yekirrerri-dhv-na*
 3m-happy-INCH-P2
 ‘he was / became happy’ (VL1 p.370)

The same semantic contrast is involved in (25): the (a) example marked for atomic aspect is non-durative, whereas the (b) example with the aspectually neutral tense suffix does not have such specification.

- (25) a. *nvngv-mvdhilyakba*
 1-cough.NP1
 ‘I cough (one cough)’ (anin2_pw_au_004)
- b. *nvngv-mvdhilyakbv-na*
 1-cough-NP2
 ‘I am coughing (several coughs)’ (anin2_pw_au_004)

Examples such as (25b) could suggest that the NP2 and P2 suffixes represent imperfective viewpoint aspect, as they describe events that are durative and do not include an endpoint. Yet this cannot be the case, because there are plenty of examples in which these suffixes are compatible with a perfective viewpoint interpretation. In (26a) below, for example, the events marked with the P2 suffixes are clearly perfective: they are described in their totality, from start to finish. The suffixes are also compatible with what would be atomic Aktionsarten in languages like English, such as *enter* in (26a), or *return* in (26b). Likewise, verbs marked with a NP2 or P2 suffix can also have an inceptive reading, as in (27), or an punctual reading, as in (28). This means that the NP2 and P2 tense suffixes are truly aspectually neutral, as they can have both imperfective and perfective readings, as well as durative and non-durative, and telic and atelic.

- (26) a. *ngarra-lhvke-na, ngarr-awiyebe-na, ngarrv-rrak-adjeeya*
 12a-go-P2 12a-enter-P2 12a-forehead-stand.P2
 ‘we went, we came in and we sat down’ (anin2_pw_au_004)
- b. *Kvngv-lhvka-ja angalyu-wa ngalha-lhangu-wa alhvkvra, kvngv-lhawurradhv-na.*
 IRR.3f-go-NP2 NEUT.place-ALL 3f.PRO-POSS-ALL NEUT.house IRR.3f-return-NP2
 ‘She will go home to her house, she will return.’ (‘Burrawang’ o13)
- (27) *Biya yingv-nu-warda-nga ambaka eeka-mvrra. [...] Nu-ngwadhv-na. Kemba*
 and 3f-3m-hit-P2 later NEUT.stick-INSTR 3m-cry-P2 then
nu-ngwadhv-na n-ibina ngawa arakba.
 3m-cry-P2 3m-that still compl.act
 ‘Then she hit him with a stick. [...] He started crying. Then he kept on crying.’ (‘Kurrirda’)
- (28) *nvng-andheeya akena ngalha-ja ne-ngbijangv-na*
 1-look.P2 and NEUT.PRO-CofR NEUT-jump-P2
 ‘I looked and it [cat(NEUT)] jumped’ (‘Bujikeda’ y20-1)

The aspectually neutral tenses are much more common than the atomic viewpoint tenses. The latter are only used when the speaker wants to be explicit about the atomicity of an event. They are most frequent with positive imperatives, such as (20a) and (21a) above, and (29a) below. However, the aspectually neutral NP2 suffix can also be used in this context, as in (29b,c).

- (29) a. *wu-mi-ya bangkulya akwa ridhi-ya ena eeka*
 IMP.2/NEUT-take-NP1 axe(NEUT) and IMP.2/NEUT-chop-NP1 NEUT.this NEUT.tree
 ‘Take the axe and chop down this tree!’ (VL1 p.413)

- b. *awiyebe-na* *adhukuna* *berriki-lhangwa*
 IMP.2-enter-NP2 there gate(NEUT)-ABL
 ‘Enter through the gate!’ (VL1 p.414)
- c. *wurrv-nga-rrvngkv-na* *dhaka* *dhadhukuwarrkuwarrka* *dh-abarda*
 IMP.2a-FEM-see-NP2 FEM.that FEM.spider FEM-dangerous
 ‘Look at that dangerous spider!’ (VL1 p.410)

Atomic viewpoint tenses also often appear in narratives that first describe a prolonged activity (‘he kept on doing such and such’), which is marked with an aspectually underspecified tense, and which is then interrupted or ended when suddenly something else happens. The latter event is then frequently marked as an atomic event, as in (20b) and (22a) above, and the following.

- (30) *Kvngv-ma-lyangmi-lyang+badje-na-ma* *ma-m+adhangkwa* *m-akina*,
 IRR.3f-VEG-RDP-head+hit-NP2-*ma* VEG-INALP+flesh VEG-that
kvngv-m-akakumv-rna-ma *bi...ya* ***kvngv-ma-jerrukwa***.
 IRR.3f-VEG-RDP.put-NP2-*ma* and...XTD IRR.3f-VEG-finish.NP1
 ‘She will keep on cracking the [burrawang(VEG)] nuts, she will keep putting them aside until she finishes them.’ (‘Burrawang’ o7-9)

Prolonged activities, such as ‘cracking’ and ‘putting aside’ in (30), which are normally marked with an aspectually neutral tense, can also be segmented into individual, short pieces, which are then marked with atomic aspect tenses. This is also observed by Heath for Wubuy, where he makes the following observation for the Wubuy ‘Punctual’ NP1 and P1 (1984: 340), which correspond to Enindhilyakwa ‘atomic’ NP1 and P1.¹³

“[T]exts often have series of repeated Punctual verb forms to describe situations in which a prolonged event is broken up into segments. A characteristic of narratives is the occurrence of certain motion verbs [...] in such Punctual series, referring to a stop-and-go motion as when an actor is moving stealthily, perhaps to sneak up on or to follow another actor.”

The following passage illustrates atomic verbs describing a repetition of motion verbs. It is taken from the *Bujikeda* story about a mother cat who is rescuing her kittens from a bush fire (the full story is given in Appendix A). She runs back and forth, stops to look, takes off again, and each time returns with one kitten (verbs marked for P1 are bolded, as are their English translations).

¹³ Punctuality is a subtype of, and often confused with (Caudal 2005a), atomicity. Punctuality is atomicity plus non-durativity. Being devoid of proper subparts, atomic events are incompatible with English *finish* (e.g. **John finished leaving*), with the perfect progressive (e.g. #*John has been leaving* [the iterative interpretation is not relevant]), and with degree adverbs like *completely* (e.g. #*John left completely* [the frequentative interpretation being irrelevant]) (Caudal 2005b: 240). Some atomic events may be durative: ??The lifeguards finished saving the tourist who was drowning (Caudal 2005a: 105, ex.7a).

- (31) *Nuw-angkarra*. *Nara ambaka-lhangwa kuw-angkarrrv-na yeya-mvrra=wiya*
 NEUT-run.P1 not later-ABL IRR.NEUT-run-P2 go.by.foot-?INSTR=PRG
nuw-angkarrrv-na. Nuw-angkarra, nuw-angkarra, nuw-angkarra. Ne-yaku-warrukwa
 NEUT-run-P2 NEUT-run.P1 NEUT-run.P1 NEUT-run.P1 NEUT/NEUT-river-cross.P2
ebina adhalyvma m-ibina-lhangwiya mamarra. Bi...ya
 NEUT.that.same NEUT.river VEG-that.same-ABL.PRG VEG.small.leaved and
nuw-akuma-rna adhalyvma-manja a-ki-yak-bijina mamvdhangkwa-manja.
 NEUT/NEUT-put-P2 NEUT.river-LOC NEUT-CL:FLUID-river-beside VEG.sand-LOC
Ngarnvngka na-lhawurradha, nuw-angkarra. Nuw-angkarrru...wa. Engka
 again NEUT-return.P1 NEUT-run.P1 NEUT-run.P1...XTD NEUT.other
na-rndarrka. Na-lhawurradha ebina-lhangwiya nga...wa, nuw-akuma-rna
 NEUT/NEUT-grab.P1 NEUT-return.P1 NEUT.that.same-ABL.PRG still...XTD NEUT/NEUT-put-P2
ebina-manja angalya. Na-lhawu-lhawurradha, nuw-angkarra.
 NEUT.that.same-LOC NEUT.place NEUT-RDP-return.P1 NEUT-run.P1
Nuw-angkidikarri-nu...wa. Na-ma-nga.
 NEUT-RDP.run-P2...XTD NEUT/NEUT-take-P2
 ‘It [the cat (NEUT)] **ran**. It did not run slowly, it ran fast. It **ran**, and **ran**, and **ran**. It crossed
 over the river along the paperbark. Then it put the kitten down beside the river on the sand. It
went back again, it **ran off**. It **kept on running**. It **grabbed** another. It **came back** along the
 same way, it put the kitten down in the same place. It **kept going back**, it **ran off**. It kept
 running. It took another.’ (‘Bujikeda’ y38-55)

This prolonged event of the cat rescuing her kittens is broken up into pieces. Motion verbs marked P1 that signal atomic events express the stop-and-go motion of the cat. Interestingly, these markers of atomicity can co-occur with reduplicated verbs in Enindhilyakwa, something that Heath claims is not possible for Punctual aspect in Wubuy (1984: 341). Reduplication here signals repetition of an event that is portrayed as instantaneous and non-durative.

6.6 Composite mood marking

As is characteristic of the non-Pama-Nyungan languages (Verstraete 2005), mood in Enindhilyakwa is not marked in one specific slot in the verb template, but spread over two slots, represented by a combination of morphemes in a prefix and a suffix slot. Two series of pronominal prefixes encode the broad modal categories of realis and irrealis, which are combined with the suffixes to mark various modal and non-modal meanings. For example, the combination of an irrealis prefix with a P2 suffix in (32) signals counterfactuality, that is, the speaker’s assessment that something could have happened but did not.

- (32) *dh-akvna kvnga-ma-ngv-mvrra kembirra arakba ki-yengbi-nv-ma ngayuwa*
 3f-that IRR.1/3f-take-P2-ma then compl.act IRR.1-speak-P2-ma 1.PRO
 ‘had I married her, then I could have spoken to her’ (‘Old days’ f13)

The fact that both the prefix and the suffix element contribute to mood marking can be shown by comparing (32) with further examples such as (33) and (34), where variations of morphemes in the same prefix and suffix slots mark different types of mood categories. In (33), for instance, an

irrealis prefix is combined with a non-past suffix (as opposed to a past suffix in [32]) and marks desiderative modality (expression of an intention or desire). The example in (34) shows that an irrealis prefix contrasts with a realis prefix, because the combination of a realis prefix with a p2 suffix results in a non-modalised structure, basically a statement of a fact.

(33) *ngaya nvngu-ware-na-ma a-wurru-wurrariya ak-engkirra-ja*
 1.PRO 1-not.want-NP2-*ma* NEUT-RDP-bad IRR.12a-hear-NP2
 ‘I don’t want that we hear bad things’ (‘Mother’s advice’ j9)

(34) *arabawiya narrv-ma-ngekbvraka-ma miyanga mema-mvrra me-me-m+eeka*
 long.ago 3a-VEG-make.P2-*ma* VEG.firestick VEG.this-INSTR VEG-INALP-INALP+tree
 ‘a long time ago people made firesticks with the wood of these trees (*miyarrawa*
 ‘VEG.red.kurrajong.tree’)’ (GED p.18)

The realis category is used in the majority of non-modalised structures (statements of fact), whereas the irrealis category covers a broad range of modal meanings, including counterfactuals (open and foreclosed), and epistemic, deontic and desiderative categories. A fundamental realis-irrealis distinction is found in most non-Pama-Nyungan languages (Verstraete 2005). Enindhilyakwa differs from most languages discussed in Verstraete in having separate imperative and hortatory mood categories, encoded by formally distinct sets of prefixes.

Table 6.13 outlines the basic pattern of composite mood marking, adopting the category labels employed by Verstraete (2005: 231-2):

- Counterfactuality: a complex type of modality that has two components of meaning: it signals that (i) actualization of the event was potential, i.e., possible, desirable, imminent, or intended, but (ii) it did not take place in spite of this desire, possibility, or intention
- Deontic modality: marks the speaker’s assessment of a situation, in terms of the desirability of its occurrence (i.e., a judgement of (un)desirability)
- Epistemic modality: marks the speaker’s assessment of a situation, in terms of the plausibility of its truth value (i.e., a judgement of possibility)
- Desiderative-intentional modality: marks a clause participant’s desire or intention to realise a situation

(iv) Irrealis + NP2: deontic

- (38) *Kvrr-adhvdiyara yikv-ngekburaka-jungu-na yikam-akbvrrangv-na-manja merra.*
2a-girl IRR.2a-make-REFL-NP2 IRR.VEG/2a-find-NP2-LOC VEG.blood
'You young girls have to be careful when you have your periods.' (Lit: 'when blood finds you') (GED p.104)

(v) Irrealis + P2: foreclosed epistemic counterfactual

- (39) *Ebinu-wa angalya=dha ying-engkirrike-na dhukwa ka-lhvkylhalhv-mvrru-wa=dha*
NEUT.this-ALL NEUT.place=TRM FEM-listen-NP2 maybe IRR.COLL-call.P2-ma-ALL=TRM
wurr-alhek-bina wurruwarda=dha wurr-ambilyvmee=ka...
COLL-du-this COLL.dog=TRM COLL.two=EMPH
'She was listening to where those two dogs should have been calling from (but there was nothing, the place was quiet).' ('Snake and Dogs')

(vi) Irrealis + P2: desiderative-intentional

- (40) *narrv-ngayindha-ngv-ma kuw-alyvbarv-nv-ma akwalha a-m-adhangkwa*
3a-want-P2-ma IRR.3pl-eat-P2-ma NEUT.some NEUT-INALP-flesh
'they wanted to eat some meat' (Fieldnotes, 2/12/08, DL, ML)

(vii) nara Irrealis + P2: deontic

- (41) a. *nara=maka kvnga-mvnjirrkv-rrvngka nvng-ena*
NEG=EVIT IRR.1/3f-body-see.P2 1-this
'I wasn't supposed to look at her' ('Old days' 10)
b. *narv=maka kvni-yardha-nga adhuwaba*
NEG=EVIT IRR.3m-arrive-P2 today
'he should not have arrived today' (JS2 p.92)

(viii) Transitive hortative + NP2: hortative

- (42) *mama env-lhvka-ja ene-ja abvrv-ngarre-na*
okay HORT.3msg-go-NP2 3m.PRO-CofR HORT.3m/3a-visit-NP2
'it's okay, let him go and let him visit them' (VL1 p.418)

(ix) nara a- / ng- + NP3: deontic

- (43) *Akwiyadhakina-manja ngarna nara ngarna ngi-yaminjama-ma.*
NEUT.that.kind.of-LOC 12a.this NEG 12a.this NEGNP-RDP.do-NP3
'We should never do that sort of thing.' ('Vehicle hire' k21)

(x) nara ng- + NP3: epistemic

- (44) *Nara nvng-ena ayarrka-ma ng-ardharrv-ma akwalya.*
NEG 1-this NEUT.hand-INSTR NEGNP-pierce-NP3 NEUT.fish
'I can't spear fish with my hands.' ('Lionel' i33)

As can be seen from these examples, many prefix and suffix combinations are ambiguous between a non-modal reading and a modal reading. For example, (37) could also mean 'we *will* eat them', and (38) 'young girls *are* careful'. The intended meaning has to come from the context.

Realis and irrealis prefixes may also have an imperative or hortative reading. The transitive imperative and the hortative prefix series are only distinct with a third person object (section 4.2.2; Leeding 1989: 413-5). The prefixes of transitive imperatives with a 1st person object (e.g. *kiss me!*)

are the same as the transitive realis prefix with 2nd person subject and 1st person object (i.e. *you kiss me*). Thus, the following example is ambiguous between an imperative and a non-modal meaning:

- (45) *Yu-kwa ngayuwa-wa mu-wilyaba.*
 2/1-give.NP1 1.PRO-ALL VEG-one
 ‘Give me one (mango(VEG))!’ OR ‘You give me one.’ (Fieldnotes, DL, CW)

The imperative reading is more likely here because of the NP1 unsuffixed stem. Intransitive hortative prefixes that do not involve third person are also the same as the corresponding realis prefixes, as shown in (46a). By contrast, the prefixes of transitive hortatives that do not involve third person are the same as the corresponding irrealis prefixes (46b).

- (46) a. *Yawa, yi-ngajee-yi-na=dha.*
 yes 12-fight-RECP-NP2=TRM
 ‘Yes, let’s fight.’ OR ‘we are fighting’ (‘Seagull and Pheasant’ u39-40)
- b. *Ngayamba-lhangwa yiba-lyang+barri-ya-lhangwa arvngka-manja.*
 1.PRO-ABL IRR.1/2-head+hit-NP1-ABL NEUT.head-LOC
 ‘In my turn, let me hit you on the head.’ (‘Seagull and Pheasant’ u48)
 OR: ‘I will hit you on the head.’ (OR: ‘I have to hit you on the head’; ‘I should hit you on the head’, and so on)

Murrinh-Patha is a language with a similar system of composite mood marking, where Past Irrealis is used in negated past clauses. Past Irrealis is always used in this language in conjunction with a past imperfective marker (Nordlinger & Caudal 2011), which corresponds to the Enindhilyakwa fact that the Past Irrealis can only co-occur with P2, and not P1. Also in common with Enindhilyakwa, the Past Irrealis in Murrinh Patha is used outside of negation to express foreclosed past counterfactuals, comparable to (39) above. Nordlinger & Caudal note that an interesting consequence of this system is that the same construction is used to encode both negative past clauses and negative past deontic ‘should’ constructions:

- (47) *Marda the-na-mut-tha palngun.*
 NEG 2sgS.POKE(19).PSTIRR-3msgIO-give-PIMPERF female
 1. ‘You did not give him that girl.’
 2. ‘You shouldn’t have given him that girl.’ (Nordlinger & Caudal 2011 ex. 35)

This example is ambiguous between a reading in which the event was not realised in the past (47-1), and one in which it was realised (but shouldn’t have been) (47-2). This ambiguity has not been tested in Enindhilyakwa. The only example of a negative past deontic ‘should’ construction in my data is ‘he should not have arrived today’ in (41b). This example involves the evitative clitic =*maka* (Appendix M), which may be the reason for the deontic modality. It is however unclear whether this clitic is obligatory in order to express negative deontic modality. Since the systems of

composite mood marking are very similar in Enindhilyakwa and Murrinh-Patha, and based on the workings of the Enindhilyakwa system, I would suggest that the same ambiguity for negated past irrealis constructions exists in Enindhilyakwa.

In sum, many prefix and suffix combinations are ambiguous between a non-modal and a modal reading. The only combinations of prefixes and suffixes that always have a modal meaning is irrealis with P2 (counterfactual, deontic, desiderative-intentional) and imperatives and hortatives involving third person. The only combination where I encountered only non-modal meanings is realis plus P2.

6.7 The *-ma* ~ *-mvrra* suffix

Cross-cutting the TAM system we find the suffix *-ma*, and its less common variant *-mvrra*, which directly follow the tense/aspect suffixes in slot [(+4)] of the verbal template (Table 4.1 in Chapter 4). This elusive suffix has received a range of radically differing analyses in the previous work, from an imperfective aspect marker (Leeding 1989), to being “meaningless” (Heath n.d.), to a “statement of fact [...] which is added to verbs in the past tense” (Stokes 1982; Reid, Stokes & Waddy 1983 Book 3, p. 9; Waddy n.d.-a). The suffix does not occur on negated verbs in the past tense (Reid, Stokes & Waddy 1983 Book 4, p.19). Waddy (n.d.-b) proposes an additional function of the suffix as a relative clause marker, and as an emphatic marker on nominals.

This range of different analyses is indicative of a rather non-trivial meaning and function of this suffix. In this section I will argue that this suffix is used in a subtle interplay with the various tenses, aspects and moods, as illustrated in Table 6.14 below. Its function is a ‘first person focalisation’ marker, which refers to the perspective through which a narrative is presented. The suffix is prevalent in texts where the narrator was either an eyewitness to the scene he describes, or where he expresses his opinion or perspective on an event, or where he is simply talking about himself. Consequently, the *-ma* suffix is particularly frequent with first person subjects, in first-hand accounts of events, and in elicited sentences. Environments in which the suffix is mostly absent include procedural narratives, and imperative and transitive hortative moods (e.g. ‘let him help her’). Verbs in these contexts are all directed towards the 2nd person, which is incompatible with a 1st person focalisation marker. The suffix is also rare in Dreamtime narratives, where the narrator cannot have been an eyewitness to the scene. The verb *-ma-* ‘do, say’, which is homophonous to the most common variant of the *-ma* ~ *-mvrra* suffix (and which is widespread in Northern Australian languages) is hypothesised to be an historical source of the suffix in section 6.7.2, whose meaning is therefore along the lines of ‘I say/think/judge’.

In the above contexts the presence of *-ma* ~ *-mvrra* suffix is semantically determined, based on the perspective through which the narrative is transmitted. However, the suffix also has a function

as a marker of negated non-past events, and of subordinate clauses (Waddy n.d.-b; sections 8.9.1 and 8.11.1). In these environments the suffix is obligatory and bleached of its meaning. In other contexts the suffix is entirely blocked, which include: (i) the *if*-clause of conditionals encoded by the LOC case suffix *-manja*, (ii) verbs marked with the PURPOSIVE clitic =*yadha*, (iii) nominalised verbs, and (iv) the negated past. The absence of the *-ma* suffix will be argued to also be semantically motivated: the suffix does not appear on unrealised events.

Table 6.14 repeats the TAM system from Table 6.13 above and presents its interaction with the *-ma ~ -mvrra* suffix. The ‘+’ sign indicates the presence of the suffix, and parentheses mean that its presence is optional.

Form		Modal meaning	<i>-ma ~ -mvrra</i>
Prefix	Suffix		
Realis	Npast1/2	Non-modal meanings (statements of fact); <i>and</i> Occasionally Deontic, Desiderative-intentional	(+)
	Past1/2	Non-modal meanings (statements of fact)	(+)
Irrealis	Npast1/2	Non-modal future; <i>and</i> Epistemic, Deontic, Desiderative-intentional	(+)
	Past2	Counterfactual; <i>and</i> Deontic, Desiderative-intentional	(+)
		+ Negative particle <i>nara</i> : Negated Past	-
Imperative	Npast1/2	Deontic 2 nd person	-
Hortative	Npast2	Intransitive Hortative (e.g. <i>let's go</i>)	(+)
		Transitive Hortative (e.g. <i>let him kiss her</i>)	-
<i>a- / ng-</i>	Npast3	+ Negative particle <i>nara</i> : Negated Npast	+ (= NP3)

Table 6.14: Enindhilyakwa TAM system and the *-ma ~ -mvrra* suffix

This table shows that the *-ma* suffix operates partly independently from the TAM system, which will be demonstrated in more detail below.

The following two examples, taken from the same narrative, illustrate the first person focalisation function of *-ma*.

- (48) a. *Kvni-yamv-na-manja, kenu-warde-na-manja, nungkwa-ja kv-me-na*
 IRR.3m-do-NP2-LOC IRR.3m/2-hit-NP2-LOC 2.PRO-CofR IRR.2/NEUT-take-NP2
eeka kvnu-warde-na arrkalha.
 NEUT.tree IRR.2/3m-hit-NP2 on.the.other.hand
 ‘If he does that, if he hits you, you can take a stick and hit him back.’ (‘Children’ h20-3)
- b. *Ngayuwa=dhangwa yiba-ngaji-na-ma eeka-mvrra ki-yama-manja*
 1.PRO=EMPH IRR.1/2-hit-NP2-*ma* NEUT.tree-INSTR IRR.2-do.NP1-LOC
arngk-ingka-manja.
 NEUT.times-other-LOC
 ‘I will hit you with a stick if you do that another time.’ (‘Children’ h26-7)

In (48a) the subject is second person, and the verbs do not take *-ma*. By contrast, the subject in (48b) is 1st person and the verb is marked with *-ma*. The presence and absence of *-ma* cannot be

due to differences in TAM categories: all verbs take irrealis prefixes and NP2 suffixes. The most obvious way in which the verbs differ is in their clause participants: the verbs with the *-ma* suffix have first person subjects, whereas the verb lacking the suffix has a 2nd person subject.

The following excerpt illustrates another effect of the first person focalisation function of *-ma*, which is foregrounding. The story from which it is taken is an eyewitness account of a mother cat rescuing her kittens from a bushfire (Appendix A), so we would expect the suffix to be prevalent here (cf. e.g. the example in [i] below). However, only one verb is marked with *-ma* in this example (which is bolded). The events described by the remaining verbs serve as a background:

- (49) *Yarne=dha arakba=wiya, yirrv-kalharu-kwa ena angura.*
 1a.this=TRM already=DISTR 1a/NEUT-burnt.off.bush-FACT.P2 NEUT.this NEUT.fire
*Ena bujikeda **nvngv-rrvngka-ma**. Yirrv-kalharu-kwa enee=ka*
 NEUT.this cat(NEUT) 1/NEUT-see.P2-*ma* 1a/NEUT-burnt.off.bush-FACT.P2 NEUT.this=EMPH
angura. M-adhvrrungwarnee=ka mamarika nvm-angkarrv-na.
 NEUT.fire VEG-big=EMPH VEG.southeast.wind VEG-run-P2
Yirrv-kalharu-kwa ena. Nvngu-wilyaka ebina bangkilya,
 1a/NEUT-burnt.off.bush-FACT-P2 NEUT.this 1/NEUT-take.P1 NEUT.that tomahawk(NEUT)
akwa nvng-arjiyinga adhalyvma-manja a-kiyak-bijina. Ngalha-jee=ka angura
 and 1-stand.P1 NEUT.river-LOC NEUT-river-beside NEUT.PRO-CofR=EMPH NEUT.fire
advhrrungwarnee=ka nuw-arvmbvna-dhv-na. Ne-kalharv-dhv-na erribaba.
 NEUT.big=EMPH NEUT-?big-INCH-P2¹⁴ NEUT-burnt.off.bush-INCH-P2 to.here
 ‘Long ago we lit a fire to burn off the bush. I **was looking** at a cat. We lit the fire. A big
 southeast wind was blowing. We lit it. I took a tomahawk, and I went to stand beside the
 river. The fire got really big. It burnt towards us.’ (‘Bujikeda’ y1-9)

The use of the *-ma* suffix makes the narrator stand out against the general background of the fire burning and advancing. The fact that the events of taking the tomahawk and assuming a position near the river, which have a first person subject, do not take *-ma*, makes these part of the background - they are not relevant to the proceedings of the story.

The above examples show that the suffix is not “meaningless”, as suggested by Heath (n.d), because it has a clear distribution. The suffix is also not always added to verbs “describing a situation (stating facts)”, as proposed by Reid, Stokes & Waddy (1983), because it is absent on many verbs describing a fact, and it is present on verbs that do not express facts, such as (47b). Finally, if the suffix denoted imperfective aspect, as argued by Leeding (1989), we would expect it to occur in particular on verbs describing the background of an action. Although the suffix does occur in such environments, to be described below, the fact that it does not always do so indicates that its appearance is not aspectually conditioned.

¹⁴ The word for ‘big’ is *-arvma*. This finds no cognates in the Gunwinyguan languages, and it is possible that it comes from the Macassan word *romba* ‘fat’ (Macassan /o/ continues as /ə/ in Enindhilyakwa - see Chapter 9). The INCH *-arvmbvna-dhv-* in this example confirms this hypothesis, as it retains the Macassan *b*; the *na* segment that follows it could then be an old tense/aspect suffix.

The following list presents the contexts in which the *-ma* suffix is always or nearly always present (where possible the subject in the examples is selected so as to *not* be first person, to illustrate that this cannot have caused the appearance of *-ma*).

Contexts in which *-ma* ~ *-mvr* is present

(i) First-hand eyewitness accounts (common but optional)

- (50) *Nvng-ena nvngi-yengbi-na-ma mema-lhangwa adhuwaba dvraka*
 1-this 1-speak-NP2-*ma* VEG.that-ABL today truck(VEG)
ngakurra-lhangwa-lhangwa ngarnvmamalya-lhangwa Toyota-lhangwa, mena
 12a.PRO-POSS-ABL 12a.people-POSS T.-ABL because
warnvmamalya narrv-ma-kwa-ma mani. Nvmv-lhvke-nv-ma narrami-lyilya-ngv-ma
 3a.people 3a-VEG-give.P2-*ma* money(NEUT) VEG-go-P2-*ma* VEG/3a-take-P2-*ma*
Friday engkawiya vmba Saturday [...] *nvm-ambilyv-ma awilyaba-manja.*
 F. last but S. VEG-stay.P2-*ma* NEUT.one-LOC
 ‘I am talking today about this truck of ours, about this Toyota that belongs to us, because people have paid money for it. It went and took them last Friday but on Saturday [...] it stayed in one place.’ (‘Vehicle hire’ k1-6)

(ii) Expressions of opinions or sentiments (common but optional)

- (51) *Ngamanja dhukwa kvnu-werri-ngekburaka-jungu-ma, kvn-ambarri-ya-mvr*
 where maybe IRR.3m-chest-make-REFL.NP1-*ma* IRR.3m-sit-NP1-*ma*
kvnv-rvng-merraka-jungu-ma angamba-manja angalya?
 IRR.3m-house-?settle-REFL.NP1-*ma* where-LOC NEUT.place
 (Narrator is expressing his disapproval of Aboriginal people marrying white people:) ‘[I ask you:] Where might he become happy, might he sit down, in which place might he settle?’ (‘Mixed Marriages’ e166-8)

(iii) Relative clauses (obligatory)

- (52) a. *Ngarra-makv-na-ma nv-lhvke-nv-mvr-rv-lhangwa y-arvma*
 1a/2-tell-NP2-*ma* MASC-go-P2-*ma*-ABL MASC-big
 ‘we are telling you about the giant who came [from the mainland]’ (VL1 p.313)
 b. *Nvng-akuma-rna amawalyuwa ebina-manja angalya na-jungu-na-mvr-rv-manja.*
 1/NEUT-put-P2 NEUT.flowers NEUT.that-LOC NEUT.place COLL-die-P2-*ma*-LOC
 ‘I put flowers on the place where it [wurrarjija ‘COLL.bird’] died.’ (Fieldnotes DL 1/12/08)

(iv) Subordinate clauses (except conditional *if* clauses) (obligatory)

- (53) a. *nenv-rvngandha-ngv-mv-lhangwa nuw-awurikee-yi-na wurr-ababvrnv-lhangwa*
 3a/MASC-cut-P2-*ma*-ABL 3a-share-RECP-P2 3a-many-POSS
 ‘after they had cut up the turtle, they shared it with everyone’ (GED p.172)
 b. *Wurri-yukwayuwa nara a-wardv-ma y-akina mena*
 3a-small.PL NEG NEGNP-hit-NP3 MASC-that because
karrak-akbvr-rangv-mv=baba angunya.
 IRR.NEUT/3a-find.NP1-*ma*=REAS NEUT.boil
 ‘Children mustn’t hit them [yinvkarrbiyama ‘MASC.caterpillar’] for they will get boils.’ (GED p.103)

(v) Negated non-past (-ma only, obligatory, labelled NP3)

- (54) *Y-akina yingarna nu-warde-na-manja yinungungwangba nara ng-angv-ma*
 MASC-that MASC.snake MASC/MASC-kill-NP2-LOC MASC.animal NEG NEGNP-bite-NP3
y-akina yi-yukwayuwa-wiya alyvbalyv-ma wubvrra wurruwarda...
 MASC-that MASC-small.PL-PRG NEGNP.eat-NP3 like COLL.dog
 ‘When a snake kills an animal it doesn’t bite it into little pieces, it doesn’t eat like dogs
 do...’ (‘Snake and Dogs’)

The *-ma ~ -mvrra* suffix is present in these contexts for either of two reasons. Its presence in (i) the first-hand eyewitness accounts and (ii) expressions of opinions or sentiments is semantically determined, because the narrator presents the events through his own perspective. Although very common, the suffix is optional in such contexts, since the narrator has a choice whether to focus on his observations or opinions or not (see e.g. examples [48] and [49] above, where the narrator is very selective in which verbs he marks with *-ma*). By contrast, the suffix is obligatory in: (iii) relative clauses, (iv) subordinate clauses marked by a case suffix (save conditionals marked with LOC case *-manja*, see below)¹⁵, and (v) the negated non-past. In the negated non-past only the *-ma* variant occurs.

Waddy (n.d.-b) notes that the suffix also appears as an emphatic marker on nominals, as in (55).

- (55) *Kvrrv-dharrvngka, kvrrv-dharrvngka kvrru-wilyaba-mvrra.*
 2a-woman 2a-woman 2a-one-EMPH
 ‘You women, you women are all of the same kind.’ (‘Mixed marriages’ e30)

I propose that its function of emphasis is related to the first person focalisation function of the suffix, as it is used to express the opinion of the speaker (cf. ‘I tell ya, you women are all of the same kind!’). In other words, the *-ma ~ -mvrra* suffix on nominals is the same first person focalisation marker as it appears on verbs.

The following list is an outline of the contexts in which *-ma* is always, or nearly always, absent (where possible, the selected examples involve 1st person subjects, to show that the absence of the suffix cannot be due to the ‘wrong’ subject number).

¹⁵ Leeding (1989) presents some examples of case markers on verbs in main clauses which do not involve *-ma*. These examples suggest that (i) *-ma* is not obligatory preceding a case suffix, and (ii) case markers can also occur on verbs in the main clause (as indeed Leeding claims [p.308]).

(i) *kv-lhvka-ja-wa ngayuwa ng-adjirri-yi-lhangwa dhymbala*
 IRR.1-go-NP2-ALL 1.PRO 1-wash-NP1-ABL cloth(FEM)
 ‘I will go after I wash the clothes / Before I go I will wash the clothes.’ (VL1 p.494)

However, I find such examples very doubtful. In my data, case markers on verbs are complementizer cases, which create subordinate clauses, as is common in Australian languages (Chapter 8). I will leave it up to further research to determine the well-formedness of Leeding’s examples.

Contexts in which -ma ~ -mvrra is absent

(vi) Imperative mood

- (56) *yamv-na adhuwaba*
IMP.2-do-NP2 today
'do it today!' (VL1 p.413)

(vii) Transitive hortative mood

- (57) *angv-nv-ngaji-na enuwa-manja*
HORT.3f-3m-hit-NP2 3m.PRO-LOC
'let her hit him' (VL1 p.418)

(viii) Procedural narratives

- (58) *Ambaka k-ambilharrv-na yandhilhangwa yelyukwa kvnv-lharrv-na. Kembirra*
later IRR.2-wait-NP2 until MASC.rain IRR.MASC-fall-NP2 then
kv-me-na nungku-lhangwa dhvrrabada akwa nungkuwa kv-lhvka-ja
IRR.2/NEUT-take-NP2 2.PRO-POSS spear(NEUT) and 2.PRO IRR.2-go-NP2
mijiyelyu-wa. Nungkuwa kv-lhvka-ja makardu-wa akwa k-embilharrv-na yakujina.
VEG.beach-ALL 2.PRO IRR.2-go-NP2 VEG.sea-ALL and IRR.2-wait-NP2 over.there
Kvny-rrvngkv-na-manja nungkuwa y-akina yimadhuwaya, nungkuwa
IRR.2/MASC-see-NP2-LOC 2.PRO MASC-that MASC.stingray 2.PRO
kv-ardhvrrre-na env-lhangwa-manja yi-nv-m+adhangkwa.
IRR.2/MASC-stab-NP2 3m.PRO-POSS-LOC MASC-m-INALP+flesh
'You wait until it starts to rain. Then you take your spears and you go to the beach. You walk into the water and you wait. When you see a stingray, you stab its round body.'
(‘How to catch stingray’ DL 28/11/08)

(ix) Dreamtime narratives

- (59) *Y-akinee=ka ni-yengbi-na Yirvmba makarda-lhangwa. Ene-ja*
MASC-that=EMPH MASC-speak-P2 MASC.seagull VEG.sea-ABL MASC.PRO-CofR
Yikba ni-yengbi-na ariba-lhangwa. Neni-bee-yi-na kembirra
MASC.pheasant MASC-speak-P2 NEUT.land-ABL 3mdu-argue-RECP-P2 then
awinyamba...
NEUT.anger
'Seagull spoke from the sea. Pheasant spoke from the land. Then they started quarrelling...'
(‘Seagull and Pheasant’ u1-3)

(x) Protasis of conditionals marked with LOC case -manja (always absent)

- (60) *Ki-yama-manja, yib-akvrranga-manja nvngk-ena, yiba-ngaji-na-ma*
IRR.1-do.NP1-LOC IRR.1/2-find.NP1-LOC 2-this IRR.1/2-hit-NP2-ma
'If I do, if I catch you, I'll hit you (back)' (‘Children’ h30-2)

(xi) Preceding PURP clitic =yadha (always absent)

- (61) *kvma-ngamba-ji-ni=yadha kv-ma-lyingirraje-ni=yadha*
IRR.1/VEG-bathe-CAUS-NP2=PURP IRR.1-VEG-crush-NP2=PURP
'(Let me go and see if the burrawang nuts(VEG) are ready) for me to soak them, for me to crush them'
(‘Burrawang’ o19-20)

(xii) Nominalised (non-finite) verbs (always absent)

- (62) *Nara y-ibina yikarba nvng-enu-kw-arndaka.*
NEG MASC-that.unseen MASC.woomera 1-m-NSR-fish
'There's no woomera for me to fish.'
(‘Lionel’ i31-2)

(xiii) Negated past (always absent?)

- (63) *nara yikv-n-andheeya yirr-aja*
NEG IRR.1a-3m-see.P2 1a.PRO-CofR
'we could not see him / we did not see him'
(VL1 p.409)

The *-ma* ~ *-mvrra* suffix may be absent in these contexts for a number of reasons. For the (vi) imperative mood, (vii) hortative mood, (viii) procedural narratives and (ix) Dreamtime narratives, it is absent for semantic reasons: imperatives, hortatives and procedurals are directed towards the 2nd person, not the 1st person, and Dreamtime stories involve third person participants. Moreover, the narrator cannot have been an eyewitness to the Dreamtime events that (s)he describes, which also blocks the appearance of *-ma*. These semantic factors can, however, not account for the absence of the suffix in the remaining environments, because here the subject is 1st person but the verbs occur without *-ma* (note that the absence of *-ma* preceding the LOC suffix *-manja* on conditionals cannot be for phonological reasons such as haplology, which would block **-ma-manja*. This is because the suffix obligatorily occurs in relative clauses marked with *-manja*, though in its longer version, as in [52b] above).

An answer as to the absence of the *-ma* suffix in these contexts may lie in the fact that they all involve unrealised events or states of affairs. The protasis or *if* clause of a conditional (x) expresses a hypothetical event in the future. The purposive clitic =*yadha* (xi) and nominalised verbs (xii) both signal an intention or desire to realise an event. The negated past (xiii) describes an event in the past that did not take place. The absence of *-ma* in these contexts of unrealised actions could suggest that it is some sort of realis marker (cf. Stokes' [1982] and Reid, Stokes & Waddy's [1983] "statement of a fact").

However, the *-ma* suffix is fully compatible with irrealis prefixes, as shown in the following examples, ruling out an analysis as a realis marker.

- (64) a. *Awilyaba kv-lhvke-nv-ma, dh-akvna kvnga-ma-ngv-mvrra kembirra arakba*
only IRR.1-go-P2-*ma* 3f-that IRR.1/3f-take-P2-*ma* then compl.act
ki-yengbi-nv-ma ngayuwa.
IRR.1-speak-P2-*ma* 1.PRO
'Only had I gone, had I married her, then I could have spoken to her [but I didn't].'
(‘Old days’ f11-3)

- b. *kv-lhvka-ja-ma* *nvngk-ena* *mardvdarra-manja* *kv-karri-jungu-na-ma*
 IRR.2-go-NP2-*ma* 2-this VEG.heat.of.sun-LOC IRR.2-roast.in.ashes-REFL-NP2-*ma*
mardvdarra-manja *akwa* *kv-ku-kunu-murrkulha-ma* *nvngk-akina*
 VEG.heat.of.sun-LOC and IRR.2-RDP-body-lie.down.NP2-*ma* 2-that
 ‘you should go in the hot sun and you should put hot sand on yourself and you should
 keep lying down’ (‘Yininya’ m8-10)

In these irrealis contexts the suffix again functions as a first person focalisation marker: in (64a), the speaker is focussing on himself, talking about the things that could have happened to him. The example in (64b) signals deontic mood, and the narrator tell us what he thinks the hearer should do in the event that (s)he is stung by a *yininya* ‘MASC.bristle worm’. This example differs from the procedural narrative in (58) above, which also combines irrealis prefixes with NP2 suffixes, but where the verbs lack *-ma*: the latter is a neutral description of the procedure to follow when catching a stingray, whereas the former is a more subjective prescription of what to do when you are stung by a bristle worm *according to the speaker*.

The presence of the *-ma* suffix in the counterfactual conditiona ‘had I married her...’ in (64a), but not in the conditional ‘if I catch you...’ in (60), then, could be related to how certain the speaker considers the realisation of the event to be. That is, in (64a) the speaker knows with certainty that the events could have been realised in the past, because such is the law: only if you marry a lady you can speak to her. In the conditional in (60), on the other hand, the event is purely hypothetical: ‘*in case* I catch you, then...’. Note that *-ma* occurs on the verb in the apodosis (the main clause) in this example, which expresses that the consequence of the hypothetical event is fairly certain (i.e., in case I catch you, I will surely hit you).

The hypothesis that the occurrence of *-ma* requires the speaker to believe that realisation of the event is certain, is supported by the following two (elicited) examples.

- (65) a. *dh-akina* *kemba* *kvngi-ngembe-na-ma* *awuruku-manja*
 3f-that then IRR.3f-bathe-NP2-*ma* NEUT.billabong-LOC
 ‘she will swim in the billabong’ (anin2_pw_au_004)
 b. *dhukwa* *kv-ngembe-na* *dh-akina* *awuruku-manja*
 maybe IRR.3f-bathe-NP2 3f-that NEUT.billabong-LOC
 ‘she may swim in the billabong’ (anin2_pw_au_004)

The verb in (65a) takes *-ma* and expresses a certain event in the future, whereas in (65b) this event is not considered as certain, and the verb lacks *-ma*. Indeed, the *-ma* suffix is mostly incompatible with *dhukwa* ‘maybe’, as shown again in (66a). In (66b), on the other hand, *dhukwa* is accompanied by a *-ma* suffix on the verb, but here the speaker is fairly certain about the ‘hypothetical’ event.

- (66) a. *dhukwa kvni-yakwabiji-ya ngalhanga dh-adhv-m-ikirra*
 maybe IRR.3m-forget-NP1 3f.PRO.POSS 3f-f-INALP-name
 ‘he may forget her name’ (anin2_pw_au_004)
- b. *dhukwa ni-yakwabijv-ma ngalhanga dh-adhv-m-ikirra*
 maybe 3m-forget.P1-*ma* 3f.PRO.POSS 3f-f-INALP-name
 ‘he probably forgot her name’ (anin2_pw_au_004)

The absence of the *-ma* suffix on verbs marked with the PURP clitic (xi) and on nominalised verbs (xii), which both express intension or desire, could be for similar reasons: the event is considered to be hypothetical by the speaker, and thus is not marked with *-ma*. The absence of the suffix in the negated past (xiii) may also be semantically motivated: a speaker cannot have witnessed an event in the past that did *not* happen. So, whereas the speaker is certain of the chasing event in the following example, which (s)he may even have witnessed, the catching event is hypothetical because it is unrealised - as also indicated by the irrealis prefix that always occurs in the negated past.

- (67) *narrvngv-nv-lharrma-ngv-mvrra nv-mawuru-wa akena nara ngawa*
 3fdu-3m-chase-P2-*ma* 3m-moon-ALL but NEG cont.act
karrvngv-n-akbvrranga-rna
 IRR.3fdu-3m-find-P2
 ‘the two women were chasing Moon, but they could not catch him’ (VL1 p.497)

Speakers very frequently use the *-ma* suffix in elicited sentences (e.g. [65a] and [66b]), but they often also approve of the sentence when the suffix is omitted. Thus, when uttering a proposition P, speakers often say ‘P-*ma*’ (i.e., ‘I say/think/judge that P’). This may be the reason why Heath (n.d.), whose only source of data was elicitation sessions, concluded that verbs with the *-ma* suffix are more common than without, and that the suffix is meaningless. However, from the textual data we have seen that the distribution of *-ma* obeys a pattern and it does have meaning.

A final observation regarding the suffix’s distribution is that it is more common on verbs describing durative atelic events than on atomic changes-of-state, irrespective of whether these express the perception of the speaker or not. This is illustrated in (68) and (69), where the atomic events follow a series of prolonged durative events. The atomic event descriptions are bolded.

- (68) *N-angkarrv-nv-mvrru...wa, **nv-kuwabijanga** eeka-manja*
 3m-run-P2-*ma*...XTD 3m-jump.P1 NEUT.tree-LOC
 ‘He kept on running until he jumped behind a tree.’ (= [20b])
- (69) *Kvngv-ma-lyangmi-lyang+badje-na-ma ma-m+adhangkwa m-akina,*
 IRR.3f-VEG-RDP-head+hit-NP2-*ma* VEG-INALP+flesh VEG-that
*kvngv-m-akakumv-rna-ma bi...ya **kvngv-ma-jerrukwa.***
 IRR.3f-VEG-RDP.put-NP2-*ma* and...XTD IRR.3f-VEG-finish.NP1
 ‘She will keep on cracking the [burrawang(VEG)] nuts, she will keep putting them aside until she finishes them.’ (= [30])

The sequence of durative events is marked with *-ma* or *-mvrra*, whereas the instantaneous event that marks the end of the sequence is not. Such examples may have led Leeding (1989) to believe that the *-ma* suffix represents imperfective aspect. However, this suffix is perfectly compatible with perfective NP1 and P1 suffixes that mark atomic changes-of-state, as in several examples above, and the following.

- (70) *Kembirra nvm-awiyebe-nv-ma mamawura. Kembirra yirrv-mungkulhvnga-mvrra*
 then VEG-enter-P2-*ma* VEG.sun then 1a-sleep.P1-*ma*
marrvnga.
 VEG.sleep
 ‘Then the sun set. Then we fell asleep.’ (‘Mvrungkurra’ p28-9)

I propose that this skewed distribution follows from the hypothesis that the suffix is used by speakers to express their perceptions. Complements of perceptions are often imperfectives or statives, because one is seeing/smelling/hearing something as it is happening. The narrator only specifically marks the durative (i.e. “imperfective”) events as his perceptions, and thus contrasts them with the instantaneous changes-of-state. The aspectually neutral NP2 and P2 suffixes cover imperfective aspect, so it is those that are most frequently accompanied by the *-ma* suffix.

6.7.1 *-ma* or *-mvrra*?

The *-ma* suffix freely varies with *-mvrra*, although the former is much more common. The choice between the two also seems to be a matter of personal preference, as one of my informants (PW) used the *-mvrra* variant more frequently than others (e.g. DL). Furthermore, the *-mvrra* variant may have a slight tendency to appear sentence-finally:

- (71) *Yingv-m-adhakkbadja-ngv-ma ying-alyvbarv-nv-ma anhvnga dh-akina*
 3f-VEG-crush-P2-*ma* 3f-eat-P2-*ma* NEUT.food 3f-that
yingv-m-adhakkbaja-ngv-mvrra.
 3f-VEG-crush-P2-*ma*
 ‘She crushed them [*marruwayija*(VEG) nuts] and ate them and kept on crushing them’
 (Akarrikarra 1990, vol.10)

In other environments the choice is phonologically conditioned: preceding the LOC case suffix *-manja* and the ALL case suffix *-wa*, only the *-mvrra* variant appears:

- (72) a. *Nvng-ambilya nuw-ambilyv-mvrrv-manja.*
 1-stay.P2 3a-stay.P2-*ma*-LOC
 ‘I stayed where they were staying.’ (JS2 p.98)
 b. *Nvng-andheeya arakba ebinu-wa angalya n-ingkilharrv-mvrru-wa.*
 1-look.NP2 compl.act NEUT.that-ALL NEUT.place MASC-fall.P1-*ma*-ALL
 ‘I look at the place where it has fallen.’ (Fieldnotes, EM, December 2008)

What we see here may be an inverse haplology rule: the long version of the suffix is used to avoid

two syllables starting with a sonorant with the same place of articulation: i.e. **-mv-manja* and **-mu-wa* are out, while *-mv-lhangwa* in (53a), *-mv=baba* in (53b), et cetera, are allowed.

6.7.2 Etymology of *-ma* ~ *-mvrra*

The *-ma* ~ *-mvrra* suffix is highly polysemous. The following meanings are attested:

- 1) first person focalisation marker (section 6.7)
- 2) subordinate clause marker (sections 8.9.1, 8.11.1)
- 3) negated non-past (NP3) inflectional suffix (*-ma* only, section 6.7)
- 4) instrumental case suffix (section 8.4)
- 5) proprietive/privative case suffix (section 8.4)

One major question is whether these meanings and function represent the same suffix, or whether the polysemy of *-ma* ~ *-mvrra* is due to syncretism.

Above I suggested that the *-ma* suffix might have developed from the verb *-ma-* ‘do, say’. This could account for its first person focalisation function and proposed meaning of ‘I say/think/feel/...’. The *-ma-* ‘do, say’ root is common in the Gunwinyguan languages (and elsewhere in Australia) and is reconstructed as **-ma-* ‘do, say’ for proto-Gunwinyguan (Alpher, Evans & Harvey 2003). In some Gunwinyguan languages the non-past (NP) and past imperfective (PI) forms involve /ɹ/: for example, the NP and PI forms in Ngandi are *-ma-rang* and *-mi-ri*, respectively, and the P1 in Mangarayi is *-ma-ri* (ibid p.333). It is possible that the tap in the *-mvrra* variant in Enindhilyakwa relates to this retroflex.

Another possible candidate for the source of the *-ma* ~ *-mvrra* suffix discussed here are the INSTR and PROP/PRIV case suffixes (section 8.4), which are homophonous with the *-ma* ~ *-mvrra* suffix. Heath (1978b: 78) suggests that the Enindhilyakwa INSTR ~ PROP/PRIV case suffix has diffused from Ritharrngu PROP *-mirri*, and that it entered the language via the Wubuy INSTR *-mirri*. Presumably the *-mvrra* suffix shortened to *-ma* in Enindhilyakwa. A possible historical development of the first person focalisation marker could then be via the INSTR ~ PROP/PRIV suffix (‘I am with P’) to ‘I say/think/feel P’.

Interestingly, Heath (1978b: 79) notes that the Yolngu suffix *-mirri* also shows up in verbal morphology: here it is the present and future form of the REFL/RECP suffix *-mi-* (PRES/FUT: *-mi-rrri*). In short, Heath proposes that the REFL/RECP suffix derives from the PROP suffix *-mirri* that also occurs on nominalised verbs in Yolngu (e.g. *waani-na-mirri* [go-NSR-PROP] ‘having going’, i.e. ‘capable of walking, not crippled’). The **VERB-na-mirri* construction was reinterpreted as a verbal form: e.g. ‘having-hitting’ > ‘they are having-hitting’ > ‘they are fighting’. The verbal paradigm was remodelled on that found in other verb classes. All of this presupposes very considerable time depth (Heath 1978b: 79). The similarities between the Enindhilyakwa and the Yolngu suffix, in

form and distribution, also suggest a considerable time depth for the Enindhilyakwa suffix, and possibly a relationship with the Yolngu suffix.

6.8 Summary

The Enindhilyakwa TAM system consists of six main conjugational classes, characterised by formally distinct pairs of non-past and past suffixes. The tense suffixes simultaneously encode aspect: the NP2 and P2 suffixes are aspectually neutral, whereas the NP1 and P1 tense suffixes describe an event as atomic - that is, as telic, instantaneous and without proper subparts. Aspect is neutralised in the negated past, and a separate NP3 suffix is used for the negated non-past.

Mood is encoded through a combination of prefixes and suffixes. For example, a judgment of (un)desirability (deontic mood) may be expressed by combining realis prefixes and non-past suffixes. A consequence of this composite system is that many prefix and suffix combinations are ambiguous between a non-modal and a modal reading (as is the case for many other non-Pama-Nyungan languages with systems of composite mood marking). The intended meaning has to come from the context.

Irrealis prefixes combined with P2 suffixes are used in negated past clauses (combined with negative particle *nara*), and to express foreclosed past counterfactuals. This could mean that the same construction is used for negated past events ('I didn't...') and for negative past deontic constructions ('I shouldn't have...'), as happens in for instance Murrinh-Patha - though this ambiguity has not been tested for Enindhilyakwa.

The very common but elusive *-ma ~ -mvrra* suffix that follows the tense/aspect inflection was argued to be a first person focalisation marker. It is used when the speaker wants to convey that a proposition is his or her observation, perception, opinion, and so on. Consequently, the suffix is particularly common (but optional) with first person subjects or objects, in narratives where the speaker was an eyewitness to the scene he or she describes, and in elicited sentences. This suffix is obligatory in the negated non-past and on the verb in a subordinate clause. Here the suffix is bleached of its meaning. The suffix is blocked in conditional subordinate clauses marked by LOC case *-manja*, on nominalised verbs, on verbs marked with the PURP clitic *=yadha*, and in the negated past - all of which express unrealised events.

Chapter 7: Incorporation of body part and generic nominals

As in many Northern Australian languages, including virtually all Gunwinyguan languages, the Daly River languages, and Tiwi, nominals can be productively incorporated in Enindhilyakwa. Incorporated nominals are of two semantic types: (i) they can express a body part that belongs to a human, or occasionally a higher class animal, or (ii) they can classify items that may be further specified by an external nominal. The latter are labelled ‘incorporated generics’ or just ‘generics’ in this thesis. As the name implies, incorporated generics are abstract in nature: they may have generic meanings such as ‘something that grows’, ‘something that gives light’, and so on, or they may describe inanimate items in terms of their shape, size, consistency, and so on.

In common with some Gunwinyguan languages, Enindhilyakwa allows nominal incorporation into verbs and adjectives, as shown in (1) and (2), respectively. The (a) examples illustrate incorporation of a body part, and the (b) examples of a generic. The ‘-’ sign indicates that this type of nominal incorporation is productive (as opposed to the lexicalised noun+verb compound stems discussed in Chapter 5, where a ‘+’ sign is used to indicate the frozen boundaries). Unless otherwise indicated, the data in the current chapter come from Ansec1 (“ANindhilyakwa SECondary roots”)¹.

- (1) a. *nvng-eni-lyang-barra*
 1-3m-**head**-hit.P2
 ‘I hit him on the head’ (JS2 p.149)
- b. *narrv-ma-rreku-wurra-ngv-ma* *abvrrv-lhangwa* *mvngarukwa*
 3a-VEG-**long.and.flexible**-throw-P2-*ma* 3a.PRO-POSS VEG.fishing.line
 ‘they have thrown out their fishing lines’ (‘Malhamukwa-lhangwa’)
- (2) a. *dhv-lhakbak-awarriya*
 3f-**leg**-bad
 ‘she’s got a deformed leg’
- b. *al-jvrrvrra* *amarda*
 NEUT.**long.and.thin**-long NEUT.grass
 ‘long grass’ OR ‘the grass is long’ (Ansec2)

A generic can refer to several properties of an inanimate object at once: for instance, *rreku-* in (1b) classifies the fishing line as long and flexible, and *al-* in (2b) describes the grass as being long and thin. When the actual referent is clear to the addressee (from shared knowledge and/or from context), the specific noun may be omitted (Waddy 1988; Leeding 1989).

Incorporated nominals are restricted to particular grammatical relations, following the cross-linguistically common absolutive pattern of only incorporating intransitive subjects and transitive

¹ This is an unpublished digital file of incorporated body part nominals, compiled by Judie Waddy and colleagues at Angurugu Linguistics. They labelled incorporated nominals “secondary roots”. The “Ansec2” file consists of “secondary roots” that are non-body parts (called ‘generics’ in this thesis).

objects (e.g. Mithun 1986; M. Baker 1988; Evans 1996). The incorporated body part *lyang-* ‘head’ in (1a), for example, and the generic *rreku-* ‘long and flexible’ in (1b), correspond to the transitive object of the verb. The body part *lhakbak-* ‘leg’ in (2a) and the generic *al-* ‘long and thin’ in (2b) are associated with the subject of an adjective.

Incorporation of body parts and generics is optional, in the sense that there is an unincorporated paraphrase. For body parts, this involves an external body part nominal, as in (3), which is an unincorporated paraphrase of (1a).² Most generics do not have a corresponding unincorporated form, in which case the ‘unincorporated’ version simply lacks the generic, as in (4), which corresponds to (2b). The unincorporated versions are near-synonymous with the incorporated ones.

(3) *nvng-env-ngaja-ma env-lhangu-manja arvngka*
 1-3m-hit.P2-*ma* 3m.PRO-POSS-LOC NEUT.head
 ‘I hit him on the head.’ (VL2 p.243)

(4) *a-jvrrvrra amarda*
 NEUT-long NEUT.grass
 ‘long grass’

Enindhilyakwa nominal incorporation is of the *Classifier* type (Rosen 1989), in that the valency of the verb is completely unaffected. Incorporated nominals add selectional restrictions to the verb, because they narrow down the range of possible referents of one of the verb’s arguments (Rosen 1989). For example, *lyang-* in (1a) limits the part of the direct object being hit to ‘head’ only, and *rreku-* in (1b) restricts the objects of the throwing to ‘long and flexible’ things. This contrasts with incorporation of Rosen’s *Compound* type, which reduces the verb’s valency or otherwise alters its argument structure. Recall from Chapter 5 that Enindhilyakwa also exhibits the latter type of nominal incorporation, namely in the complex stems. These complex stems are lexicalised, unproductive, and non-compositional compounds, which lack unincorporated paraphrases and are specialised semantic units. They form single lexemes that have to be learnt rather than being put together spontaneously. Lexical compounds cannot be described in terms of clause-level syntax and the incorporated nominal may bear a variety of grammatical relations to the verb. Classifier nominal incorporation (NI), on the other hand, allows information about arguments of the predicate to be optionally registered on the predicate. The grammatical relations between the incorporated nominal and the verb stem are predictable: only intransitive subjects and transitive objects incorporate. Classifier NI is productive, compositional and can be put together on the spot.

² The ‘hit’ verb is different in (3), because *-bvrra-* ‘hit, split’ (P2 form: *-barra*) in (1a) is a bound stem that cannot occur on its own. Nonetheless, the nominal it combines with is variable: e.g. *-adheng-bvrra-* [top-hit] ‘smash’, *-al-bvrra-* [long.and.thin-split] ‘part the grass’, *-lyimberr-bvrra-* [group-split] ‘pass through a crowd’, etc.

However, as noted in Chapter 5, lexicalised compound stems may be hard to distinguish from productive NI. They can be very similar structures, which can use the same incorporated nominals and verb roots, as illustrated in (5) (repeated in part from section 5.5). Here, we find the body part *werrick-* ‘chest’ and the verb *-jira-* ‘push’ in two different configurations with different meanings. Only the productive NI pattern has an unincorporated paraphrase, given in (5c).

- (5) a. *ngv-nu-werriki+jira-nga nvng-eni-kv-lhvki=yadha Darwinu-wa*
 1.O-3m.S-chest+push-P2 1-m-NSR-go=PURP D.-ALL
 ‘he persuaded me to go to Darwin’ (Waddy n.d.-c)
- b. *ngv-nu-werriki-jira-nga*
 1.O-3m.S-chest-push-P2
 ‘he pushed me on the chest’ (Waddy n.d.-c)
- c. *ngv-ni-jira-nga yukudhukudha-manja*
 1.O-3m.S-push-P2 MASC.chest-LOC
 ‘he pushed me on the chest’ (constructed)

The structure in (5a) is a lexicalised compound, as evidenced by the fact that the incorporated body part nominal cannot be omitted and the meaning is non-compositional. There is no other way of expressing the meaning ‘to persuade’. This contrasts with the syntactically incorporated nominal in (5b), which has a compositional meaning and where the incorporated body part can occur external to the verb, as in (5c). Notice that the incorporated version of the body part nominal is formally distinct from the free nominal: *werrick-* versus *yukudhukudha*, respectively, which both mean ‘chest’.

In section 5.5 I presented further morphosyntactic tests to distinguish between lexicalised compound stems and productive syntactic noun incorporation, which, besides optionality, include productivity and the grammatical relations held between the incorporated nominal and the verb. Another feature discussed in section 5.5 is that both the lexicalised compound slot and the productively incorporated nominal slot can be filled, as again illustrated in (6).

- (6) *Narrv-makv-ruk+bijanga-ju-wa-manja e-miningku-wa angalya, ...*
 3a/NEUT-camp-body+jump-CAUS-P2-LOC NEUT-other-ALL NEUT.place
 ‘When they moved camp to another place ...’ (GED p.198)

The verb *-ruk+bijangv-* is a lexicalised compound (which is usually translated as ‘jump’, see e.g. [42b]). The causativised verb has incorporated its direct object *makv-* ‘camp’ in this example.

Since productively incorporated body parts and generics (optionally) register information about arguments on the predicate, they are allocated a separate slot in the verb template (slot [(-1)] in Table 4.1) (this is in contrast to the nominals in lexicalised compound stems, which are subsumed under the stem slot). At most one nominal can be productively incorporated at the same time.

Similar distinctions between productively incorporated nominals and lexical compounding are described by Evans (1996, 2003a) for Bininj Gun-Wok, and Heath (1984) for Wubuy.³

What makes Enindhilyakwa especially interesting is that incorporated body part nominals and generics are often the same forms. In (7a), for example, the incorporated form *lhakbak-* refers to the body part ‘leg(s)’. In (7b) the same form describes an inanimate object as ‘short and upright’. The language differs in this respect from the Gunwinyguan languages that exhibit nominal incorporation, where the incorporated body parts and generics are usually distinct forms.

- (7) a. *nvngv-lhakbak-arrkujeeyi-na*
 1-leg-be.painful-NP2
 ‘my legs are aching’
 b. *nv-lhakbak-arjiya-ju-wa-ma* *yiraka*
 3m/MASC-short.and.upright-be.upright-CAUS-P2-*ma* MASC.didgeridoo
 ‘he stood up the didgeridoo’

The compositionality of such examples is evidenced by the fact that the same verbs can be used with different incorporated nominals: compare (7a) with (8a), and (7b) with (8b).

- (8) a. *ngayuwa nvngv-ngarrk-arrkujeeyi-na madha*
 1.PRO 1-ear-be.painful-NP2 VEG.ear
 ‘I’ve got earache’
 b. *nv-ma-mvrrk-arjiya-ju-wa-ma memvrrma*
 MASC-VEG-back.of.neck-be.upright-CAUS-P2-*ma* VEG.back.of.neck
 ‘the goanna (*yaraja*[MASC]) lifted up its neck’ (‘Zoo’ e30)

The body part meaning and the generic meaning are clearly related: being short and upright in (7b) are inherent properties of a leg. This polysemy will be argued to result from the evolutionary path of nominal incorporation: many generics have developed from incorporated body parts by a meaning extension.

Another interesting aspect of Enindhilyakwa incorporated nominals is their suppletion. The majority of incorporated body parts have little or no formal resemblance with their corresponding free form. Above I mentioned the incorporated form *werrik-* and the corresponding free noun *yukudhukudha* ‘MASC.chest’. Another example is *ngarrk-* in (7a) that is associated with the body part noun *madha* ‘VEG.ear’. This suppletion will be argued to result from lexical replacement affecting the free form but not the incorporated form. An interesting consequence of the replacement of free nominals in Enindhilyakwa is that sometimes only *incorporated* nominals have corresponding forms in other languages (see Tables 7.3 and 7.4 below). An example is the root *lyang-* ‘head’ in (1a), which is not synchronically attested as a free noun in Enindhilyakwa,

³ Though the BGW structure differs from the Enindhilyakwa one in that incorporated generics and body parts occupy different slots in Bininj Gun-Wok, in this order (Evans 1996, 2003a). In Enindhilyakwa, they occupy the same slot.

but it is in other languages: the Wubuy noun for ‘head’ is *rlaang*, and the Ngandi form is *rlong* (Chapter 9 investigates the sound changes that have taken place between Enindhilyakwa and the Gunwinyguan languages). Widespread suppletion is another characteristic of Enindhilyakwa incorporated nominals that sets it apart from the Gunwinyguan languages (though suppletive incorporated forms are also common in Tiwi and Murrinh-Patha [Dixon 2002: 429]).

Incorporated nominal roots in Enindhilyakwa have received some attention in previous work (Worsley 1954b; Stokes 1982; Waddy 1988, n.d.-c; Leeding 1989, 1996), where they have been given a variety of names. Worsley (1954b) and Waddy (1988) call them ‘secondary prefixes’. In later (unpublished) work Waddy labels them ‘secondary roots’. Stokes (1982) does not explicitly discuss nominal incorporation, but includes about nine different “prefixes” that “represent a noun” in her paper. Leeding (1989, 1996) claims that an incorporated root can be either a noun or an adjective. None of these scholars, however, has analysed the relation between body part nominals and generics, or the morphosyntax of NI, in any systematic way. This is the objective of this chapter.

Although this thesis aims to give a synchronic description of the Enindhilyakwa language, it may be the case that some of the examples in this chapter will not be used anymore. In other words, NI may be going out of use. Worsley (1954b) already noted over half a century ago that forms with incorporated generics (which he labels ‘secondary prefixes’) are more readily produced by older speakers than by younger ones. He concluded that they may be disappearing from the language. Stokes (1982) also claims that speakers under 30 years old do not produce incorporated forms, but she attributes this to their complexity. While there are numerous examples in the texts (collected by Judith Stokes and her colleagues in the 1970s and 80s), and in the Ansec files (created up to 1990 by Julie Waddy and her team at Angurugu Linguistics, assisted by Gula Lalara(†), who was a singer, poet and story teller, who was particularly gifted in exploiting the richness of his language), my attempts to elicit such constructions failed. My language teachers were over 50 years old, and they translated sentences like ‘you hit me on the head’ as *yi-ngaja-ma arvngka-manja*, with the body part *arvngka* ‘NEUT.head’ realised outside the verb. When asked for their opinion of examples with incorporated body parts they accepted them, and could play around with them, but they said that this is “how the old people used to say it” (anin1_em_au_001). Note the parallel with the ‘possession’ of body parts by means of the inalienable possession construction (section 3.4.5.1), which has also gone out of use. The part-whole relation for humans is now expressed with POSS case on the whole (e.g. [2.PRO-POSS arm] ‘your arm’).

When asked about the use of incorporated body parts with a generic meaning (e.g. ‘lips’ referring to the sharp edges of a tin in [28b]), my informants said that old people used this “picture

way” of describing things, but this is not done anymore today. This could mean that NI, although once very productive, may be disappearing from the language.⁴

7.1 Organisation of chapter

This chapter is structured as follows. Section 7.2 describes the incorporation of body parts in more detail. The incorporation of generics is addressed in section 7.3. Section 7.4 examines the polysemy of the majority of incorporated roots. Since incorporated body parts and generics may be formally very similar, section 7.5 proposes ways to distinguish between the two. The suppletion and morpho-phonemic changes that the incorporated forms have undergone are examined in section 7.6. Section 7.7 investigates the origin of generics and concludes that the majority have evolved from the incorporation of body parts. Section 7.8 discusses the wide range of semantics exhibited by most generics, while section 7.9 proposes that incorporated nominals are non-referential. Section 7.10 develops the idea that incorporated nominals are in apposition with the corresponding external nominals. The notion of ‘possessor raising’ is also addressed (section 7.10.1). Section 7.11 investigates which factors drive nominal incorporation, and section 7.12 finishes with a summary.

7.2 Incorporation of body parts

Body part noun roots can be productively incorporated into verbs and adjectives, as was illustrated in (1a), (2a), (5b), (7a) and (8) above. The attested incorporated body part nominals are listed in Appendix N. Incorporation is optional, and restricted to particular grammatical relations: only intransitive subjects (9) and transitive objects (10) can incorporate. To illustrate the compositional structure of body part incorporation, examples of two different body parts are given with the same verb (+*baja-* in [10] is a bound stem but the INs are flexible).

(9) a. *na-ruku-dhadhv-nv-mvrra alhvka*
 NEUT-foot-burn-P2-*ma* NEUT.foot
 ‘[his] foot was burnt’

b. *nu-werrikv-dhadha*
 3m-chest-burn.P1
 ‘he’s burnt on the chest’

(10) a. *Warnvmamalya na-lharrk+baji-jungu-na-ma alhakba-manja dh-aka-mvrra*
 3a.people 3a-leg+hit-REFL-NP2-*ma* NEUT.leg-LOC FEM-this-INSTR
dh-adhv-m-amarda...
 FEM-f-INALP-leaves
 ‘People hit themselves on the legs with the leaves of this bush [*dhvrvra* ‘FEM.holly leaved pea flower’] (so that they can walk fast)’ (GED p.7)

⁴ This is, of course, not the case for the lexicalised complex stems in Chapter 5 that involve a body part or generic, as these are frozen forms. Also note that a “picture way” is still in use for body parts marked for inalienable possession (section 3.4.5.1), which do not refer to a body part but to an item that has similar properties, such as shape.

- b. *Nara ngu-ngurndvrrk+bajv-ma angurnda-manja!*
 NEG NEG-ankle+hit-NP3 NEUT.ankle-LOC
 ‘Don’t hit him on the ankle!’ (‘Children’ h17)

When a body part has a different grammatical relation to the verb than absolute, it cannot be incorporated. Body parts in oblique functions have to be realised outside the verb with a case suffix indicating their oblique role, such as location in (11a,b), or instrument (11c).

- (11) a. *Dh-akina dhakulyandhadha narrv-nga-lhamvra-ngv-ma arvngka-manja*
 FEM-that FEM.bunch.of.feathers.on.stick 3a-FEM-tie-P2-*ma* NEUT.head-LOC
 ‘They tied the *dhakulyandhadha* on their heads...’ (GED p.202)
- b. *Kemba a-mvrndak-akina nganyangwa-manja mangma nvng-akuma-rnv-ma ...*
 then NEUT-many-that 1.PRO.POSS-LOC VEG.mind 1/NEUT-put-P2-*ma*
 ‘Then I put those things in my mind...’ (‘A Trip South’ a77)
- b. *m-akina mangkurrkwa yingv-ma-mvrnda-ngk-ingkarrnga-rnv-ma akarrnga-ma=dha*
 VEG-that VEG.pandanus FEM-VEG-many-RDP-tear-P2-*ma* NEUT.tooth-INSTR=EMPH
 ‘she [*dhvngarrbiya* ‘FEM.crocodile’] kept on tearing the pandanus with her teeth’
 (‘Crocodile and Bluetongue’)

There are some examples of an incorporated body part in an oblique function, but these are lexicalised stems: the body part nominal cannot be omitted, the valency of the verb may be altered and it denotes an institutionalised activity (cf. Mithun’s 1984a Type I NI). Many examples involve the (suppletive) nominal *mangb-* ~ *mam-* ‘hand(s)’, as in (12b,c). When expressed outside the verb, the body part is in oblique case: LOC in (12b) and INSTR in (12c).

- (12) a. *Arakbawiya warnvmamalya warnungkwarba nuw-awiyebe-nv-ma*
 long.time.ago 3a.people 3a.man 3a-wear-P2-*ma*
nuw-akbal+dhamvrv-nv-ma yingalyika.
 3a-waist-tie-P2-*ma* MASC.hair.belt
 ‘A long time ago man wore hair belts around their waists.’ (GED p.202)
- b. *na-mangbi+lyungkwe-nv-ma ayarrka-kiya-manja*
 3a-hand+rub-P2-*ma* NEUT.hand-du-LOC
 ‘they rubbed it [fruit of *angkayuwaya* ‘NEUT.tamarind’] in their two hands’ (GED p.44)
- c. *Arakbawiya Warnindhilyakwa warnungkwarba na-mam+baji-nv-ma ngalha-lhangwa*
 long.time.ago W. 3a.man 3a-hands+hit-P2-*ma* VEG.PRO-POSS
amarda ayarrka-mvrra ...
 NEUT.leaves NEUT.hand-INSTR
 ‘A long time ago Warnindhilyakwa men used to rub their leaves [of *marija* ‘VEG.tar.vine’]
 with their hands ...’ (GED p.58)

The verbs *-dhamvra-* ‘tie’ in (12a) and *-lyungkwe-* ‘rub, paint’ in (12b) are normally transitive (cf. [11a]⁵ and [17], respectively). In the lexicalised compound stems in (12), by contrast, they are

⁵ The verb *-dhamvra-* has some interesting characteristics: firstly, the initial consonant varies between *lh* (in 11a) and *dh* (in 12a), with hardening of the lateral happening after a stop, as proposed in section 2.5.6. And secondly, the inflectional endings also vary: in (11a) the P2 suffix is *-ngv*, which is preceded by stem-final *a*, whereas in (12a) the P2 is *-nv* preceded by stem-final *v*. Only the former is listed in the dictionary. The latter ending could be an error, or it could indicate that the verb has switched conjugations.

intransitive. Lexicalised complex stems with an oblique body part are however not common. In the lexicalised complex stems that show some semantic transparency, the body part appears to belong to an absolutive argument, in line with the productively incorporated body parts.

Some Gunwinyguan languages allow incorporation of transitive subjects for verbs of pain or disease (Evans 1996: 86). These verbs have an inanimate agent (the disease or the body part) acting on a human or other object. In Mayali, for example, the verb *ga-* ‘take, carry’ has an idiomatic meaning and argument frame: ‘hurt (SUBJ: body part, OBJ: experiencer)’. When used with this meaning it may incorporate the hurting body part, which is the transitive subject of the verb, as illustrated in (13a). The same happens in Wubuy with verbs of pain or disease: for example, ‘[X] has a headache’ is expressed as ‘headache bites [X]’, and the subject ‘headache’ may be incorporated, as shown in (13b).

- (13) a. *An-yidme-ga-n.*
 3/1-tooth-carry-NP
 ‘My tooth is hurting me.’
 Mayali (Evans 1996: 86, ex. 77)
- b. *-ambam-ba-*
 headache-bite
 ‘[X] has a headache’
 Wubuy (Heath 1984: 473)

Pain and disease are similarly expressed in Enindhilyakwa by means of an idiomatic verb and argument frame. The transitive verb *-akbvrranga-* ‘find, reach’ selects the condition as its subject argument. The pronominal prefixes on this verb show an inanimate subject acting on a human object. In (14a) the inanimate agent is ‘headache’,⁶ and in (14b) it is ‘blood’.

- (14) a. *arakbawiya warnvmamalya narrak-akbvrranga-rnv-manja ekbarra...*
 long.time.ago 3a.people NEUT/3a-find-P2-LOC NEUT.headache
 ‘a long time ago when people had headaches...’ (Lit: ‘when headaches found people’) (GED p.36)
- b. *Kvrr-adhvdhiyara yikv-ngekburaka-jungu-na yikam-akbvrrangv-na-manja merra.*
 2a-girl IRR.2a-make-REFL-NP2 IRR.VEG/2a-find-NP2-LOC VEG.blood
 ‘You young girls have to be careful when you have your periods.’ (Lit: ‘when blood finds you’) (GED p.104)

In contrast to Mayali and Wubuy mentioned above, however, there are no attested examples of an incorporated nominal that is identified with the inanimate transitive subject. This could indicate a strong restriction on incorporable grammatical functions in Enindhilyakwa, which strictly excludes transitive subjects.

The pronominal prefix on the verb either encodes the possessor of the body part (the ‘whole’), as in (15), or the body part itself, as in (16) (the body part is not incorporated in every example).

⁶ An alternative way listed in the dictionary to express ‘I have a headache’ is *ne-k-barrv-na ekbarra nganyangwa* [NEUT-?-split-NP2 NEUT.headache 1.PRO.POSS] (Lit: ?‘my headache splits’).

- (15) a. *nenv-rak-ayi-ja* *mvrirra-ma* *akwa neni-lyang-bvrra-nga y-akina*
 3a/MASC-hollow-stand-CAUS.P1 VEG.back-INSTR and 3a/MASC-head-hit-P2 MASC-that
 ‘they laid the turtle [*yimendha*(MASC)] on its back and hit it on the head’ (GED p.171)
- b. *nanga-mvlk-arrnga-rna dh-akina ngalha-lhangwa mamvngba*
 3f/3f-hair-cut-P2 3f-that 3f.PRO-POSS VEG.hair
 ‘she cut her hair’
- c. *nenv-memvrrk-arrka-rnv-ma memvrrma*
 3m/3a-back.of.neck-pull-P2-*ma* VEG.back.of.neck
 ‘he strangled them [the children]’ (Lit: ‘he pulled their necks’) (‘Nvbardvbarda’ s57)
- (16) a. *Kembirra ne-beki-nv-ma m-akina ma-m-alyirra akena abvrra-lhangwa*
 then 3a-drink-P2-*ma* VEG-that VEG-INALP-liquid and 3a.PRO-POSS
mulkwa nvm-arrkujeeyi-nv-ma akwa nvmv-bvdhv-nv-ma.
 VEG.stomach VEG-be.painful-P2-*ma* and VEG-swell-P2-*ma*
 ‘Then they drank the liquid [of *marrvngmvrnvvrna* ‘VEG.quinine bush’] and their
 stomachs hurt and swelled.’ (GED p.7)
- b. *menba nvm-ebingkv-lharrv-ma yakujina*
 VEG.eye VEG-solid.and.round-fall.P1-*ma* over.there
 ‘her eye fell down over there’ (‘Rainbow Snake’)
- c. *Kembirra akv-m-ajirre-na-ma ngakurra-lhangwa menba vmba*
 then IRR.12a-VEG-wash-NP2-*ma* 12a.PRO-POSS VEG.eye and
aku-ngurru-mungkudhe-na-ma edhvrra ...
 IRR.12a/NEUT-mouth-rinse-NP2-*ma* NEUT.mouth
 ‘Then we wash our eyes or rinse our mouth...’ (GED p.10)

The object prefix in (15a) encodes a MASC object, agreeing with the possessor *yimendha* ‘MASC.turtle’. The prefix cannot represent the body part, because this is NEUT class (cf. *arvngka* ‘NEUT.head’). The same is true for (15b,c), where the body parts are VEG class nouns (*mamvngba* ‘VEG.hair’ and *memvrrma* ‘VEG.back of neck’, respectively), but the object prefixes in these examples agree with the wholes. In (16), by contrast, the subject prefixes in (16a,b) and object prefix in (16c) cross-reference the whole.

The choice of whether to represent the part or the whole in the pronominal prefixes of the verb is semantically motivated: encoding the possessor as the verb’s main argument makes it seem more affected than treating the body part as such. Hence in (15a), the desired effect of hitting the turtle on the head is to affect the turtle as a whole, rather than just its head. Cutting somebody’s hair (15b) does not affect just the hair but gives the whole person a new look. And strangling somebody, as in (15c), does not just affect their neck.

Cross-referencing the part, on the other hand, appears to occur if the intended effect of the action denoted by the verb concerns the part only. The example in (16a) tells about a liquid that women drink to avoid getting pregnant. This liquid is intended to affect their stomachs only, and not any other part of their being. In (16b), only the eye falls down, and not the possessor of the eye. And in (16c) we only wash our eyes, and we only rinse our mouths, which has no effect on us as whole beings.

The semantic contrast between treating the part or the whole as the main argument of the verb is illustrated once more in the following example, which has both constructions in one sentence. In the first verb, the part is encoded as the direct object argument, emphasising that the action denoted by the verb only applies to the part and does not affect the whole. This contrasts with the second verb, which treats the whole as the core argument, because affecting the part counts as affecting the whole:

- (17) *nenv-ma-ngv-ma* *y-aka-lhangwa* *yi-nv-mu-kwarnjirrema* *akwa narri-lyungkwe-nv-ma*
 3a/MASC-take-P2-*ma* MASC-that-POSS MASC-m-INALP-resin and 3a/NEUT-rub-P2-*ma*
abvrra-lhangwa-manja alhakba kajungwa nari=yadha karr-env-marnda-nga yarrnga
 3a.PRO-POSS-LOC NEUT.leg so.that NEG=PURP IRR.MASC/3a-stick-P2 MASC.leech
 ‘(when women went into the billabong) they took the resin from these trees [*yinvbarrnginja*
 ‘MASC.ghost gum’] and rubbed their legs so leeches wouldn’t stick on them’ (GED p.24)

Since rubbing their legs with resin of the *yinvbarrnginja* tree does not affect the women as a whole, the body parts are treated as an independent object. But when leeches stick on the women’s legs, this presumably does not just affect the part, but the women as whole beings (physically and psychologically).

Incorporation of the body part is independent of the semantic choice of whether to treat the possessor or the body part as the main argument of the verb: in both cases the part may be incorporated. In (17), for instance, the body parts are not incorporated, whereas in e.g. (15), (16b) and one verb in (16c) they are.

In BGW also, the part can be cross-referenced as the main argument of the verb rather than the whole, but this has slightly different semantics. In BGW it strongly implies separation, whether physical or cognitive (Evans 1996, 2003a). Furthermore, cross-referencing the part is very rare. The body part ‘teeth’ in (18) has direct object status; although they belong to the speaker, they have been pulled out by a dentist.

- (18) *abanmani-yidme-ga-n*, *aban-yidme-bukka-n*
 1/3du-tooth-take-NP 1/3pl-tooth-show-NP
 ‘I’ll take my two teeth and show them to everyone’ Mayali (Evans 2003a: 464, ex. 10.300i)

Treating the part rather than its possessor as the main argument is much rarer in BGW than in Enindhilyakwa: in BGW the two need to be separated, whereas in Enindhilyakwa the only effect is that the action affects the part, rather than the whole.

In the Gunwinyguan languages (e.g. Evans 1996, 2003a), as well as cross-linguistically (Mithun 1984a), incorporated nominals drop their affixes. This is true for Enindhilyakwa also, although it is not as obvious as in a language like Mayali, where an incorporated form is identical to the free form minus its noun class prefix (the free form of ‘tooth’ in [18], for example, is *gun-*

yidme, with noun class IV prefix *gun-*). Since the majority of incorporated body parts are suppletive, incorporated forms are not attested as free nominals. Yet the incorporated forms occur without a noun class marker, that is, they do not tend to begin with *m(a)-*, which could represent VEG class, or *y-* (MASC), *a-* (NEUT), and so on (cf. *lyang-* ‘head’, *ngurr-* ‘mouth’, *lharr-* ‘bones, leg’, etc.). In the few cases where the incorporated form *is* attested as a free form, it also occurs without its class prefix: examples are *mvrr-* ‘back of neck’ (cf. *me+mvrrma* ‘VEG+back of neck’ [8b]), *lhakba-* ‘leg’ (cf. *a+lhakba* ‘NEUT+leg’ [7a]) and *rvng-* ‘eye, head’ (cf. *a+rvngka* ‘NEUT+head’). I argued in Chapter 3 that the noun class prefix is synchronically inseparable from the noun stem, but the fact that incorporated nominals occur without this prefix suggests that it was once separable from the noun stem - as it still is today in neighbouring languages such as Wubuy (Heath 1984), Ngandi (Heath 1978a) and Ngalakgan (Baker 2008b).

In sum, body parts can be productively incorporated in Enindhilyakwa, obeying the common cross-linguistic patterns of being stripped of their noun class prefix (as far as we can tell), and the incorporable grammatical functions being restricted to intransitive subject and transitive object. The majority of incorporated body part nominals, however, are not attested as free forms (the suppletion issue is addressed further in section 7.6).

7.3 Incorporation of generics

A generic nominal root classifying an external specific nominal occurs in the same slot as an incorporated body part. In fact, it is often a body part noun root that has broadened its meaning to become a generic, describing the specific noun in terms of its inherent features. For example, *lhakbak-* in (7) above is used to refer to the body part ‘leg’ belonging to a human, or it can be used to describe an inanimate item as being ‘short and upright’.

Generics can be incorporated into verbs and adjectives, as was illustrated in (1b), (2b) and (7b) above. As with the incorporation of body parts, generic incorporation is optional, and the incorporable grammatical relations are restricted to the absolutive pattern. The generic *rrek-* in (19a) classifies an intransitive subject as being long and flexible, while in (19b) it classifies a transitive object. These examples also show that the external specific noun is optional; if the context is clear, it can be omitted (Waddy 1988; Leeding 1989).

- (19) a. *na-rrekv-rndangmv-na*
 NEUT-long.and.flexible-make.a.noise-P2
 ‘it [the wire(NEUT)] twanged’ (VL1 p.365)
- b. *nv-rrekv-rndangmi-ji-na*
 3m/NEUT-long.and.flexible-make.a.noise-CAUS-NP2
 ‘he is strumming it [the guitar(NEUT)]’ (VL1 p.362)

There are no attested examples of an incorporated generic corresponding to a transitive subject, or to an oblique nominal.⁷

Generics serve to classify external specific nouns. Consequently, the same specific noun can co-occur with a variety of generics, emphasising its different features, or providing a different perspective on a noun. In the following examples, *mvnhvnga* ‘VEG.burrawang’ is classified by *lyak-* as an ‘elongated solid’; by *lyang-* as ‘hard and round’; by *arrk-* as ‘small, round and many’; and by *embirrk-* as ‘round and flat’.

- (20) a. *mi-lyakv-babvrvngka* *mvnhvnga*
 VEG-elongated.and.solid-RDP.dry VEG.burrawang
 ‘pile of dry burrawang nuts’
- b. *mi-lyang-bvlhvrra* *mvnhvnga*
 VEG-round.and.hard-unfinished VEG.burrawang
 ‘unripe burrawang nuts, not ready to use’
- c. *m-arrk-inungkurakba* *mvnhvnga*
 VEG-small.and.round.and.many-old VEG.burrawang
 ‘many old burrawang nuts’
- d. *m-embirrk-ambilyvma* *mvnhvnga*
 VEG-round.and.flat-two VEG.burrawang
 ‘two crushed burrawang nuts’

Unlike with incorporated body parts, where either the part or the whole can be cross-referenced on the predicate, with the generic-specific construction only the external specific noun can be cross-referenced on the predicate. This is because incorporated generics only serve to categorise an external referent; they have no reference of their own (section 7.9) and have no corresponding free form. Thus, in Enindhilyakwa there are no pairs of examples involving an unincorporated and an incorporated generic, such as the following from Mayali:

- (21) a. *an-barnadja* *an-mim* *ngarri-bowo-ni*
 VEG-owenia.vernicosa VEG-fruit 1a-put.in.water-PI
 ‘we used to put the *owenia vernicosa* fruit in the water’ Mayali (Evans 1996: 73, ex. 27)
- b. *an-barnadja* *ngarri-mim-bowo-ni*
 VEG-owenia.vernicosa 1a-fruit-put.in.water-PI
 ‘we used to put the *owenia vernicosa* fruit in the water’ Mayali (Evans 1996: 73, ex. 26)

⁷ In Van Egmond (2008) I argued that incorporated generics (which I called classifiers) *can* be obliques. However, examples are few and far between, and they are also not clear-cut. For instance, *kuw-* in (i) could refer to ‘water’ and thence instantiate a locative oblique, but it could also be a shortened version of *kuwak-* ‘body’, in which case it represents the intransitive subject:

(i) *ngayuwa nvngu-kuw-arjeeya* *a-kuyak-bijina*
 1.PRO 1-?fluid/body?-stand.PI NEUT-river-beside
 ‘I was standing beside the river’ (‘Bujikeda’ y15)

I conclude for now that obliques cannot be incorporated in Enindhilyakwa and leave this issue for future research.

In (21a), the generic *an-mim* occurs external to the verb, while in (21b) it is incorporated. In Enindhilyakwa, generics only occur as incorporated forms (Dixon 2002: 427 notes the same for Tiwi).

The generic-specific relationship between the incorporated nominal and the external NP is reminiscent of *noun classifiers* (Aikhenvald 2000: 150). Noun classifiers categorise a noun and co-occur with it in a noun phrase (Aikhenvald 2000: 81). They occur in many of the world's languages and also in numerous Australian languages (for the Australian situation see e.g. Dixon 1982, 2002; Wilkins 1989; Sands 1995; Aikhenvald 2000; and the papers in Harvey & Reid 1997). The following examples come from Thai (22a), Jacalteco (22b) and Yidiny (Cape York) (22c).

- (22) a. *khru lâj khon*
 teacher three CL:PERSON
 'three teachers' (Allan 1977: 286, from Haas 1942)
- b. *xil naj xuwan no7 lab'a*
 saw CL:MAN John CL:ANIMAL snake
 '(man) John saw the (animal) snake' (Aikhenvald 2000: 82, from Craig 1992: 284)
- c. *minyã ganguul jana-ŋ jugi-il gubuma-la*
 CL:ANIMAL.ABS wallaby.ABS stand-PRES CL:TREE-LOC black.pine-LOC
 'The animal wallaby is standing by the tree black pine.' (Dixon 1982: 186, ex. 2)

In the Australianist tradition, noun classifiers are called 'generic classifiers' or 'generics' (Sands 1995: 269-70; Harvey & Reid 1997: 9-10; Aikhenvald 2000: 81). However, I will reserve the term 'noun classifier' for the classifiers that occur in noun phrases which are free forms, as in the above examples. Noun classifiers are absent in Enindhilyakwa. I will use the term 'generic' for the verb-incorporated generics as these are attested in some Northern Australian languages (and in other polysynthetic languages in the world; see Aikhenvald 2000: 170 for a map).⁸ Dixon (2002: 424) provides a detailed map of languages in Northern Australia that exhibit nominal incorporation, which include the majority of Gunwinyguan languages (Evans 1996), Tiwi (Osborne 1974), Marrithiyel (Green 1997), Murrinh Patha (Walsh 1997), Ngan'gityemerri (Reid 1997), and Enindhilyakwa. All of these languages can incorporate body part nouns, and some of them can also incorporate generics.

Noun classifiers and incorporated generics are both nominal classification systems. They differ from a third nominal classification system, noun classes, as the latter are grammaticalised bound forms, whereas noun classifiers and generics are (or at least can be) optional. Also unlike noun classes, noun classifiers and generics have meaning. The differences between noun classes, noun

⁸ Other names in the literature for verb-incorporated generics are: 'non-initial prefix' (Heath 1978a), 'compound initial' (Heath 1984), 'secondary prefix' (Worsley 1954b; Waddy 1988), 'verbal classifier' (Aikhenvald 2000), 'classificatory noun incorporation' (Mithun 1984, Rosen 1989).

classifiers and incorporated generics in Australian languages are listed in Table 7.1 (based on Dixon 1982, 1986; Sands 1995; Aikhenvald 2000).

	Noun classes	Noun classifiers	Incorporated generics
Size	small, closed class	large, semi-open class	
Realization	bound grammaticalised forms	free forms	bound forms
Scope	agreement on other constituents (e.g. on modifiers, verb)	no reference outside the noun phrase	classify an argument of the verb; no reference outside the verb phrase
Semantic basis	there may be some, but often the distribution of nouns into classes is arbitrary and the class of a noun must be listed in the lexicon	yes, often generic - specific relation with external noun (e.g. meat - kangaroo)	
Flexibility	can be inflexible; noun class of nouns is often fixed	one noun can be classified by several classifiers/generics, with a change in meaning (e.g. 'snake' can be classified as 'long and flexible', as 'meat', or as 'poisonous')	
Exhaustiveness	can be exhaustive: in some languages, every noun must take a class marker	not every noun needs to occur with a classifier/generic	

Table 7.1: Noun classes, noun classifiers and incorporated generics

In Enindhilyakwa, the differences between noun classes and incorporated generics are clear: the language has five noun classes, but there are about 80 different generics, listed in Appendix N. The noun class prefixes are grammaticalised agreement markers: they are obligatory parts of the noun lexeme, every noun (except loanwords) takes an overt class marker, and all modifiers agree in noun class with their head. The noun class of a verb's argument is also encoded in the verb's prefix. Incorporated generics, on the other hand, are optional. Their appearance is determined by semantics, not by inflectional properties of nouns with other constituents. Enindhilyakwa generics are not free forms, but they are incorporated into verbs and into adjectives, which include adverbials and numerals.⁹

In sum, generics can be productively incorporated into verbs and adjectives in Enindhilyakwa, with strong restrictions on the incorporable grammatical functions: obliques do not incorporate, nor do grammatical functions other than intransitive subject and transitive object.

⁹ Aikhenvald notes that numeral classifiers are absent from Australia (2000: 124). However, generics can be incorporated into numerals in Enindhilyakwa, as in (20d) and (23b) - and also, to some extent, in BGW (Evans 2003a: 127), and other Gunwinyguan languages (Brett Baker, p.c.). Nonetheless, since Enindhilyakwa numerals are adjectival (section 3.2.4), one could still argue that these are not true numeral classifiers like the Thai example above.

7.4 Polysemy

The majority of incorporated roots in Appendix N are polysemous between a body part reading and a generic reading. A body part belongs to a human or occasionally an animal, whereas a generic describes features of non-humans, which are most often inanimates but can also be animals. This polysemy is illustrated in the following examples. In (23a) the incorporated noun root *lhakbak-* refers to ‘leg’, but in (23b) it categorises a woomera as ‘short and upright’. The root *arr-* denotes ‘teeth’ in (24a), but it describes a collection of billycans as ‘small, round and many’ in (24b). *Lyang-* in (25a) refers to the body part ‘head’, while in (25b) it classifies a rock as being round and hard. In (26a), *adheng-* refers to a human face, whereas in (26b) it denotes the top of an inanimate object. And finally, *lharr-* in (27a) means ‘body’, and in (27b) it means ‘place’.

- (23) a. *nvngv-lhakbak-arrkujeeyi-na*
 1-leg-hurt-NP2
 ‘my legs are aching’ (= [7a])
- b. *yi-lhakbak-ambilyvma yikarba*
 MASC-short.and.upright-two MASC.woomera
 ‘two woomeras standing up’
- (24) a. *nvng-arrv-mardhv-na*
 1-teeth-hurt-NP2
 ‘I’ve got toothache’
- b. *yirrv-mvrndak-arrv-mvrndukw-a-ma bajikala*
 13a/NEUT-many-small.and.round.and.many-gather-P2-ma billycan(NEUT)
 ‘we gathered our billies’ (‘Awurukwa’ w36)
- (25) a. *nvngeni-lyang-barra*
 1/3m-head-hit.P2
 ‘I hit him on the head’
- b. *na-lyangk-arrnga awarnda*
 NEUT-hard.and.round-break.P1 NEUT.rock
 ‘the rock broke’
- (26) a. *ying-adheng-mvrrkulhvnga*
 3f-face-lie.NP1
 ‘she lies face down’
- b. *ying-adheng-baja-nga bajikala*
 3f/NEUT-top-hit-P2 billycan(NEUT)
 ‘she hit around the top of the tin’
- (27) a. *nenv-memvrrk-arrka-rnv-ma memvrrma nenv-lharrk+baja-ngv-mvrra*
 3m/3a-back.of.neck-pull-P2-ma VEG.back.of.neck 3m/3a-body+beat-P2-ma
 ‘he strangled them [the children] (Lit: ‘he pulled their necks’) and he beat their bodies’
(‘Nvbardvbarda’ s57-8)
- b. *a-lharr-ngekbvrna angalya*
 NEUT-place-good NEUT.place
 ‘good, tidy place’

The meanings of the body part and the generic are mostly clearly related: a leg is typically short and upright (the generic originates from the free form *alhakba* ‘lower leg’, which is short compared to the whole leg); teeth are small, round and many; rocks may be round and hard; and a face can be equalled to the top of something. In section 7.7 I will argue that the body part meaning appears to be the original meaning, and that the generic meaning has arisen through semantic extension. This is because firstly, some incorporated roots are formally similar to free body part nominals but not to free generic nominals (e.g. *lhakbak-* ‘leg, short and upright object’ in [23] compares to the noun *a+lhakba* ‘NEUT+leg’). And secondly, some incorporated forms correspond to free body part nouns in other languages. An example is *lyang-* ‘head, hard and round object’, which is related to the free forms *rlaang* ‘head’ in Wubuy and *rlong* ‘head’ in Ngandi (allowing for the sound changes discussed in Chapter 9: **rl > ly* in Enindhilyakwa being one of them).

Some Gunwinyguan languages also have polysemous incorporated body parts. Evans (1996: 78) lists three incorporated body part terms in Mayali that have extended their meaning to generics. These are *gun-gurlah* ‘skin’, which is also used to refer to ‘pelt, hide’; *an-mim* ‘eye’¹⁰, which can also mean ‘fruit, seed pod’; and *gun-ganj* ‘flesh, muscle’, which has the additional meaning of ‘meat’. Heath (1984: 467) lists ten incorporated nominals in Wubuy, mostly body parts, which have extended their meaning to include features related to the body part. Examples include *bira-* ‘back end, anus’, which can also mean ‘back (of anything)’; *rlang-* ‘head’, which can also refer to ‘mentality, emotion’; and *kwurrij-* ‘chest’ and ‘feelings, emotions’. As a free noun, these forms have a body part reading only in Wubuy.

Thus, whereas in some other languages only a few body parts have extended their meaning to a generic meaning, in Enindhilyakwa this has been taken to the extreme.

7.5 How to distinguish between incorporated body parts and generics

Sands (1995: 272) and Aikhenvald (2000: 151) note that in languages exhibiting both noun incorporation and incorporated generics, the decision of where to draw the line between the two is hazy. As has become clear from the previous sections, the incorporation of body part nouns and of generics in Enindhilyakwa is also very similar: they may use the same incorporated roots, both can occur without an external noun, and both leave the argument structure of the verb intact. Moreover, the grammatical relations between the incorporated nominal and the verb are the same in both cases: body parts belong to intransitive subjects or transitive objects, and generics classify intransitive subjects or transitive objects (recall that this is not the case for lexicalised noun+verb compounds, where the incorporated noun can bear a variety of grammatical relations to the verb).

¹⁰ Evans glosses both the body part meaning and the generic meaning of *an-mim* as ‘fruit, seed pod’ in his (1996) paper (p.78), as well as in his (2003a) book (p.334). I have corrected this mistake here, based on examples like *ngamim-baba-ng* ‘my eye hurts’, where *-mim-* is glossed as ‘eye’ (1996: 74, ex. 31).

In addition, generics can also refer to *parts* of external specific nouns. In most of the above examples a generic classifies a specific noun in terms of one or more of its physical features, such as being long, tall, round, flexible, and so on. Here, the part-whole relation is irrelevant. But in the following examples a generic refers to a part only of the external noun:

- (28) a. *nvmv-ngurrkv-dhidi-jungu-na mabalba*
 VEG-opening-close-REFL-P2 VEG.peanut.tree
 ‘the peanut tree seed pods closed’
 b. *wi-lyibvrrku-wurri-ya bajikala!*
 IMP.2a/NEUT-sharp.edge-discard-NP1 tin(NEUT)
 ‘throw the sharp-edged tin away!’
 c. *nvm-arrkv-lharree-yi-na mangkarrkba*
 VEG-small.and.round.and.many-fall-RECP-NP2 VEG.wild.plum.tree
 ‘*mangkarrkba* fruits are falling (because they are ripe and ready)’

The generics in these examples function like body parts, because they classify only a part of the external ‘whole’. And as for body parts, the ‘whole’ is encoded as the core argument on the verb and the ‘part’ is incorporated.

Conversely, body parts can lean towards a classificatory meaning in that they can refer to a group of different body parts:

- (29) *wurri-yukwayuwa aka-ngina-dhadhe-na-ma yina-manja akwa arnda-manja*
 3a-small.PL IRR.12a/3a-joint-poke-NP2-*ma* MASC.knee-LOC and NEUT.elbow-LOC
 ‘we will poke the children’s knees and elbows’ (GED p.138)

In this example, the body part *ngina-* ‘joint’ describes both ‘knees’ and ‘elbows’.¹¹

Body parts and generics can usually be distinguished by a difference in reference: body parts refer to parts of humans, whereas generics describe non-humans. But this semantic distinction can be blurred when the prefix on the predicate is ambiguous between a human and a non-human referent, and the incorporated nominal is ambiguous between a body part reading and a generic reading. The following is an example of this ambiguity.

- (30) *nara ngu-ngurndvrrk-bajv-ma*
 NEG NEGNP-ankle/fruit-hit-NP3
 ‘don’t hit me on my ankle!’ OR ‘don’t shake the fruit from the tree!’ (Fieldnotes DL 6/04/09)

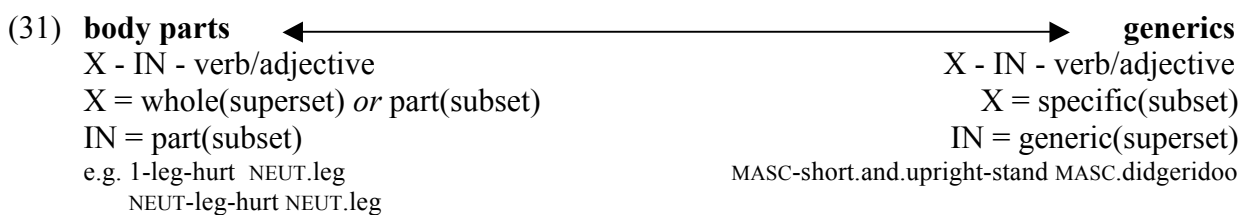
The negated non-past prefix *ng-* replaces the pronominal prefixes on the verb (section 4.2) and has no anaphoric reference. The incorporated root *ngurndvrrk-* can either denote an ankle of a human,

¹¹ The fact that the external body parts appear in LOC case here does not mean that they are obliques. I will argue in sections 7.10.1 and 8.5 that objects of verbs of surface contact such as ‘hit’, ‘poke’, etc. are differentially marked with LOC case, which is thus used as a grammatical case. So the generalisation that obliques do not incorporate in Enindhilyakwa still holds.

or fruit of a tree. This ambiguity can only be resolved by context (or by adding an external noun, such as *angurnda-manja* [NEUT.ankle-LOC] in [10b] above).

Incorporated body parts and generics thus overlap not just formally, but also semantically and structurally. They can therefore best be analysed as constituting a continuum, ranging from a clear body part meaning to a clear classificatory meaning. Incorporated nominals that have both a body part reading and a generic reading (which is the case for the majority of incorporated nominals) occur across the entire continuum, with the expected range of functions. Incorporated nominals that only have a body part reading, such as *lhabvrr-* ‘face, nose’ and *ngvrndarr-* ‘chin’, are restricted to one extreme end of the continuum. Those that only have a generic reading, such as *mak-* ‘place’ and *yak-* ‘river’ are restricted to the other extreme end. A continuum analysis can explain the range of uses of incorporated nominals, from referring to parts of humans, to parts of non-humans, and to (whole) inanimate items.

However, there are important asymmetries in this continuum. First of all, the type of element that is incorporated differs: in the part-whole construction, the incorporated element is the part, which we can call the *subset* (the ‘whole’ being the *superset*). By contrast, in the generic-specific construction the incorporated element is the generic, or the *superset* (the specific being the *subset*). And secondly, for the part-whole relation, the pronominal prefix on the verb can represent either the part (*subset*) or the whole (*superset*) (section 7.2). But in the generic-specific construction the prefix can only represent the external specific noun (*subset*). This asymmetry can be represented as follows (where X represents the prefix and IN the incorporated nominal).



Associated with the body part reading is the notion that the incorporated nominal represents a member of the subset. And associated with the generic reading is the notion that the incorporated nominal represents the superset, and that the pronominal prefix on the verb represents the subset. In between these two extreme ends of the continuum we find incorporated generics functioning as parts/subsets, as in (28), and body parts leaning towards a generic/superset usage, as in (29).

This asymmetry helps in restricting which nominals can incorporate. That is, a mechanism is required to rule out examples like *1-baby-hurts ‘my baby hurts’ and *2-house-big ‘your big house’. In this analysis these are ungrammatical because ‘baby’ is not a subset of ‘me’, and ‘house’ is not a subset of ‘you’.

Evans (1996) discusses a similar difference in which element is incorporated in the part-whole and generic-specific constructions in Mayali. He suggests that this asymmetry helps to explain why incorporating languages do not always use the same construction for the part-whole and generic-specific relations. Ngan'gikurungurr (Reid 1982), for example, allows incorporation of body parts but not of generics (Evans 1996: 102-3). On the other hand, Evans notes, the constructions are sufficiently similar to explain their recurrent morphosyntactic encoding in the world's languages: both involve thinking of one thing as another thing. In the generic-specific construction, one thinks of a specific entity X as a type of generic entity Y (e.g. 'snakes' are thought of as a type of 'long and flexible things', as are 'ropes', 'hoses', etc.). In part-whole constructions, when one thinks of a part X, one is bound to consider the existence of the whole Y (e.g. if one thinks of 'my leg', one will also think of 'me'). These common semantics help explain why the two constructions are treated in a grammatically identical way in Mayali, Enindhilyakwa and many other of the world's languages.

7.6 Suppletion and morphological reshaping

More than half of the 80 or so incorporated nominals in Appendix N are suppletive. The free noun that corresponds to the incorporated form *adheng-* 'face' in (26a), for example, is *amukurra* 'NEUT.face'. The incorporated form for 'place, camp' is *mak-*, contrasting with the free form *angalya* 'NEUT.place'. Generics in Gunwinyguan languages do not often exhibit such widespread suppletion. In the Bininj Gun-Wok dialect chain, for instance, most incorporated body parts and generics are identical to their free forms minus their noun class prefix (Evans 1996, 2003a). Mayali exhibits only one suppletive incorporated form, *bo-* 'water' (free form: *gukku*). Kune and Kuninjku have two suppletive incorporated forms: for 'water' (*kolk-* versus *kun-ronj*), and 'shit' (*kord-* versus *kudduk*). The only suppletive form in Ngalakgan is also the root for 'water' (free form *we?*, incorporated form *binyi-*) (Evans 1996: 105). In Ngandi, the incorporated form for 'water' is suppletive as well (*bun-* versus *(ku)djark*), but this language has seven additional suppletive forms, including the words for 'smell', 'taste' and 'behaviour' (Heath 1978a: 116). Wubuy is similar to Enindhilyakwa in having about fifty cases of suppletion, a third of which are body parts, and which also includes the incorporated root *ar-* 'water' (free forms *gugu* 'fresh water' and *lhagayag* 'salt water') (Heath 1984: 465). However, many incorporated forms are formally very similar to their cognate noun in Wubuy, which is not the case in Enindhilyakwa. In Tiwi (a language isolate) verb-incorporated generics are also distinct from their free forms (e.g. *mangu-* 'fresh water' vs. *kukuni*; *keli-* 'eye' vs. *pithara*) (Osborne 1974: 46-50, cited in Sands 1995: 273).

The following examples from Mayali and Wubuy illustrate the frequent formal similarity of incorporated and free forms. The Mayali incorporated generic *dulk-* in (32a) represents the noun *kun-dulk* ‘tree’, and Wubuy *rnuga-* in (32b) represents the noun *mana-rnuga* ‘stone’.¹² The incorporated forms occur without their class marker.

- (32) a. *Gabani-dulk-di an-dubang.*
 3uaNP-tree-stand.NP VEG-ironwood
 ‘Two ironwood trees are there.’ Mayali (Evans 1996: 80, ex. 43)
- b. *ma-rnuga-ngu-burra mana-rnuga*
 VEG-stone-linker¹³-sit.NP2 VEG-stone
 ‘the stone sits’ Wubuy (Heath 1984: 464, ex. 14.ii)

In Enindhilyakwa, such formal similarities between an incorporated and a free form are very rare. For example, the free noun *eeka* ‘NEUT.tree, wood, stick’ can be represented by a variety of incorporated generics, none of which resemble the noun. These generics emphasise different features of a tree, such as its shape: ‘tall’ in (33a), ‘flat’ in (33b), or ‘short and fat’ in (33c), to name a few. Alternatively, a generic can refer to the foliage of a tree (33d), or its bark (33e).

- (33) a. *a-lhvnga-dhvrralhvnga eeka*
 NEUT-tall.and.standing-heaped.up NEUT.tree
 ‘tall and lumpy tree (with lumps protruding from the trunk)’ (JS2 p.135)
- b. *a-biyakarbiya a-rembv-remberr-bvrra eeka*
 NEUT-three NEUT-RDP-flat-wide NEUT.tree
 ‘three flat pieces of wood’ (GED p.196)
- c. *a-rrakv-rrakv-dharrba eeka*
 NEUT-RDP-short.and.fat-short NEUT.tree
 ‘short, fat pieces of wood’
- d. *na-lhungku-warri-ji-na arrvrra*
 NEUT/NEUT-foliage-move-CAUS-NP2 NEUT.wind
 ‘the wind is shaking the tree’ (Ansec2)
- e. *narrv-ma-rija-ngv-ma mv-ngarrkv-wurrvmalyi=yadha*
 3a-VEG-rub-P2-ma VEG-rough.skin-smooth=PURP
 ‘they rubbed it [*membvrrkwa* ‘VEG.ironwood tree’] to make it smooth’ (GED p.197)

These examples show that generics add nuances to the meaning of the external nominal. In (33a), *lhvnga-* specifies that the tree is tall; *remberr-* in (33b) tells us that the wood is flat, and so on. Such is the typical semantic function of noun classifiers/generics (Aikhenvald 2000: 84).

Interestingly, the generic *ika-* ‘fire, firewood, glowing things, light source’ is formally similar to the noun *eeka* ‘NEUT.tree, wood, stick’, minus its NEUT noun class prefix *a-* (cf. rule P-6: /a/ + /i/ > [e]). This generic has cognates in (at least) two other languages: the suppletive incorporated root

¹² Heath (1984: 464) rather unenthusiastically suggests some sort of copying rule for Wubuy, according to which the root of an external NP is copied into the verb or predicative adjective. He acknowledges however that this rule would run into problems for the suppletive forms.

¹³ This ‘linker’ is a meaningless epenthetic element inserted at certain morpheme boundaries before a stop (Heath 1984). This morpheme may be cognate to the Enindhilyakwa ALP prefix *ng-* (section 3.4.5.3).

Free form	Incorporated form	Body part meaning	Generic meaning
<i>alhakba</i> ‘NEUT.leg’	<i>lhakba-</i>	‘leg’	‘short and upright’
<i>angvrnda</i> ‘NEUT.chin’	<i>ngvrndvrr-</i> ~ <i>ngvrndarr-</i>	‘chin, jaw’	-
<i>angurnda</i> ‘NEUT.ankle’	<i>ngurndvrr-</i>	‘ankle’	?’fruit’
<i>arnda</i> ‘NEUT.elbow’	<i>arnda(k)-</i> ~ <i>arndvrr-</i>	‘elbow’	‘outside edge’
<i>arra</i> ‘NEUT.forehead’	<i>rra-</i>	‘forehead’	‘short, fat, sticking out’
<i>(mv)mvilha</i> ‘VEG.nostril hair’	<i>mvilh-</i>	‘hair’	‘grass’
<i>yingamba</i> ‘MASC.groin’	<i>amba-</i> ~ <i>ngamba-</i>	‘groin’	‘hollow, shallow open U-shape’
<i>yiraka</i> ‘MASC.didgeridoo, trachea’	<i>ra-</i>	‘trachea’	‘hollow and round’
<i>amungkurra</i> ‘NEUT.cheek’	<i>mungskurr-</i>	‘cheek, eye, face’	‘(heap of) round things’
<i>alhvka</i> ‘NEUT.foot’	<i>lhvkarr-</i>	‘tracks’	‘road, canoe’
<i>arvngka</i> ‘NEUT.head’	<i>rvng-</i>	‘eye’	‘house’
<i>memvrrma</i> ‘VEG.back of neck’	<i>mvrr-</i> [ex. 8b] <i>memvrr-</i> [ex. 28a]	‘back of neck’	-

Table 7.2: Incorporated generics formally similar to free body part nouns

Many incorporated forms in this table and in Appendix N end in *-rr*. In the more transparent forms this segment appears to be a suffix, as in *ngurndvrr-* ‘ankle’ (cf. *angurnda* ‘NEUT.ankle’) and *lhvkarr-* ‘tracks’ (cf. *alhvka* ‘NEUT.foot’). This suffix could be analysed as an archaic marker of incorporated nouns.

When the following stem starts with a vowel, liquid or glide, /k/ is inserted between a productively incorporated nominal and its host. This happens regardless of whether the incorporated nominal ends in a vowel or in a consonant. An epenthetic vowel is inserted after the epenthetic /k/ when this is followed by a liquid or glide (rule P-1). No /k/ is inserted when the following stem starts with a stop or nasal. The /k/ insertion rule is formalised in (35) and illustrated in (36).

(35) /k/-insertion: $\emptyset \rightarrow k / X- ___ [+continuant]$
where X- is a productively incorporated nominal

(36) a. *mv-ngarr-balhvwalha madha*
VEG-ear-wide VEG.ear
‘ears sticking out (teasing)’
b. *a-ngarr-mvlhv-mvlha*
NEUT-rough.skin-RDP-coarse
‘metal rasp’

(VL1 p.151)

- c. *dh-embirri-jvrrvrra dh-adhv-mamuwa*¹⁵ *jukujuku-lhangwa*
 FEM-round-long FEM-f-round chicken(FEM)-POSS
 ‘ovoid egg of a chicken’ (JS2 p.133)
- d. *nvmv-ngarrki-yindhe-na madha*
 VEG-ear-hurt-NP2 VEG.ear
 ‘ear is hurting’
- e. *nvmv-ngarrki-lyangbadhv-na mijiyanga*
 VEG-rough.skin-anchor-NP2 VEG.ship
 ‘the ship is anchored’ (WD)
- f. *akv-nv-lhabvrrkv-rrvngkv-na-ma*
 IRR.12a-3m-face-see-NP2-*ma*
 ‘we will see him face to face’
- g. *nvngv-ngarrk-awarriya amakulya*
 1-rough.skin-bad NEUT.skin
 ‘I have dry scaly skin’

The stem begins with a stop in (36a,c), a nasal in (36b), a glide in (36d), a lateral in (36e), a rhotic in (36f), and a vowel in (36g); /k/ only appears in the latter four as predicted by the rule in (35).¹⁶

An alternative analysis is that /k/ is the final consonant of the incorporated nominal, which is deleted when the following stem begins with a stop or nasal. However, Wubuy has a similar phonological rule to the one in (35), suggesting that /k/ insertion is a common phonological process in the two languages. In Wubuy /k/ is inserted between an incorporated nominal or derivational prefix and a stem starting with a vowel (Heath’s 1984 “Velar Insertion rule”). An example is the verb root *-abi-* ‘to jump’, which, when combined with the derivational prefix *ngarrarn-* ‘multiple’, becomes *-ngarrarn-kabi-* (ibid p.48). The precise conditions for /k/ insertion differ in the two languages: in Wubuy, the incorporated morpheme has to end in a stop or nasal and the following stem has to begin with a vowel, whereas in Enindhilyakwa the only condition for /k/ insertion is that the following stem begin with a continuant.¹⁷

¹⁵ The adjective *-mamuwa* is most likely a lexicalised inalienable possession construction, which explains the appearance of the feminine gender prefix *-adh*, which normally only occurs with derived nouns (see section 3.4.5.1 for a description of the INALP construction). I propose this form to be lexicalised because: (i) it can incorporate a generic (e.g. *arrk-amamuwa* [NEUT.small.and.round.and.many-round] ‘tablets’ (WD), and (ii) it can take another INALP prefix (e.g. *a-m-amamuwa jinaba* [NEUT-INALP-round gun(NEUT)] ‘bullet’ [JS2 p.132]).

¹⁶ There are a few cases in which a /k/ occurs before a stem-initial stop, such as *n-arndak-biyiya* [3m-elbow-big] ‘big, strong, muscly man’ and *nvm-arrk-ba-ma* [VEG-small.and.round.and.many-hit.p2-*ma*] ‘a wave hit [the boat(VEG)]’. Since there is no motivation for epenthetic /k/ here, this suggests it is underlying.

¹⁷ Another reason for assuming that /k/ is inserted in certain environments rather than deleted in others, could be that it may correspond to the glottal stop /ʔ/ that appears at certain morpheme boundaries in a number of Gunwinyguan languages. The glottal stop (orthographic symbol: *q*) is phonemic in all Gunwinyguan languages except Wubuy (Harvey 2003a), and Enindhilyakwa (see Chapter 2). Harvey (2003a: 218), following Trubetzkoy (1969: 275-9) analyses *q* as a boundary signal in the Gunwinyguan languages (see also Baker 2008a). He reconstructs **q* with a boundary-marking function for nominal roots in the eastern Gunwinyguan languages. The fact that epenthetic *k* appears at the same position in Enindhilyakwa and Wubuy could mean that it is related to the eastern Gunwinyguan **q*. The fact that epenthetic *k* is phonologically conditioned in Enindhilyakwa and Wubuy could indicate phonological erosion: only traces of **q* are left in these languages, in specific phonological environments.

Final nasals of incorporated roots that fail to be marked with /k/ frequently assimilate in place to the following consonant.¹⁸ This is illustrated here for the generic *abvrrvng-* ‘fluid’.

- (37) a. *abvrrvngk-awarriya engeemina*
 NEUT.fluid-bad NEUT.breast
 ‘bad tasting breast milk’ (Ansec2)
- b. *nuw-abvrriny-jalhe-na*
 NEUT-fluid-hang.out-NP2
 ‘fluid leaking out’ (Ansec2)
- c. *m-abvnh-dhebvrra makarda*
 VEG-fluid-empty VEG.sea
 ‘empty sea’ (JS2 p.142)

In (37c) the generic is further reduced, losing an entire syllable. The following are some more examples of reduction of generics: the root *mangbvrr-* ‘hand’ is reduced to *mangb-* ~ *mamb-* in (38a) and to *man-* in (38b) (here, the final nasal assimilates to the following lamino-dental stop).

- (38) a. *ying-akv-mamb~mangb~mangbvrrk-ardharrv-ma*
 3f.O-NEUT.S-hand-jab.P1-*ma*
 ‘it [stick(NEUT)] jabbed her hand’
- b. *ying-akv-manh-dhadhv-ma*
 3f.O-NEUT.S-poke.P1-*ma*
 ‘it [stick(NEUT)] poked her hand’

Such drastic and widespread phonological reduction is not common in the Gunwinyguan languages. In Biniñ Gun-Wok, for instance, most incorporated nominals are identical to their free forms minus their noun class prefix, with only some minor phonological changes (Evans 2003a).

7.7 Origin of generics

There are reasons to believe that incorporated generics may have developed from body part nominals through semantic extension. First of all, as repeatedly mentioned, a generic may be formally identical to an incorporated body part, and have a related meaning: *ngarr-*, for instance, refers to ‘ear’ and also to ‘items with rough skin’ (e.g. bark, reptiles, etc., as in [33c,e,g]). Secondly, only incorporated body part nominals may have attestations as free forms (although the majority is suppletive). Examples were given in Table 7.2 above. Incorporated generics are not attested as free nouns in Enindhilyakwa.¹⁹ Thirdly, some of the Enindhilyakwa suppletive incorporated body parts correspond to free forms in other languages. I already mentioned *lyang-* ‘head’, which is related to the free forms *rlaang* ‘head’ in Wubuy and *rlong* ‘head’ in Ngandi. Table 7.3 presents the correspondences that this study has uncovered of Enindhilyakwa

¹⁸ Assimilation of nasals to following consonants also happens in Wubuy: cf. Heath’s (1984) rule P-27.

¹⁹ With the exception of *ika-* ‘fire’ discussed in the previous section, which related to the noun *eeka* ‘NEUT.tree’. Based on correspondences of *ika-* in other languages (e.g. Wubuy *yika-* ‘fire’), however, I suggested that the incorporated form is archaic, and that the free noun *eeka* ‘NEUT.tree’ is derived from it.

incorporated body parts to free body part nouns in Wubuy (Heath 1982, 1984) and proto-Gunwinyguan (pGN) (Harvey 2003a).²⁰

Enindhilyakwa incorporated body part	Wubuy free body part	pGN free body part
<i>lhabvrr-</i> ‘face, nose’	<i>dhaarrak</i> ‘beard’	* <i>dhawarrak</i> ‘beard’
<i>lyang-</i> ‘head’	<i>rlaang</i> ‘head’	* <i>rlong</i> ~ * <i>long</i> ~ * <i>rong</i> ‘head’ (Ngal: <i>rlong</i> ‘head’; Ngai: <i>rong</i> ‘chin, face’)
<i>yeng-</i> ‘voice’	<i>yang</i> ‘voice, sound’	* <i>yang</i> ‘language’
<i>lharr-</i> ‘bones, leg’	? <i>lharrbij</i> ‘leg’	* <i>dharr</i> ‘thigh, leg’
<i>werri-</i> ‘chest, emotions’	<i>wurrij</i> ‘chest, emotions’	
<i>mvrr-</i> ‘face, eye, cheek’	<i>yimurrk</i> ‘nose’	
<i>marrang-</i> ‘hands’	<i>marang</i> ‘hands’	

Table 7.3: Enindhilyakwa incorporated body parts corresponding to free forms in Wubuy and pGN

These correspondence sets suggest that the incorporated body parts in Enindhilyakwa are archaic, as they are also found in other languages. Their generic meanings (if present, see Appendix N) then developed later by semantic extension. Body parts are a semantic subgroup of nouns that frequently develop into generics/classifiers cross-linguistically (Aikhenvald 2000: 353). The fact that not all body parts have undergone a meaning extension, such as *lhabvrr-* ‘face, nose’ and *marrang-* ‘hands’, which only have a body part meaning, supports this hypothesis. Only in Enindhilyakwa have the free forms frequently been replaced, as suggested in section 7.6.

The meaning extension of body parts to generics is reminiscent of the semantic shift of body parts marked for inalienable possession (INALP) discussed in section 3.4.5.1 (Table 3.3), though in most cases the resulting meanings in the two constructions are different. For example, the body part ‘head’ marked for INALP refers to the top of something (e.g. *dh-adhv-m-arvngka dvrija* [FEM-f-INALP-NEUT.head dress(FEM)] ‘dress bodice’). As an incorporated generic, on the other hand, ‘head’ describes items as having a similar shape and hardness (such as *angwarnda* ‘NEUT.rock’ in [25b]). Another example is the noun *yukudhukudha* ‘MASC.chest’: when marked for INALP it refers to a convex shape (e.g. *a-mi-yukudhukudha alhvka* [NEUT-INALP-MASC.chest NEUT.foot] ‘ball of foot’), whereas as a generic it refers to emotions (‘chest’ being the seat of emotions, as in many Australian languages). In other cases the meaning extensions of the body parts in the two constructions have had similar results. The nominal ‘lips’, for instance, refers to a thin lining of something, whether marked for INALP (e.g. *ma-m-alyelyikba menba* [VEG-INALP-NEUT.lips VEG.eye] ‘eyelid’), or as an incorporated generic. More similarities can be found when comparing Table 3.3 and Appendix N. Note that the INALP construction uses free nouns that maintain their noun class prefix, whereas noun incorporation often uses forms that are not attested as free forms.

²⁰ These correspondences involve a number of regular sound changes, to be discussed in detail in Chapter 9. Some of the changes exhibited here are: **dh* > *lh* and **rl* > *ly*.

This indicates that INALP is synchronically more productive than noun incorporation - as was suggested in Chapter 3.

Some incorporated generics lack a body part meaning. These roots are of two types (see also Leeding 1996: 201). One type has a noun-like meaning, such as *mak-* ‘place, camp’ (free form: *angalya*); *yak-* ‘river’ (free form: *adhalyvma*), *merrk-* ‘sun, full moon’ (free forms: *mamawura* ‘VEG.sun’, *yimawura* ‘MASC.moon’); *ika-* ‘fire, light source’ (free forms: *angura* ‘NEUT.fire’, *ekalhara* ‘NEUT.burnt off bush’, etc.); *lharrngk(w)-* ‘things’ (which lacks a corresponding free form); *anjalk-* ‘cloth’ (free form: *dhanjalka* ‘FEM.old women’s dress’). An example of each is given below. The fact that the root-final /k/ is also present when followed by a stop or nasal indicates that it is underlying, and not inserted by the phonological rule proposed in (35) above.

- (39) a. *a-mak-balhuwalha angalya*
 NEUT-place-wide NEUT.place
 ‘wide place’ (Ansec2)
- b. *eeka a-yakv-bidjina adhalyvmv-manja*
 NEUT.tree NEUT-river-beside NEUT.river-LOC
 ‘tree beside the river’ (JS2 p.106)
- c. *me-merrk-bvddha mamawura*
 VEG-round-strong VEG.sun
 ‘strong light/sun’ (Ansec2)
- d. *ne-ka-barrv-na angura*
 3m/NEUT-fire-split-P2 NEUT.fire
 ‘he split the fire in half’ (Ansec2)
- e. *a-lharrngkv-lharrngkv-dharrba*
 NEUT-RDP-things-short
 ‘many short things’ (VL1 p.154)
- f. *nara anjalk-abvrrv-ma dhvrija*
 NEG NEGNP.cloth-put.down-NP3 dress(FEM)
 ‘don’t put the dress down’ (Ansec2)

Some Enindhilyakwa generics have correspondences in other languages that are free nouns, listed in Table 7.4.

Enindhilyakwa incorporated generic	Wubuy free noun	pGN free noun
<i>akbal-</i> ‘plain, flat area’	<i>abarla</i> ‘plain, flat area’	* <i>kabbal</i> ‘plain, flat area’
<i>mvnjvrr-</i> ‘skin, body, bark, leaves’	<i>manjarr</i> ‘leaves’	* <i>manjarr</i> ‘leaves’
<i>jalk-</i> ‘ground’		* <i>jolkko</i> ‘ground’
<i>ika-</i> ‘fire’	<i>yika-</i> ‘fire’ (incorporated form)	
<i>mak-</i> ‘place, camp’		(Wambaya: <i>maka</i> ‘camp’ [Jane Simpson, p.c.])

Table 7.4: Enindhilyakwa incorporated generics corresponding to free nouns in other languages

In this table we find one body part meaning that appears to have developed from a generic meaning, which is the reverse direction from the one proposed above: *mvnjvrr-* ‘skin, body, bark, leaves’ is conceivably related to pGN **manjarr* ‘leaves’. If this is correct, it indicates that semantic extension may have taken place in two directions: body part > generic, and generic > body part. However, the former shift is much more common than the latter.

The second type of generic that is unrelated to a body part classifies a variety of nouns according to their shape. Examples include *embvrr-* ‘round’; *alh-* ‘long and thin’; and *rrek-* ‘long and flexible’:

- (40) a. *m-embvrr-mvrdha*
 VEG-round-dark
 ‘dirty VEG class round thing, e.g. plate’ (VL1 p.149)
- b. *al-jvrrvrra* *amarda*
 NEUT.long.and.thin-long NEUT.grass
 ‘long grass’ (= [2b])
- c. *nvngv-rrek-abvrra* *hose*
 I/NEUT-long.and.flexible-put.down.P1 " (NEUT)
 ‘I put the hose down’

Presumably due to their semantics, Leeding (1989, 1996) claims that these roots are incorporated adjectives. However, this is unlikely, as adjectives do not tend to develop into generics/classifiers cross-linguistically (Aikhenvald 2000: 353). These forms are not cognate with free adjectives, and there is no other evidence of adjectives being incorporable in Enindhilyakwa. Therefore I suggest that these incorporated roots derive from incorporated nouns, just like other generics do. This is supported by the existence of apparent cognates in Wubuy: *embvrr-* ‘round’, for example, may be cognate with Wubuy *amburru* ‘rainbow’, and *amba-* ‘hollow’ may be related to Wubuy *ramba* ‘boat, canoe’. However, often the origin of generics that describe shape but that do not derive from a body part is unclear.

In sum, I propose that Enindhilyakwa provides evidence for Mithun’s (1984a) proposal that verb-incorporated generics originate from noun incorporation (see also Sands 1995: 274): one main source of incorporated generics in Enindhilyakwa is body parts. These have extended their meaning and can now be used to classify inanimate objects according to one or more of their features (these can be inherent features, such as its shape, or a generic can bring out features that are not necessarily inherent but provide a different perspective on the object). Generics may also have originated from the incorporation of a generic noun. This is suggested for a handful of suppletive forms, e.g. *mak-* ‘place, camp’; *yak-* ‘river’; and *ika-* ‘fire’, which may have correspondences in other languages and which are the kind of generics that typically incorporate in other languages (see e.g. Evans 2003a for BGW). The origin of the remaining generics is less clear because of the absence of cognate nominals, language-internally as well as in other languages.

7.8 Semantics of generics

The use of generics to classify nouns offers us a unique insight into how people categorise the world through their language (Aikhenvald 2000: 5). Royen (1929) points out that nominal classification systems do not classify in an abstract-logical way, as language is not a strictly logical system, but rather a psychological event that is more than just speculative logic. Therefore, an interdisciplinary approach - including anthropology, psychology and sociology - is a requirement for any research and analysis of generic systems (Royen 1929, cited in Senft 2000: 25).

An interdisciplinary approach does not lie within the scope of this thesis, but we can ask ourselves what do we actually do when we try to describe and analyse the semantic domains of generics? Senft (2000: 25-6) observes that we usually start by labelling semantic domains according to certain (presumably universal) features including humanness, animacy, sex, shape, size, and so on. The danger is that this ordering results in ‘static’ semantic domains that we treat as if they were static wholes that were actually to be found in the language - but they are just the result of our pre-analytical classifications. It is tempting to present a nicely ordered system of semantic classification, Senft states, but this does not represent the reality of the actual linguistic system to be described. The actual system is a dynamic one, displaying a dynamic interaction between the semantic domains. The semantic domains thus have fluid boundaries and generic/classifier categories have fuzzy edges and graded membership (Craig 1986: 1).

The fuzzy category edges of generics are also evident in Enindhilyakwa. Generics can classify a variety of nouns, which sometimes seem to have no common semantic ground. Consider for example *mvlh-*, which can refer to ‘hair’, ‘head’, ‘mind’, ‘stone’, ‘feathers’ and ‘tealeaves’:

- (41) a. *ma-mvlkv-mvrhadha mamvngba*
 VEG-hair-bright VEG.hair
 ‘fair hair’
- b. *nenv-mvlhvk-ba-mvrra enungkwa-mvrra*
 3m/3m-head-hit.P2-*ma* NEUT.spear-INSTR
 ‘he hit him in the middle of the head with a spear’
- c. *ma-mvlhvk-ambilyuma mangma*
 VEG-mind-two VEG.mind
 ‘two minds’
- d. *nvmv-mvlhvk-ardji-na-mvrra malharra*
 VEG-stone-be.upright-NP2-*ma* VEG.stones
 ‘stones piled up’
- e. *wurrv-mvlk-awarriya*
 COLL-feather-bad
 ‘out of shape feather’ (*wurrajija* ‘COLL.bird’)
- f. *na-mvl-kwa-ji-na*
 3a-long.and.thin-give-RECP-NP2
 ‘they leave tea leaves in bucket, or hair standing out’

(WD)

The large range of meanings of this root could be due to various meaning extensions, all diverging from the basic body part meaning ‘hair’:^{21,22}

- (42) hair → head → round and hard → stone
 hair → head → mind
 hair → feather
 hair → long thin things like tealeaves

Determining the semantics of generics is thus not an easy task. The meanings listed in Appendix N are based on the work of Leeding (1989, 1996), and, especially, the unpublished ‘ANindilyakwa SECondary roots’ files (Ansec1 and Ansec2) - combined with my own fieldwork and study of the data. The basic meaning of most generics involves shape. This is especially the case for generics that originate from body parts, as they denote a shape related to the shape of the body part. Other physical features expressed by generics are size, flexibility and hardness. Enindhilyakwa thus conforms to Friedrich’s (1970: 404, cited in Senft 2000: 24) characterisation that the feature ‘shape’ is the ultimate semantic primitive. Generics give subtle nuances to the expression of shape:

- (43) a. *y-embirrkv-mamuwa yimendhv-lhangwa*
 MASC-round-egg MASC.turtle-POSS
 ‘the round egg of a turtle’ (JS2 p.133)
- b. *dh-embirri-jvrrvrra dh-adhv-mamuwa jukujuku-lhangwa*
 FEM-round-long FEM-f-egg chicken(FEM)-POSS
 ‘the ovoid egg of a chicken’ (= [31b])

Evans (1996: 78) notes that the incorporated root *guk-* ‘body’ in Mayali, though basically a body part, can sometimes be used as a sort of dummy generic, to make up for the lack of a generic for humans or animates. The incorporated body part *ruk-* in Enindhilyakwa seems to have a similar function. This root means ‘foot’ in (44a), and, by extension, ‘body of creature with feet’ in (44b) and ‘body’ in general, in which case it can also refer to inanimates, as in (44c). This root can also be used as a dummy generic referring to humans, where it is bleached of this meaning (45).

- (44) a. *na-ruku-dhadhv-nv-mvrra alhvka*
 NEUT-foot-burn-P2-*ma* NEUT.foot
 ‘his foot was burnt’
- b. *nga-ruku-dhakv-na dharruwurukukwa*
 IMP.2/FEM-body-cook-NP2 FEM.dove
 ‘cook the doves!’ (JW p.169)

²¹ Note the existence of the generic *alh-* ‘long and thin things’ (e.g. ‘grass’ in [40b] above). This root is conceivably related to *mvlh-*, the latter possibly involving an archaic VEG class prefix *m-*, and the former a NEUT class prefix *a-*.

²² An alternative explanation for this polysemy is that ‘head’ is the basic meaning from which the other meanings derive: head → hair → “hair” of tree → leaf, and head → hair → body hair → feather. I thank Maïa Ponsonnet for pointing out this possibility (email, 13/12/2011).

c. *wu-ruku-warrukwa-ji-ya* *bread*
 IMP.2a/NEUT-body-move-CAUS-NP1 " (NEUT)
 'turn over the bread!'

- (45) a. *nv-ruki-lyuwaka-jungu-nv-ma*
 3m-body-circle-REFL-NP2-*ma*
 'he is going around and around in circles' (JS2 p.130)
- b. *yirrv-mvrndakv-ruk+bijangee-yi-na*
 13a-many-body+jump-RECP-P2
 'we all jumped off' (VL1 p.467)
- c. *yingu-ruk-awiyeba dh-akina-lhangwa-manja*
 3f-body-enter.P2 3f-that-POSS-LOC
 'she went into her [poison cousin's house]' ('Crocodile and Bluetongue')

The incorporated form *ing-* appears to be used for unspecified things (Leeding 1989: 194; Waddy p.c.), including "whatsit".²³ The use of this root is illustrated in the following example, where the narrator is watching an animal that is running some distance away.

- (46) "*Yirukujilhangwa=bu*", *nvngi-yama=dha. Nvng-andheeya akena ngalha-ja*
 MASC.bandicoot=MIST.TH 1-say.P2=TRM 1-look.P2 but NEUT.PRO-CofR
ne-ng-bijangi-na.
 NEUT-UNSPEC-jump-P2
 "It's a bandicoot", I thought [but it wasn't]. I watched, and it jumped.' ('Bujikeda' y18-21)

Finally, reduplication of a generic expresses plurality, as in (39e) above and (47a), or intensification (47b).

- (47) a. *a-rrakv-rrakv-dharrba* *eeka*
 NEUT-RDP-short.and.fat-short NEUT.tree
 'short, fat pieces of wood' (Ansec2)
- b. *a-lhungku-lhungku-wilyarra*
 NEUT-RDP-foliage-middle
 'middle of dense foliage' (VL1 p.159)

²³ According to Leeding (1989), *ing-* can also instantiate the nominaliser (*ng*)*kw-* or adjectiviser (*ng*)*k-* prefix (the *i* vowel presumably being generated by a number of phonological rules). She claims that when the identity of an incorporated object is unknown, due to distance or darkness, the nominaliser or adjectiviser can be substituted for the incorporated root, as in the following example. (This claim is cited in Sands 1995: 272-3).

- (i) *n-ingk-arrngv-na*
 3m-ASR-chop-P2
 'he chopped it' (VL1 p.363)

However, in section 3.4.6 (fn38) I argued that there is no evidence for the existence of an adjectiviser in Enindhilyakwa. There is only the nominaliser prefix *k-*. Moreover, the substitution of an incorporated object by a derivational prefix is theoretically unmotivated, because this prefix does not change the word class and the result is still a verb. Therefore, I exclude the possibility of inserting a derivational prefix in lieu of a body part or generic; rather *ing-* is used as a generic for 'unspecified' items.

7.9 Non-referentiality of incorporated nominals

Mithun (1984a) observes that, although the identity of incorporated nominals is often deducible from context, they themselves are not, strictly speaking, referential. They are not normally used to establish discourse referents. This is expected, given their cross-linguistically common function of backgrounding of old or insignificant information. Rather, incorporated nominals qualify - or, as Rosen (1989) puts it, they add selectional restrictions to the verb. The external NP must be within the class of objects delineated by the incorporated nominal root.

Incorporated nominals in Enindhilyakwa also appear to be non-referential. Their only function is to classify and, therefore, to narrow down the range of possible referents of one of the verb's arguments: the external NP must be within the class of objects delineated by the incorporated nominal - whether these are body parts or generics. Incorporation of a body part delineates which part of the whole the action denoted by the verb applies to. Incorporation of a generic adds the selectional restriction that the external specific nominal must be properly included in the set delineated by the generic.

The non-referentiality of incorporated nominals is supported by the fact that they are compatible with fully specified NPs, as in (48) and many of the above examples. If they functioned to establish a discourse referent, this doubling would be unnecessary.

- (48) a. *Nara ngu-ngurndvrrk-badjv-ma angurnda-manja!*
 NEG NEG-ankle-hit-NEGNP NEUT.ankle-LOC
 'Don't hit his ankle!' (= [10b])
- b. *Ne-yaku-warrukwa ebina adhalyvma m-ebina-lhangwiya*
 NEUT/NEUT-river-go.across.P2 NEUT.that.same NEUT.river VEG-that.same-ABL.PRG
mamarra.
 VEG.small.leaved.paperbark
 'It [cat(NEUT)] crossed the river along the paperbark.' ('Bujikeda' y44)

The incorporated nominals put selectional restrictions on the verb, as the external NP must be within the class of objects delineated by the incorporated nominal root (Rosen 1989). Thus *ngurndvrr-* in (48a) delimits the hitting to just the 'ankle' part of the direct object, and *yak-* in (48b) narrows the range of arguments to 'rivers' only. Incorporated nominals can also classify items that are indefinite, non-specific and non-referential, as in the following excerpt from *Merra* 'String' (next page). This story is about a potential event in the future (as indicated by the Irrealis prefix) of going to the forest and digging roots for making string. The generic *alh-* in the last word of this passage limits the range of possible direct objects selected by the verb to 'long and thin' things. The long and thin bits of the *mukuwara* 'cocky apple tree' are its roots. That the roots are indefinite and non-specific here comes from the fact that collecting the roots is a hypothetical event in the future of collecting an undefined number of roots for making string.

- (49) *Biya nara mabalba, mu-wurrariya, vmba mukuwara nvngk-ena*
 and NEG VEG.peanut.tree VEG-bad but VEG.cocky.apple 2-this
kv-mungkwadhv-na-ma=dha. Mukuwara m-akina m-eningaba kayuwa-lhangwa.
 IRR.2-dig-NP2-*ma*=EMPH VEG.cocky.apple VEG-that VEG-good dillybag(VEG)-DAT
Kv-mungkwadhv-na-ma biya kvm-adhabaje-na-ma kvm-alkv-rerrma-ji-na-ma.
 IRR.2-dig-NP2-*ma* and IRR.2/VEG-hit-NP2-*ma* IRR.2/VEG-long.and.thin-dry-CAUS-NP2-*ma*
 ‘Don’t [get roots of] peanut tree, it’s no good, but dig [roots of] cocky apple tree. Cocky apple
 tree is good for dillybags. You dig [up roots] and crush them [and] dry them in the sun.’
 (‘Merra’ n3-10)

7.10 Apposition

Part-whole and generic-specific constructions often share the same surface syntax in Australian languages. They are typically analysed as appositional structures, in which neither nominal can be clearly identified as the head of the phrase (e.g. Hale 1981 for Warlpiri; Blake 1983 for Kalkatungu; Evans 1995 for Kayardild; Evans 1996 for Mayali; Wilkins 2000 for Mparntwe Arrernte; Evans 2003a for Biniñ Gun-Wok; Gaby 2006 for Kuuk Thaayorre; see also Nordlinger & Sadler 2008; Sadler & Nordlinger 2009). The nominals in these constructions jointly refer to the same entity and they hold the same grammatical relations to the verb. Evans argues explicitly for Kayardild (1995) and Mayali (1996) (which is part of Biniñ Gun-Wok dialect chain) that “there are no syntactic reasons for considering one nominal to be the head, and it is better to treat them as apposed nominals” (1995: 247). Similar arguments have been advanced for analogous constructions in other Australian languages.²⁴

The appositional nature of the part-whole and generic-specific relations is especially evident in dependent-marking Australian languages, where these nominals are all inflected for the same case feature. This is illustrated in (50a) from Martuthunira (PN, West Australia), where the ‘parts’ and the ‘wholes’ are all in ACC case. Likewise, the generic and specific in (50b) from Kalkatungu (PN, Queensland) are both in DAT case.

- (50) a. *ngayu nhuwa-rninyji nyimi-i, ngurnaa muyi-i, jal.yu-u thani-l.yarra-waara*
 1sg.NOM spear-FUT rib-ACC that.ACC dog-ACC occiput-ACC hit-REL-SEQ
 ‘I’ll spear that dog in the ribs, and then hit it in the back of the neck.’
 Martuthunira (Dench & Evans 1988: 16)
- b. *Nyayika ati-ntji ari-li thuwarr-ku.*
 I meat-DAT eat-APASS snake-DAT
 ‘I am eating snake.’ Kalkatungu (Blake 2001: 419, cited in Sadler & Nordlinger 2009)

²⁴ As Nordlinger & Sadler (2009) observe, some researchers have gone so far as to claim for particular Australian languages that these do not have noun phrases at all. Rather, nominals are seemingly juxtaposed without any evidence of syntactic asymmetry (e.g. Heath 1978a for Ngandi; Blake 1983 for Kalkatungu; Heath 1986 for Wubuy; Evans 1995 for Kayardild). It is unclear whether this is the case for Enindhilyakwa. On the one hand, there is no strict order for e.g. case-marked ‘modifiers’ and their ‘heads’, and both can function alone as the head. But on the other hand, when two or more oblique nominals in the same function are contiguous, only one of them needs to be case-marked. This will be discussed in more detail in section 8.10, where I will argue that this suggests the existence of an NP constituent. However, this does not necessarily imply that this must therefore be an NP with hierarchical relations; it is possible that an ‘NP’ consist of a string of nominals, without any syntactic dependency.

In head-marking Australian languages with productive noun incorporation (e.g. Enindhilyakwa, most Gunwinyguan languages, and Tiwi), the ‘part’ and the ‘generic’ can be incorporated, as was demonstrated for Enindhilyakwa in the preceding sections. Despite the lack of case-agreement, Evans (1996, 2003a) argues that the part-whole and generic-specific relations are also best analysed as appositional structures in Biniñ Gun-Wok, where incorporation picks out one of the apposed nominals. In the following part-whole examples from Mayali, the apposed nominals are juxtaposed (though discontinuous) in the syntax in (51a), whereas one of them is incorporated in (51b). A similar generic-specific pair from Mayali was given in (21) above.

- (51) a. *Bamurru a-bom gun-godj.*
 magpie.goose 1-shoot.PP IV-head
 ‘I shot the magpie goose in the head.’ Mayali (Evans 1996: 65, ex. 1)
- b. *Bamurru a-godj-bom.*
 magpie.goose 1-head-shoot.PP
 ‘I shot the magpie goose in the head.’ Mayali (Evans 1996: 65, ex. 4)

Evans (1996) claims that, aside from some pragmatic and discourse differences, the incorporated and unincorporated versions have the same meaning.²⁵

Such neat pairs of examples, where one has both the part and the whole, or the generic and specific, nominals occurring external to the verb, while in the other one of the two nominals is incorporated, are not attested in Enindhilyakwa. Generics only occur as incorporated forms, and free body part nouns are often suppletive with their incorporated form. (In addition, as mentioned in the introduction, nominal incorporated no longer appears to be used, so one cannot simply ask a speaker to produce incorporated versions of a part-whole construction.) However, there are some examples in the data of an both the part and the whole occurring external to the verb, i.e. that are syntactically in juxtaposition (though discontinuous).

- (52) a. *dh-akina na-milyirrkki-yindhe-na-ma amvdhilya*
 3f-that NEUT-body.fluid-ache-NP2-ma NEUT.cold
 ‘she has a bad cold’ (WD)
- b. *biya dh-akina-lhangwa dhv-dharrvngka arndvrnda na-werrik-arda-dha arakba*
 and 3f-that-POSS 3f-woman NEUT.heart NEUT-chest-hot-INCH.P2 compl.act
 ‘and his wife got very angry inside’ (Lit: ‘woman heart became hot’) (GED p.189)

²⁵ A third construction that may receive the same morphosyntactic encoding is secondary predication. In dependent-marking languages the nominals in the (a) part-whole, (b) generic-specific and (c) secondary predicate constructions may have identical case-marking, whereas in head-marking languages one of pair of the nominals may be incorporated, as happens in e.g. Biniñ Gun-Wok. Although incorporation of parts and generics is common in Enindhilyakwa, my data do not display incorporation of secondary predicates. Rather, these are adjectives, agreeing in noun class with their heads. Therefore, I will leave them out of the discussion here.

- c. *Arakbawiya warnvmamalya yingv-lhungkuwarrvngv-nv-manja*
 long.time.ago 3a.people FEM-grow-P2-LOC
dhinyinya abvrra-lhangwa-manja menba ...
 FEM.white.stuff.growing.in.eyes 3a.PRO-POSS-LOC VEG.eyes
 ‘A long time ago when people had a white bit growing in their eyes ...’ (GED p.48)
- d. *ngayuwa nvngv-ngarrk-arrkujeeyi-na madha*
 1.PRO 1-ear-be.painful-NP2 VEG.ear
 ‘I’ve got earache’ (= [8a])

The part and the whole nouns are both in direct (unmarked) case, which means that they have the same grammatical function. Two nominals holding the same grammatical relations to the verb and jointly referring to the same entity are characteristics of an appositional structure. The Enindhilyakwa part-whole, as well as the generic-specific, constructions are thus also best analysed as appositional structures: the nominals involved share a single grammatical function (either S or O), they combine to identify a single referent and neither nominal can be clearly identified as the head.

It should however be noted that this type of apposition diverges from the traditional view. Traditionally, apposition involves “identity or similarity of reference” (Crystal 1997: 24, cited in Sadler & Nordlinger 2009). This definition relates to English examples such as *my husband, the father of my children*, where the two apposed NPs refer to the same person. However, it does not cover part-whole relations such as ‘magpie goose, head’ in the Mayali example in (51), nor does it fully account for generic-specific relations such as ‘fruit, *owenia vernicosa*’ in the Mayali example in (21). This is because the nominals involved do not have a similar or identical reference, but they merely have *overlapping* reference: the ‘part’ and ‘specific’ are a subset of the ‘whole’ and ‘generic’, respectively. In addition, the apposed nominals can clash in one or more of their morphosyntactic indices of person, number and gender/noun class: in the Mayali example in (51), the part and the whole differ in noun class (*bamurru* belonging to the unprefix class V and *gun-godji* to class IV). The same clashing of features is illustrated here for Enindhilyakwa:

- (53) a. *Ak-arrkujeeyi-na-manja menba akwa akarrnga ...*
 IRR.12a-be.painful-NP2-LOC VEG.eyes and NEUT.tooth
 ‘If we have sore eyes or a toothache ...’ (GED p.10)
- b. *ngayuwa nvngv-ngarrk-arrkujeeyi-na madha*
 1.PRO 1-ear-be.painful-NP2 VEG.ear
 ‘I’ve got earache’ (= [8a])

The person features of the pronominal prefixes on the verb represent the possessors, which clash with the noun classes of the external body parts. The definition of ‘apposition’ must therefore be stretched a little to accommodate the Australian examples, to also include nominals that do not, strictly speaking, have identical reference, and whose index features may clash. The only requirement is that one constitutes a subset of the other.

One consequence of the oppositional analysis is that we would expect to find examples of the *part* being encoded as the core argument on the verb, as well as of the *whole*. This prediction is borne out, as in (52a-c) versus (52d), for instance. As argued in section 7.2, the choice of whether to select the ‘part’ or the ‘whole’ as a core argument of the verb is semantically motivated, depending on the desired effect. Cross-referencing the part appears to occur if the intended effect of the action denoted by the verb concerns the part only, while the whole is treated as the core argument of the verb if the action denoted by the verb affects the whole person.

7.10.1 ‘External’ possession

Many of the examples presented above are instances of what is called ‘external possession’ or ‘possessor raising’ in the literature. In the ‘external possession construction’ (EPC) “a semantic possessor-possesum relation is expressed by coding the possessor as a core grammatical relation of the verb and in a constituent separate from that which contains the possessum” (Payne & Barshi 1999: 3). This is illustrated for Enindhilyakwa in (54), repeated from above.

(54) *ngayuwa nvngv-ngarrk-arrkujeeyi-na madha*
 1.PRO 1-ear-be.painful-NP2 VEG.ear
 ‘I’ve got earache’

In this example, the possessor of the body part ‘ear’ is encoded as the subject argument on the verb, while the body part itself occurs external to the verb in direct case, and is also incorporated into the verb.²⁶ The intuition behind the term ‘possessor raising’ is that the subject appears to be ‘raised’ from the possessor position of the body part NP (i.e. [my ear] be.painful > [I] [ear] be.painful).

External possession is a renowned syntactic problem in the literature, because this construction appears to add an argument to the argument frame of the verb (the intransitive verb ‘be painful’ in [54] now seems to have two arguments). It has been claimed to “belong to the core of the grammatical function changing processes that are allowed by universal grammar” (M. Baker 1988: 11). Many syntactic analyses of the EPC (Payne & Barshi 1999 present an overview) resolve the mismatch between the clausal syntax of the EPC and the argument structure of the lexical verb by assuming that the construction contributes an extra possessor participant to the event denoted by the verb. External possession verbs thus require a different lexical entry, with an increase in valency compared to their ordinary use (see e.g. M. Baker 1988, 1996, 1999 for Mohawk; Schrock 2007 for Swahili; Lødrup 2009 for Norwegian and English; Baker, Horrack, Nordlinger & Sadler 2010 for Wubuy, among many others).

²⁶ The examples in e.g. (52a-c), where the part is encoded as a core argument of the verb, are sometimes labelled ‘internal possession’ in the literature.

At first glance, the one-too-many argument problem appears to exist in the Enindhilyakwa EPC also: the possessor of ‘ear’ in (54) is encoded as the subject of the verb by the pronominal prefix on the verb, but the external body part is in direct case, indicating it is a core argument of the verb as well. However, I proposed in the preceding section that the possessor and the body part are in apposition, which means that they do not belong to different constituents, but are co-heads of the same constituent. A more precise gloss of (54) would thus be ‘I, ear, be.painful’ ([I, ear] be.painful). All that ‘external possession’ does is focus on the affectedness of the possessor; the body part can be treated as the core argument of the verb with equal ease, which shifts the intended effect to the part - as was argued in the previous section. Possession in Enindhilyakwa is therefore not ‘external’, and the term is only suitable as a descriptive label that captures certain semantic facts. External possession does not entail any changes to the verb’s argument structure, and neither does incorporation of the body part noun. Evans (1996) argues for a similar appositional analysis in Mayali, as do many other authors for the part-whole construction in other Australian languages, as was discussed above.^{27,28}

However, the following data are problematic for an appositional analysis. External part nominals do not always appear in direct case in Enindhilyakwa, but they may take an oblique LOC case in the EPC, as illustrated in (55).

- (55) a. *ng-abvrranh-dhadha-ngv-ma akba-manja*
 3f/1-bottom-poke-P2-*ma* NEUT.bottom-LOC
 ‘she gave me an injection in my bottom’
 b. *warnvmamalya na-lharrk-baji-jungu-na-ma alhakba-manja*
 3a.people 3a-bones-hit-REFL-NP2-*ma* NEUT.leg-LOC
 ‘people hit themselves on the legs’ (GED p.7)

As usual, these locative-marked body part nominals do not have to be incorporated; in (56), they are realised outside the verb.

- (56) a. *nanga-warda-nga dh-akina angurra mvrirra-manja*
 3f/3f-hit-P2 3f-that strongly VEG.back-LOC
 ‘she hit her hard on the back’ (VL1 p.466)
 b. *yingarna ngvn-anga ayarrkv-manja*
 MASC.snake MASC/1-bite.P2 NEUT.hand
 ‘the snake bit my finger’ (anin2_dl_au_001)

²⁷ External possession in these languages differs from the EPC in a language such as Mohawk, where body part incorporation indexes a change in argument structure, allowing the possessor to assume a primary case role. Here, body part incorporation is taken as a formal marker of external possession (Mithun 1984a, 1996).

²⁸ Nordlinger & Sadler (2008) and Sadler & Nordlinger (2009) provide a formal account of apposed nominals in Australian languages, in the framework of Lexical Functional Grammar (LFG). The appositional structure is captured in their analysis by allowing the nominals to be members of a set.

In both sets of examples, the possessor of the body part is treated as the main argument of the verb, and the body part is in LOC case, regardless of whether it is incorporated or not. The examples in (56) are rather unremarkable, because the locative-marked possessum indicates the more specific place of which the predicate is true. In a situation of bodily contact, the contact is established with the whole body and with the body part (as Haspelmath 1999: 121 argues for English examples such as the glosses in [56]). However, the Enindhilyakwa situation is more complex, because the locative-marked body part can also be incorporated, as in (55), indicating it is a core argument of the verb.

These examples thus pose a problem for the incorporable grammatical functions (how can an incorporated body part correspond to an oblique external nominal?), and for the appositional analysis proposed above (how can the oblique body part have the same grammatical function as the possessor, which is a core argument of the verb?).

Baker, Horrack, Nordlinger & Sadler (2010) (henceforth BHNS) discuss similar data in Wubuy, where the body part can be incorporated and simultaneously be expressed outside the verb in oblique LOC case, as in the following example.

(57) *ngaya nga-rlaan-barrlhiyn yii-rlaan-duj*
 1SG 1SG-knee-sore.REFL.PP MASC.OBL-knee-LOC
 ‘I have sore knee(s)/I am sore in the knees/my knee(s) is/are sore.’ Wubuy (BHNS ex. 6)

BHNS propose that the incorporated body part is an oblique. In their analysis, the Wubuy EPC requires a lexical rule that increases the valency of the verb by the addition of a possessor argument, while the body part becomes an oblique argument.

Despite the similarity of the Wubuy and Enindhilyakwa data, there are reasons to believe that a change in argument structure is not a plausible analysis for Enindhilyakwa. First of all, the EPC is very different from genuine valency-changing operations such as the benefactive applicative and the causative (valency-increasing), or the reflexive and reciprocal (valency-decreasing). These operations are registered by overt affixes on the verb, which is not the case for the EPC. And secondly, external body parts only appear in LOC case for a *certain type* of transitive verb: namely verbs of bodily contact, such as ‘hit’, ‘rub’, ‘grab’, ‘pull’, and so on. This is roughly the same class of verbs that behaves differently in the EPC in Mohawk²⁹ (M. Baker 1999: 307). Verbs of bodily contact are also the class of verbs that occurs in the EPC in English (e.g. *I slapped him on the cheek*, but not *#I washed him on the cheek*) (Levin 1993). For these verbs, affecting the part of someone counts as affecting the person as a whole. In other words, if you hit/rub/grab my leg, you

²⁹ In Mohawk, body part incorporation is a requirement for external possession (see fn27), except for verbs of physical contact. These have an unincorporated paraphrase where the external body part nominal appears in LOC case (which is thus structurally similar to the Enindhilyakwa examples in [56]).

also hit/rub/grab me, whereas if you wash/see/like my leg, you do not necessarily wash/see/like me. This may explain why the possessor role of these verbs can be treated as the direct object argument in some languages (e.g. English), and why these verbs behave differently in the EPC in others (e.g. Enindhilyakwa, Mohawk).

As will be shown in more detail in Chapter 8, verbs of body contact also show anomalous behaviour outside the EPC in Enindhilyakwa. They have a very strong tendency towards marking their direct object argument with LOC case:

- (58) a. *nungkuwa yi-ngaja-ma ngayuwa-manja*
 2.PRO 2/1-hit.NP1-*ma* 1.PRO-LOC
 ‘you are hitting me’ (VL1 p.400)
- b. *wurr-akina wurrajija nenv-rndarrka enuwa-manja*
 COLL-that COLL.bird COLL/3m-grab.P1 3m.PRO-LOC
 ‘the bird grabbed him’ (VL1 p.488)
- c. *narrv-ma-lyungkwe-nv-ma mamvngba-manja...*
 3a-VEG-rub-P2-*ma* VEG.hair-LOC
 ‘they [women] used to rub (their) hair (with the seed pods of *dhvngadhilyenjvrrka*
 ‘FEM.white cloud tree’, to make it long)’ (GED p.25)

The nominals that are marked with LOC case are also identified on the verb as core arguments of the verb. This suggests that LOC case functions as a grammatical case here, which exceptionally marks the direct object argument. Differential object marking of ‘hit’ verbs is common cross-linguistically (Tsunoda 1981, 1985), reflecting a different encoding of goal (contact on place) and effect (hurting someone). In Enindhilyakwa, the direct object argument in the EPC is also differentially marked with grammatical LOC case for these verbs. Therefore it is not an oblique, and the appositional analysis still holds.

If the appositional analysis involving differential object marking is correct, we would expect to find instances where the body part and the possessor are both marked with LOC case, as they have the same grammatical function. This prediction is borne out:

- (59) a. *nanga-lyang-barra arvngkv-manja akinv-mvrra dhukururrku-manja*
 FEM/FEM-head-hit.P1 NEUT.head-LOC NEUT.that-INSTR FEM.brolga-LOC
 ‘[Emu] hit Brolga on the head with that [stick(NEUT)]’ (VL1 p.310)
- b. *nenv-ngaja-ma n-akina envngu-wilyarrv-manja nikbv-manja n-ibina*
 3m/3m-hit.P2-*ma* 3m-that NEUT.ALP-middle-LOC 3m.Pheasant-LOC 3m-that
 ‘he [Seagull] hit Pheasant in the middle of the back...’ (VL1 p. 361)

The possessor nominal and the body part nominal are inflected for the same case feature, indicating that they represent the same (core) argument. Nonetheless, such examples are very rare. One possible explanation for this scarcity is that when nominals that belong to the same constituent are adjacent, only one needs to receive case. Only when they are discontinuous do all receive case (section 8.9). Combined with the fact that expression of core arguments by

independent nominals is comparatively rare, this could account for the scarcity of discontinuous nominals inflected for the same case suffix.

BHNS discuss a second, morphologically distinct, type of EPC in Wubuy, in which the external part nominal is not marked with LOC case but takes double noun class prefixation: a ‘relative’ noun class prefix, plus a noun class prefix that agrees with that of the whole. As usual, the object verb agreement shows noun class agreement with the whole:

- (60) *niini-ma-yirr-mangi* *mana-wuluru* *mana-ma-manjarr-gadhuwa*
 1DUMASC-VEG-foilage-get.PC VEG.TOP-acacia.sp VEG.TOP-VEG.REL-leaves-new
 ‘we two got new *wuluru* leaves’ Wubuy (BHNS 2010 ex. 4)

Although nouns in ‘relative’ noun class form do not take an oblique case suffix, BHNS also regard these forms as obliques since they cannot control verb agreement. This supports their analysis of the Wubuy EPC as involving an increase in valency by adding the possessor argument, demoting the part to an oblique.

‘Part’ nouns can also take double noun class prefixation in Enindhilyakwa. Such nouns can take an inalienable possession (INALP) derivational prefix *m-* (section 3.4.5.1), which allows it to agree in noun class with the ‘whole’. Such derivation is common for parts of plants and trees, as in (61a,b), and occasionally humans, as in (61c). As in Wubuy, the whole is treated as the main argument of the verb.

- (61) a. *narrv-ma-ma-ngv-ma* *ma-m-amarda*
 3a-VEG-take-P2-*ma* VEG-INALP-NEUT.leaves
 ‘they took the leaves of these trees [*mabalba* ‘VEG.peanut tree’]’ (GED p.15)
- b. *warnvmamalya* *narrv-nga-rrvngka-manja* *dh-adhv-m+awalyuwa* ...
 3a.people 3a-FEM-see.P2-LOC FEM-f-INALP+flower
 ‘when people saw this bush [*dhvrvra* ‘FEM.holly leaved pea flower’] flower...’ (GED p.7)
- c. *nanga-lhuku-lhukwa-mvrrkaju-wa* *dh-adhv-m-alhvka-lhangwiyu...wa*
 3m/3f-RDP-tracks-follow-P2 3f-f-INALP-foot-ABL.PRG...XTD
yingv-lhvkarri-lyvmadha
 3f-tracks-disappear.P1
 ‘he kept following her tracks until they disappeared’ (‘Search’ z47-8)

This type of EPC could pose a problem for the appositional analysis proposed here: since the parts cannot control verb agreement, they could be seen as obliques (as advocated by BHNS for Wubuy). If the parts are obliques, they cannot have the same grammatical function as their wholes, which would rule out an appositional structure.

However, I propose an alternative view, because the part and the whole in fact *agree* in noun class. The noun *amarda* ‘NEUT.leaves, grass’ in (61a), for example, is inherently of NEUT class, and

‘give’). Some optionally incorporate, as in most examples in the above sections, and some nominals and verbs obligatorily incorporate a body part or generic nominal. The latter are called ‘bound stems’ in the Dictionary and in this thesis, and they include both verbs and adjectives, such as the adverbial adjectives *-lhadha* ‘this side’ and *-warra* ‘other side’; the adjectives *-bvrre* ‘wide’ and *-bvdha* ‘strong’; and the verbs *-bijangi-* ‘jump’ and *-bvrre-* ‘split’. Some examples are given here; others can be found in the dictionary.

- (64) a. *mv-lhvkarrkv-lhadha mamvrukwa*
 VEG-road-this.side VEG.road
 ‘this side of the road’ (Ansec2)
- b. *a-jirr-bvdha diya*
 NEUT-fluid-strong tea(NEUT)
 ‘strong tasting tea’ (WD)
- c. *narr-al-bvrre-na*
 3a/NEUT-long.and.thin-split-NP2
 ‘they part the grass (to walk through)’ (WD)

For those nominals and verbs that optionally incorporate, the question is when this happens. A number of factors determining noun incorporation can be found in the literature. Generally, the function of incorporating nominals is assumed to be backgrounding (e.g. Mithun 1984a). Incorporated nominals may represent old, given or insignificant information. In the case of the incorporation of body parts, focus is on the affectedness of the possessor rather than of the body part. Incorporated nominals put selectional restrictions on the verb, because the external NP must be within the class of objects delineated by the incorporated nominal root (Rosen 1989).

In BGW, incorporation is clearly the unmarked choice for body parts (Evans 1996). Incorporated generics, on the other hand, typically carry given information, so they are frequently encountered both incorporated and external to the verb. Generic nominals typically progress from external to incorporated status through a discourse (ibid p.97)

Dixon (2002: 58-9) points out that in some Australian languages generics often are the primary means of reference. A speaker of an Australian language will typically use just a generic term, its specific reference being clear from context and/or shared knowledge of speaker and addressee. Specific nouns are only employed when communicatively necessary.

In Enindhilyakwa, incorporation does not appear to involve backgrounding. Incorporated nominals do not necessarily carry old and given information, and in my data nominals do not typically progress from external to incorporated status through a discourse. Instead, incorporated nominals very often co-occur with their corresponding free forms, as in (52)-(55) and many other examples above. If the function of incorporation were backgrounding, or representing old information, the appearance of the external forms in these examples would make no sense. These examples also show that specific nouns are not just employed out of communicative necessity.

Incorporation can occur at the first mention of an item, for both body parts and generics. The following example comes from a story about making fire by rubbing sticks. First it is described how people looked for the right kind of wood, then how they crushed the bark, put a stick on the bark and started rubbing. They continue rubbing, until suddenly smoke appears. There was no prior mention of smoke, but it is represented by the incorporated form *angkarr-* plus the free form *angwarra*:

- (65) *Kembirra mv-lharrk-bvlhalha-ma na-mam+badji-nv-ma biya*
 then VEG-long.and.thin-thin-INSTR 3a-hand+hit-P2-*ma* and
nuw-angkarrk-arjeeyu-manja angwarra...
 NEUT-smoke-rise.P1-LOC NEUT.smoke
 ‘Then they rubbed up and down the thin stick with their hands and when the smoke started rising...’ (GED p.198)

The appearance of smoke represents important and new information here. Since this is (partly) conveyed by an incorporated nominal, the function of incorporation cannot be backgrounding.

Neither is incorporation the unmarked choice for body parts, as it is in BGW. There are probably equally many examples with unincorporated as with incorporated body parts. Incorporation of the body part is not necessary to vacate an argument position for the possessor (as it is in e.g. Mohawk), as it does not affect the argument structure of the verb.

The only function of incorporation appears to be to narrow the range of possible referents of one of the verb’s arguments. Incorporation of a body part delineates which part of the whole the action denoted by the verb applies to, and incorporation of a generic adds the selectional restriction that the external specific nominal must be properly included in the set delineated by the generic. On the face of it, incorporation seems to be redundant, because the same information is frequently conveyed by an external nominal, or, in the case of body parts, by the prefix on the verb. However, incorporated generics can also *add* information, or provide a new perspective, as was illustrated in (20) above, where a number of different generics are used to emphasise different features of *mvnhvnga* ‘VEG.burrawang’ (e.g. hard, soft, flat, and so on). The generics in these examples are not redundant, but they are used to add nuance to the language.

7.12 Summary

Body part nouns play a major role in Enindhilyakwa, permeating its whole morphological and syntactic structure (Leeding 1996: 247). Body parts function in the naming of human parts, they are used to classify inanimate items, and they can refer to parts of objects. Body parts can be incorporated into verbs and adjectives, or they can take a derivational prefix that allows them to agree in noun class with the whole. In both cases they have undergone extensive semantic shifts, broadening their meaning to describe features of inanimate items.

This chapter examined the productive - or at least formerly productive - incorporation of body part nouns into verbs and adjectives. The majority of incorporated body parts are polysemous with a generic reading, and the majority of incorporated nominals are suppletive. This suppletion is due to lexical replacement affecting the free form but not the incorporated form.

There is complete parallelism between incorporated body parts and generics. They are often represented by the same morphemes, they are both in an absolutive relation to their host, they may or may not occur with an external noun, they leave the valency of the verb unaffected, and they are non-referential. One important difference is that in the part-whole construction, it is always the *part* (or subset) that is incorporated, whereas in the generic-specific construction this is always the *generic* (or superset). Another difference is that for the part-whole relation, the pronominal prefix on the host can represent either the part or the whole. The choice between the two is determined by semantics: the participant that is seen as most affected is treated as the core argument of the verb (incorporation of the part nominal is independent of this). For the generic-specific construction, only the external specific nominal can be cross-referenced on the verb. This is because, unlike body parts, generics cannot be realised outside the verb, they only exist as incorporated forms. Therefore, they cannot, by themselves, constitute a core argument.

The part-whole and the generic-specific relations were analysed as appositional structures (as they commonly are in Australian languages). The nominals involved have the same grammatical relation to the verb, they do not stand in a syntactic dependency relation with one another, and either noun can function alone as the head of the NP.

Besides incorporation, which picks out one of two apposed nominals, appositional relations can be expressed by noun class agreement in Enindhilyakwa. Here, the part noun takes a derivational prefix which enables it to agree in noun class with the whole. Noun class agreement could thus be regarded as a third type of morphosyntactic encoding of nominals in apposition, in addition to the two proposed in Evans (1996): case-agreement and noun incorporation. All three types of morphosyntactic encoding occur in Enindhilyakwa (although case-agreement is rare: see next chapter).

Australian-style apposition differs from the traditional notion of apposition, because apposed nominals may not have similar reference, but merely overlap in reference. The only requirement is that the one nominal constitutes a subset of the other. As a result, apposed nominals may clash in their person, number and gender features. An interesting fact about Enindhilyakwa is that apposed nominals are very rarely simply juxtaposed in the syntax. In the majority of cases, the appositional relation is morphologically realised in some way, either by incorporation, or by embedding of the part in a derived nominal. This differs from the more common strategy in Australian languages, which juxtapose apposed nominals as free forms in the syntax.

Chapter 8: Case

Given its head-marking nature, Enindhilyakwa makes little use of nominal morphology to encode information about core grammatical functions. Determination of subject (intransitive and transitive) and object functions is done by the pronominal prefixes on the verb (though we will see that it is possible for nominals in these core functions to be case-marked). Only the indirect object argument of ditransitive verbs regularly receives case. Case-marking is primarily exploited as a strategy for semantic roles such as location, goal, and source, and to mark nominals in oblique grammatical functions. Case suffixes can also relate one NP to another NP, and they frequently appear on fully inflected verbs, where they have a subordinating function. I will assume the following labels for the different types of case suffix in Enindhilyakwa, as they have been used in the Australianist literature (see e.g. Hale 1976; Blake 1977; Dixon 1980; Dench & Evans 1988; Simpson 1991):

- (i) Grammatical case: also called ‘syntactic’ case, is primarily used to show that the nominal to which it attaches bears a particular grammatical function. This can be an oblique function (which is not cross-referenced on the verb), or a core function (which is cross-referenced on the verb by the pronominal prefixes, and includes: intransitive subject, transitive subject, direct object, and indirect object)
- (ii) Semantic case: also called ‘local’ case, provides information about the setting of an event, implying motion to or from, or rest at, a place or thing. The primary use of semantic case is to create argument-taking predicates, much as do prepositions in languages like English (as *in* in *John is swimming in the sea*)
- (iii) Adnominal case: often treated as derivational case, relates NPs to NPs within one NP constituent (I use the term ‘NP’ or ‘NP constituent’ here without the implication of a hierarchical structure; I defer discussion about the syntactic structure of Enindhilyakwa NPs to section 8.10). A paradigm example of adnominal case in Enindhilyakwa and other Australian languages is the possessive, as in [wallaby-POSS fur] ‘the wallaby’s fur’
- (iv) T-complementiser case: occurs on verbs and has a clause as its complement. It creates an adverbial subordinate clause that specifies temporal or logical relationships with another clause

Enindhilyakwa has six case suffixes, which are all very productive and may be used in the above functions. They are listed in Table 8.1. The grammatical functions that are expressed only rarely by the case markers are presented in parentheses.

Suffix	Adnominal	Semantic	Grammatical	Complementiser
<i>-ma ~ -mvrra</i>	PROprietive/PRIVative, COMitative	-	INSTRumental	-
<i>-lhangwa</i>	POSSessive	ABLative	DATive (transitive subject)	T-complementiser
<i>-manja</i>	-	LOCative	direct object of 'hit' verbs; (direct object, indirect object)	T-complementiser
<i>-wa</i>	-	ALLative	(indirect object, direct object), oblique GFs	T-complementiser
<i>-lhangwiya</i>	-	ABLative-PerGressive	-	T-complementiser
<i>-kba</i>	DENIZen	-	-	T-complementiser

Table 8.1: Enindhilyakwa case suffixes and their functions

As can be seen from this table, the same case morpheme can have different functions and operate at different syntactic levels. In other words, there is no one-to-one relationship between the case forms and the case relations that are distinguished in the syntax - as is common in Australian languages (e.g. Blake 1977).

8.1 Organisation of chapter

This chapter first examines each case suffix as it appears on nominals individually. Section 8.2 starts with a description of the marking of the core grammatical functions (i.e., those that are cross-referenced on the verb). This includes the indirect object of ditransitive verbs. Section 8.3 investigates the *-lhangwa* suffix with its bewildering range of functions and concludes that this suffix represents a number of different case relations: POSS, ABL and DAT. Section 8.4 examines the PROP/PRIV suffix *-ma ~ -mvrra*, which also has a comitative and an instrumental meaning. This is followed by the semantic cases: LOC case in section 8.5, ALL case in section 8.6, and ABL-PRG in section 8.7. The not so common DENIZ adnominal case is described in section 8.8. Section 8.9 examines case concord, where case concord with relative clauses is discussed in section 8.9.1. Section 8.10 investigates the related issue of NP constituency. Section 8.11 then turns to the T-complementising cases on verbs that create adverbial subordinate clauses. Section 8.12 finishes this chapter with a summary.

8.2 Case-marking on core grammatical functions

Before proceeding to a discussion of the case suffixes, it is useful to first demonstrate that core arguments of the verb do not, in principle, receive case. Core arguments of the verb are cross-referenced in the pronominal prefixes on the verb. At most two arguments can be cross-referenced on the verb (Chapter 4): intransitive subject, and transitive subject and object. For ditransitive

verbs, the subject and indirect object (recipient) are represented on the verb, whereas the direct object (theme) is represented outside the verb (if represented at all). The following examples illustrate the absence of case on intransitive subjects in (1), and on transitive subjects and objects in (2).

- (1) a. *n-angkarrv-na n-akina*
 3m-run-P2 3m-that
 ‘he ran’ (VL1 p.304)
- b. *enuwa n-errekbi-na*
 3m.PRO 3m-vomit-P2
 ‘he vomited’ (anin2_pw_au_004)
- c. *wurri-yukwayuwa wurr-akina ka-ngambee-yi-na*
 3a-little.PL 3a-that IRR.3a-bathe-RECP-NP2
 ‘the children will bathe’ (‘Yabungurra’ l3)
- (2) a. *ngayuwa ngarra-rrvngka wurruwarda*
 1.PRO 1/COLL-see.PST COLL.dog
 ‘I see the dog’ (anin4_dl_au_001)
- b. *enuwa nv-ma-wurra malharra*
 3m.PRO 3m-VEG-throw.P1 VEG.rock
 ‘he threw the rock’ (anin2_pw_au_004)
- c. *Kamv-dhaka-ma nvngk-akina m-akina makarda...*
 IRR.VEG/2-sting.PST-ma 2-that VEG-that VEG.sea
 ‘If the sea [where the bristleworm has been] stings you...’ (‘Yininya’ m6)

It has to be noted that overt subject and object nominals are probably less common than clauses that only contain an inflected verb. Overt nominals appear to be used to add specific information about the subject or object.

For inherently ditransitive verbs such as ‘give’, ‘tell’, and ‘show’, the recipient is represented on the verb, while the theme argument occurs outside the verb and is caseless, as shown in (3) and (4). The marking on the nominal that represents the recipient is variable: it can be marked with LOC or ALL case, as in (4a) and (4b), respectively, but these case suffixes can also be omitted. The same cases occur on the recipient of ‘give’, as in (5a,b), but here DAT case is another possibility (5c), or the ‘change of referent’ suffix in (5d) (see Leeding 1989: 304-7). There are no instances in the data of an overt recipient nominal of the verb *-kwV-* ‘give’ without any suffix.

- (3) ...*akena narra-mv-kwa-ma ekbarra.*
 but 3a.O-VEG.S-give.P2-ma NEUT.headache
 ‘...but they [roots of *mayukwarra* ‘VEG.mauve convolvulus’] gave them a headache.’ (GED p.57)
- (4) a. *ngayuwa ng-enu-wilyaka-ju-wa dokto(-manja) nganyangwa yinungurnda*
 1.PRO 1-3m-bring-CAUS-P2 " (-LOC) 1.PRO.POSS MASC.scar
- b. *ngayuwa ng-enu-wilyaka-ju-wa doctor(u-wa) nganyangwa yinungurnda*
 1.PRO 1-3m-bring-CAUS-P2 " (-ALL) 1.PRO.POSS MASC.scar
 ‘I showed the doctor my scar’ (anin4_dl_au_003)

- (5) a. *yu-kwa ngayuwa-wa*
 IMP.2/1-give.NP1 1.PRO-ALL
 ‘give [it] to me!’ (VL1 p.307)
- b. *dhi-yukwayuwa-manja narrv-nga-kwa-ma arrakvdharrba-ma eeka vmba*
 FEM-small-LOC 3a-FEM-give.P2-*ma* NEUT.short-INSTR NEUT.stick but
dh-arvma-manja dhvdija-ma
 FEM-big-LOC metal(NEUT)-INSTR
 ‘they gave the little ones [*dhvngarrbiya* ‘FEM.crocodile’] (flesh) with a short stick but the
 big ones with a metal rod’ (‘Zoo-lhangwa’ e12-3)
- c. *kvnga-ku-na ena ngalhv-lhangwa jurra*
 IRR.1/3f-give-NP2 NEUT.this 3f.PRO-DAT book(NEUT)
 ‘I will give this book to her’ (VL1 p.334)
- d. *yu-ku-na nganja awilyaba bajikala*
 IMP.2/1-give-NP2 1.CofR NEUT.one billycan(NEUT)
 ‘give one billycan to me!’ (VL1 p.414)

It seems likely that the case suffixes on the recipient argument of ditransitive verbs are present to indicate that the object prefix on the verb has an unusual semantic role: that of recipient, rather than the regular patient/theme role of direct objects.

This hypothesis is supported by the marking of arguments introduced by the benefactive applicative. These new arguments often have a semantic role other than patient/theme, and the corresponding overt nominals are case-marked as such. Introduced beneficiaries are marked with DAT case, as in (6a,b), and goals with ALL case, as in (6c,d).

- (6) a. *nv-mvn-akarrngv-na-ma akungwa env-lhangwa*
 IMP.2/3m-BENE-get.water-NP2-*ma* NEUT.water 3m.PRO-DAT
 ‘get water for him!’ (VL1 p.445)
- b. *Nara kvrri-yukwayuwa-lhangwa ngv-mvvn-ngekvrakv-ma.*
 NEG 2a-little.PL-DAT NEGNP-BENE-make-NP3
 ‘We don’t make them [*yikarba* ‘MASC.woomera’] for you children.’ (‘Lionel’ i16)
- c. *ngalhuwa-wa nga-mvni-yika-ja anhvnga wurri-yukwayuwa-wa*
 3f.PRO-ALL IMP.2/3f-BENE-bring-NP2 NEUT.food 3a-small.PL-ALL
 ‘Take the food to her and the children!’ (VL1 p.307)
- d. *nenv-mvn-andheeyv-ma n-akinu-wa=dha*
 3m/3m-BENE-look.P2-*ma* 3m-that-ALL=TRM
 ‘he looking for him’ (‘Hawk’)

In conclusion, object arguments that are cross-referenced on the verb only regularly receive case when they have an unusual semantic role - i.e. other than patient or theme. We will see in section 8.5 that the objects of one class of verbs, namely verbs of impact, display differential object marking. Their object is exceptionally marked with LOC case. Otherwise, the standard is for subject and object arguments to be unmarked. We can now proceed to examine the individual case suffixes as they appear on recipients, oblique arguments of the verb (which are not represented on the verb), and adjuncts.

8.3 The dative / ablative / possessive suffix *-lhangwa*

The suffix *-lhangwa* has a wide range of functions, from grammatical (marking an argument of the verb, glossed DATIVE), adnominal (indicating relations between NPs, glossed POSSESSIVE), to semantic (indicating the semantic role of an adjunct nominal, glossed ABLATIVE), and an EMPHATIC marker. Blake (1987: 35-6) lists the grammatical case functions in (i) - (vi) below among typical functions of DAT case in Australian languages (which he purports to as the ‘Dative Group’). It is for that reason that I gloss the *-lhangwa* suffix in these examples as DAT, even though this is not without problems, as pointed out below. In all cases, when the modifier and the head are adjacent, only the modifier needs to be case-marked. I return to this issue in section 8.10.

(i) the indirect object of intransitive verbs

- (7) a. *ngayuwa nvngu-werrik-awarriya-dhv-nv-ma y-akina-lhangwa*
 1.PRO 1-chest-bad-INCH-P2-*ma* MASC-that-DAT
 ‘I felt sorry for them [*yinvkarrmungkwarda* ‘MASC.hermit crabs’]’ (anin1_dl_au_001)
- b. *n-akbardhe-na-ma angura-lhangwa*¹
 MASC-be.afraid-NP2-*ma* NEUT.fire-DAT
 ‘they [*yinvngungwangba* ‘MASC.animals’] are afraid of the fire’ (‘Ekalhara’ g14)

(ii) recipient of verbs of giving (not common)

- (8) *kvnga-ku-na ena ngalhv-lhangwa jurra*
 IRR.1/3f-give-NP2 NEUT.this 3f.PRO-DAT book(NEUT)
 ‘I will give this book to her’ (= [5c])

(iii) purpose

- (9) a. *Nvngv-ngayindhe-na-manja alvdha menungkwa-lhangwa yenjerrikina*
 1/NEUT-want-NP2-LOC NEUT.paint VEG.spear-DAT there
nvngv-lhvka-ja-ma nvngv-mvngkadhv-na-ma akina-lhangwa
 1-go-NP2-*ma* 1-dig-NP2-*ma* NEUT.that-DAT
 ‘When I want paint for spears, I go there and dig for it.’ (‘Brolga’ q107-9)
- b. *nvngi-lyingv-na-ma m-akina-lhangwa dvraka awarnda*
 1/NEUT-keep-NP2-*ma* VEG-that-DAT truck(VEG) NEUT.money
 ‘I keep the money for that truck’ (‘Vehicle hire’ k15)

(iv) beneficiary

- (10) a. *yingv-nv-dhaka-ma yimadhuwaya nganyangwa*
 3f-MASC-cook.P2-*ma* MASC.stingray 1.PRO.DAT
 ‘she cooked a stingray for me’ (anin1_em_002)

¹ Dixon distinguishes an ‘aversive’ case in Yidiny, which marks a NP whose referent is feared. It can also be included with an intransitive verb ‘to be frightened’ (1980: 299-300). However, since the suffix that marks the NP which is feared is *-lhangwa* in Enindhilyakwa, formally identical to DAT case, I do not see any reason to postulate a separate case relation to mark items that are feared and will assume the suffix represents DAT case.

b. *Mema ma-k-ambarrvnga dalvda nara kvrr-akwalha-lhangwa karnv-mamalya*
 VEG.this VEG-NSR-sit toilet(VEG) NEG 2a-other-DAT 2a.m-people
vmba wulka wurr-ibina na-wardhu-wardhe-na-mv-lhangwa libvriya-manja.
 but only 3a-that.unseen 3a-RDP-work-NP2-DAT library-LOC
 ‘This is not a public toilet (lit: ‘for you other people’), but only for people who work in the
 library.’ (sign in Angurugu library)

(v) cause

- (11) a. *Akwa akina-lhangwa kembera nvng-ena nvngu-werrik-awarriya-dhv-na-ma nvng-ena.*
 and NEUT.that-DAT then 1-this 1-chest-bad-INCH-NP2-*ma* 1-this
 ‘And because of that (the money that has disappeared) I am upset.’ (‘Vehicle hire’ k13)
- b. *Ebina lhaka ayakwa yi-maka-mv-lhangwa nungkuwa, ebina*
 NEUT.that.same just NEUT.word 2/1-tell.P2-*ma*-DAT 2.PRO NEUT.that.same
nvng-env-kv-lhvka-lhangwa engku-wa, akina-lhangwa nvngu-warv-ma
 1-m-NSR-go-ABL NEUT.other-ALL NEUT.that-DAT 1-not.want.P1-*ma*
 ‘Because of what you told me about me going away, because of that I didn’t want [to
 stay]’ (‘Search’ z119)

(vi) possessor

- (12) a. *marluwiya-lhangwa wurri-yukwayuwa*
 emu(FEM)-POSS 3a-children
 ‘Emu’s children’ (VL1 p.294)
- b. *nganyangwa arvngka, ... nganyangwa mamvdhakba ... nganyangwa awa!*
 1.PRO.POSS NEUT.head 1.PRO.POSS VEG.tail 1.PRO.POSS NEUT.liver
 ‘the head is mine ... the tail is mine ... the liver is mine!’ (‘Kurrirda’)
- c. *emeba amakalyuwakbv-lhangwa*
 NEUT.song NEUT.Bickerton.Island-POSS
 ‘Bickerton Island’s song’ (VL2 p.224)

(vii) ablative

- (13) a. *M-akina nvmv-lhvke-nv-ma a-mvrndak-akina-lhangwa amiyerriya akwa*
 3m-that VEG-go-P2-*ma* NEUT-many-that-ABL NEUT.nest and
awuruku-wa...
 NEUT.billabong-ALL
 ‘The roads went from the many nests to the billabong...’ (‘Awurukwa’ w23)
- b. *na-lhvke-nv-ma arvmv-lhangwa alhvkvra*
 3a-go-P2-*ma* NEUT.big-ABL NEUT.house
 ‘they came from the big house’ (JS2 p.112)
- c. *alhawudhawarra ena nvngu-makv-na-ma Dhukururrkwa-lhangwa*
 NEUT.story NEUT.this 1/NEUT-tell-NP2-*ma* FEM.brolga-ABL
 ‘I am telling this story about the Brolgas’ (‘Brolga’ q1)

(viii) emphatic marker

- (14) a. *Akwa ebina yiningilya-kba alkwa enuwa*
 and NEUT.that.same MASC.sandbar-DENIZ NEUT.bait.crab NEUT.flatback.turtle
ngarri-yengbi-ji-na awurmurra ngakurruwa ngarnv-mamalya-lhangwa...
 12a/NEUT-speak-CAUS-NP2 pretending 12a.PRO 12a.m-people-EMPH
 ‘That bait crab that lives on the sandbars, the one we people call ‘turtle crab’ for fun...’
 (‘Crabs’ d7)

b. *Ngalha-ja env-lhangwa-dhangwa dh-adhv-ngiy-enikba ying-ambilyv-ma*
 3f.PRO-CofR 3m.PRO-POSS-EMPH 3f-f-spouse-3m.KIN 3f-stay.P2-*ma*
angalya-manja.
 NEUT.place-LOC
 ‘His own wife was at home.’ (GED p.188)

The suffix *-lhangwa* as an EMPH marker varies with *-dhangwa*. Wubuy has a cognate suffix with a similar meaning: the plurality intensifier suffix *-lhangu* ~ *-dhangu* (Heath 1984: 199).²

Even though the *-lhangwa* suffix caters for the expression of the beneficiary, purpose and cause roles, which are typically covered by a DAT suffix in other languages, labelling this suffix ‘dative’ in Enindhilyakwa is not unproblematic. This is because the main function of this suffix is *not* to mark the indirect object of ditransitive verbs.³ In fact, the example in (8) is the only instance in the data of the recipient of a ditransitive verb marked with *-lhangwa*. The recipient of inherently ditransitive verbs usually bears a different case suffix: either ALL *-wa* or LOC *-manja* (as in [4] and [5] above). Thus, although the *-lhangwa* suffix may mark beneficiaries, purposes, and so on, it does not convey the most prototypical meaning of DAT case: that of recipient. Nevertheless, I will label this grammatical case suffix ‘dative’, as a cover term for the range of dative-like meanings listed in (i) - (v) above.

Given this range of meanings and functions, it is difficult to determine whether *-lhangwa* represents distinguishable case relations (syncretism), or whether one case form covers different, but related, semantic concepts (polysemy). Although POSS and DAT case are often syncretized in Australia (Blake 1977: 35; Dixon 1980: 321), several morphosyntactic features indicate that these are distinct case relations in Enindhilyakwa. There is furthermore evidence that ABL is also a distinct case relation. Firstly, a distinction that is not made by the morphological case suffixes can be made by the cross-referencing pronominal prefixes on the verb. DAT case is distinguished from POSS and ABL by being cross-referenced on the verb, whether as a core argument in (8) above (albeit rare), or as an introduced argument by the benefactive applicative, as in (6a,b) above. This normally does not happen for ABL case, which marks an adjunct nominal denoting the source of movement, or which means ‘about’ for verbs of speech, as in (13c) (though it also has a rare usage as a marker of transitive subjects - see [19] below). The nominal marked with POSS case, the possessor, is never cross-referenced on the verb, as shown in (15) and (16a). When body parts are

² Hardening of the lateral to the stop is predictable and productive in Wubuy, and happens when following a stop or nasal (Heath 1984). In Appendix D I suggest that this hardening is also marginally present in frozen combinations in Enindhilyakwa. It is unclear why the hardened variant appears in (14b). It is certainly not the case that if two *-lhangwa* suffixes follow each other, the second one is the hardened variant - see e.g. (18) below.

³ This has also been noted by Leeding (1989: 305-7), who argues that Enindhilyakwa has no dative case at all. She proposes that indirect objects can receive one of four markers: POSS *-lhangwa*, ALL *-wa*, PURpositive *-yadha*, or the ‘change of referent’ *-aja*. Beneficiaries and purposes are marked with POSS case in her analysis.

concerned, the possessor *can* be represented on the verb as a core argument, but the corresponding overt nominal does then not appear in POSS case, as in (16b).

(15) *Ngv-nga-lhukwa-murrkaji-na-ma nganyangwa dhv-dharrvngka...*
 HORT.1-3f-track-?follow-NP2-*ma* 1.PRO.POSS 3f-woman
 ‘Let me track down my wife ...’ (‘Search’ z32)

(16) a. *nganyangwa alhakba nuw-arrkujeeyi-na-ma*
 1.PRO.POSS NEUT.leg NEUT-be.painful-NP2-*ma*
 ‘my leg hurts’ (anin1_em_au_001)
 b. *ngayuwa nvngv-lhakbak-arrkujeeyi-na*
 1.PRO 1-leg-be.painful-NP2
 ‘my leg hurts’ (Ansec2)

The construction in (16b) is known as ‘possessor raising’ in the literature and was discussed in section 7.10.1. Note that there is no noun class harmony between the possessor noun marked with POSS case and the possessed in (15) and (16a), which is unusual in a language where modifiers normally agree with their heads. In section 8.10 I will argue that the modifier-head relation is expressed by different means when POSS case is involved: the possessor marked with POSS case and the possessum form a constituent.

A second morphosyntactic distinction between the various types of case relations expressed by the suffix *-lhangwa* is that only POSS case can be followed by another case suffix, which sets it apart from ABL and DAT. Some examples are given in (17).

(17) a. *y-aka yinvngvmambalba n-ambilya-ma warnv-mamalya-lhangwa-manja*
 MASC-that MASC.bat MASC-live.NP2-*ma* 3a.m-people-POSS-LOC
alhkvra
 NEUT.house
 ‘bats live under people’s houses’ (GED p.91)
 b. *ak-ambilya nungkwa-lhangwa-manja mangma akwa madha*
 HORT.NEUT-stay.NP2 2.PRO-POSS-LOC VEG.mind and VEG.ear
 ‘let them [my words(NEUT)] stay in your mind and ears’ (‘Mother’s advice’ j42)
 c. *narr-akbilya-ngv-ma yilyakwa-lhangwa-ma amvlhvka merra-manja.*
 3a/NEUT-stick-P2-*ma* MASC.bee.POSS-INSTR NEUT.bees’.wax VEG.string-LOC
 ‘they stuck them [*adhvdhvra* ‘NEUT.bone’] on string with bees’ wax’ (GED p.117)
 d. *Kvngv-lhvka-ja angalyu-wa ngalha-lhangu-wa alhkvra ...*
 IRR.3f-go-NP2 NEUT.place-ALL 3f.PRO-POSS-ALL NEUT.house
 ‘She will go home to her house...’ (‘Burrawang’ o13)

The followability property is only shared with the other adnominal cases: proprietive/privative suffix *-ma* ~ *-mvrra* (section 8.4) and DENIZ *-kba* (section 8.8). The grammatical (e.g. DAT) and semantic (e.g. ABL) cases are never followed by another suffix. Adnominal case suffixes are commonly the only cases that can be followed by another case suffix in Australian languages (e.g. Blake 1977, 1987; Dench & Evans 1988).

Therefore, when two *-lhangwa* suffixes follow each other, I will assume that the inner one represents POSS case, and the outer one ABL case as in (18a), or DAT case as in (18b) (or the rare EMPH marker as in [14b] above]):

- (18) a. *ying-ambilya-ma mamvdhangkwa-manja adhalyvma-lhangwa-lhangwa*
 FEM-stay-NP2=*ma* VEG.sand-LOC NEUT.river-POSS-ABL
 ‘they [click beetles(FEM)] live in the sand from rivers’ (GED p.94)
- b. *aka-ku-ni=yadha awarnda m-akina-lhangwa ngalha-lhangwa-lhangwa*
 IRR.12a/3a-give-NP2=*PURP* NEUT.money VEG-that-DAT VEG.PRO-POSS-DAT
 ‘so that we can give them money for it, for our [truck(VEG)]’ (‘Vehicle hire’ k29)

The above morphosyntactic differences are reasons to believe that the *-lhangwa* suffix in effect represents three distinct case relations:

- (a) grammatical DAT case: indicates the grammatical relation between an argument and a predicate; can be cross-referenced on the verb; cannot be followed by another case suffix
- (b) adnominal POSS case: indicates the relation of one nominal (or NP) to another nominal (or NP); is not cross-referenced on the verb; can be followed by other case suffixes
- (c) semantic ABL case: indicates the semantic role of an adjunct nominal; is not cross-referenced on the verb; cannot be followed by other case suffixes

However, the boundaries between these case relations are fuzzy. For example, as pointed out by Heath for Ngandi (1978a: 43), when used predicatively, the distinction between POSS and DAT case is hazy: ‘that is mine’ in (12b) above can be taken as semantically dative, i.e. involving a recipient or beneficiary (‘that is for me’). Likewise, the POSS suffix in ‘Bickerton Island’s song’ in (12c) could also be read as involving ABL case: ‘song from Bickerton Island’. Furthermore, the prototypical DAT semantic role of recipient is often expressed by other cases in Enindhilyakwa: ALL and LOC. And finally, very occasionally, the *-lhangwa* suffix is used as a nuclear case to mark the transitive subject. This may happen when the pronominal prefixes do not unambiguously identify the subject and the object, for example when both participants have the same person and gender features, as in (19). These are the only two attested examples in my corpus of an agent marked with the *-lhangwa* case suffix;

- (19) a. *biya Nibka-lhangwa nenv-ngaja Nrvmbu-wa*
 then 3m.Pheasant-ABL 3m/3m-hit.PST 3m.Seagull-ALL
 ‘and then Pheasant hit Seagull [on the head]’ (‘Seagull and Pheasant’ u44-5)
- b. *ngalhv-lhangwa nanga-lyang-barra arvngkv-manja akinv-mvrra*
 FEM.PRO-ABL FEM/FEM-head-hit.P1 NEUT.head-LOC NEUT.that-INSTR
dhukururrku-manja
 FEM.brolga-LOC
 ‘she [Emu(FEM)] hit Brolga on the head with that [stick(NEUT)]’ (VL1 p.310)

In line with analyses by Heath (1984: 204) and Evans (2003a: 138) for Wubuy and BGW, respectively, who propose that ABL case can occasionally be used as a marker of transitive subjects, I will assume that the *-lhangwa* suffix here represents ABL case. Since the pronominal prefixes *nen-* in (19a) and *nanga-* in (19b) do not specify who is the agent and who the patient - as both participants of the verb are of the same noun class - this is resolved in (19a) by putting Pheasant in the ABL and Seagull in the ALL case. In other words, the logically opposed ‘from’ and ‘to’ case markers are being used here to explicitly differentiate the subject from the direct object, in a context where confusion might otherwise result. In (19b), the direct object is marked with LOC case, which frequently happens with impact verbs such as ‘hit’ (section 8.5).

The unclear boundaries between the various case relations, notably of the grammatical and semantic cases, have been noted by other researchers for other Australian languages (e.g. Blake 1977, 1987; Heath 1978a for Ngandi; Simpson 1991 for Warlpiri), and other languages in the world (e.g. Blake 2001).

In sum, in spite of the somewhat hazy distinctions, I propose that the *-lhangwa* suffix represents three distinguishable case relations in Enindhilyakwa: grammatical DAT, adnominal POSS and semantic ABL case. Syncretism of DAT and POSS case is very common in Australia (Blake 1977, 1987). Syncretism of ABL case with DAT and/or POSS, by contrast, is more rare.

8.4 Proprietary / privative, comitative and instrumental *-ma ~ -mvrra*

The *-ma ~ -mvrra* case suffix also has a functional range, from adnominal PROPrietary (‘having, being equipped with’), PRIVative (‘not having’) and comitative (‘with’), to grammatical INSTRUMENTAL case that introduces a participant to the verb. The INSTR suffix expresses the instrument or means with which an action is performed, or the material from which something is made. It occurs on oblique arguments only, and has no usage as a marker of core arguments - as opposed to the very common Australian pattern of syncretism between INSTR and ERGative case (Blake 1977). Some examples of INSTR case are presented in (20).

- (20) a. *nv-ngak-bvrra-nga* *lyelyinga-ma*
 3m/NEUT-wavy.shape-split-P2 knife(NEUT)-INSTR
 ‘he split along its [*akwalya* ‘NEUT.fish’] back with a knife’ (GED p.168)
- b. *Biya engembu-wa* *nvngv-lhvke-nv-ma* *trainv-ma* *Narrabriyu-wa*
 and NEUT.place.called-ALL 1-go-P2-*ma* " -INSTR Narrabri-ALL
 ‘I went by train to a place called Narrabri’ (‘A trip south’ a16)
- c. *Ngayuwa-dhangwa* *yiba-ngaji-na-ma* *eeka-mvrra...*
 1.PRO-EMPH IRR.1/2-hit-NP2-*ma* NEUT.stick-INSTR
 ‘I will hit you with a stick...’ (‘Children’ h26)
- d. *Nara nvng-ena* *ayarrka-ma* *ng-ardharrv-ma* *akwalya*
 NEG 1-this NEUT.hand-INSTR NEGNP-spear-NP3 NEUT.fish
 ‘I can’t spear fish with (my) hands’ (‘Lionel’ i33)

- e. *Warnvngkwarba narrv-ngekbvrakv-na-ma enungkwa enena-mvrra*
 3a.man 3a/NEUT-make-NP2-*ma* NEUT.spear NEUT.this-INSTR
e-me-m+eeka.⁴
 NEUT-INALP-INALP+NEUT.tree
 ‘Men make spears from the wood of these bushes [*kuralba* ‘spear bush(NEUT)]’.
 (GED p.15)

The noun marked with INSTR case is never cross-referenced on the verb.

The *-ma ~ -mvrra* suffix also has a comitative reading (Leeding 1989), as illustrated in (21).⁵ This example comes from my fieldnotes and shows that *-ma* is an short form of *-mvrra*, because two informants used the different forms to translate the same sentence.

- (21) *n-enungkwarba ni-jadhv-nga n-akina yimadhuwaya-ma* (DL)~ *yimadhuwaya-mvrra* (CW)
 3m-man 3m-appear-P1 3m-that MASC.stingray-COM MASC.stingray-COM
 ‘then a man appeared with a stingray’ (Fieldnotes 28/11/08)

In its comitative usage, the suffix is adnominal rather than grammatical: whereas in (20) the suffix expresses the relation between an argument and a predicate, in (21) the suffix relates one noun to another noun [man stingray-COM] ‘man with stingray’. As with nouns marked with POSS case discussed above, there is no noun class agreement between the head noun and the attribute (i.e. **n-akina ni-yimadhuwaya-ma*).

The *-ma ~ -mvrra* suffix also has an adnominal function as proprietive case. Interestingly, when combined with the alienable possession (ALP) prefix *envng- ~ adhvng-* (section 3.4.5.3), this suffix has a privative meaning (Leeding 1989, 1996; Waddy n.d.-a, n.d.-b). This contrast is illustrated in (22) from the dictionary.

- (22) a. *nvngv-dharrvngka-ma*
 1-woman-PROP
 ‘I have a wife’
 b. *nvng-envngv-dharrvngka-ma*
 1-m.ALP-woman-PRIV
 ‘I don’t have a wife’

Though PROP/PRIV syncretism is very unusual, there are some echoes of this elsewhere in Australia: cognacy of proprietive and privative was first mentioned by O’Grady (1979) for Pama-Nyungan languages, and Evans (1990) provides some discussion from Gunwinyguan languages.

As can be seen in (22), there is agreement between the head noun and its attribute: a noun marked with PROP/PRIV case obtains an additional noun class prefix that allows it to agree with the

⁴ This noun has two INALP prefixes, one of which is lexicalised. See section 3.4.5.1.

⁵ Leeding does not distinguish between the comitative and instrumental meanings, and labels this case suffix comitative case (1989: 317).

head noun - or, when used predicatively, to represent the subject argument. This is illustrated for the proprietive construction in (23) and the privative in (24).

- (23) a. *ni-jinabv-mvrra n-akina*
 3m-gun(NEUT)-PROP 3m-that
 ‘he has a gun’ (JS2 p.101)
- b. *dvraka m-alhvkvra-ma*
 truck(VEG) VEG-NEUT.house-PROP
 ‘caravan’ (Lit: ‘truck having the property of a house’) (WD)
- c. *ekbvlkv-makardv-mvrra*
 NEUT.plain-VEG.sea-PROP
 ‘mud flats’ (JW2 p.52)
- d. *Karna kvrrv-dharrvngka kvrr-angkarree-yi-na-ma wurrv-balandu-wa. Mena?*
 2a.this 2a-woman 2a-run-RECP-NP2-ma 3a-whitefella-ALL why
Wi-yama! Wurr-amvrndakijika-mvrra, wurrv-mani-mvrra.
 IMP.2a-say.NP1 3a-NEUT.things-PROP 3a-money(NEUT)-PROP
 ‘You women are running off to whitefellas. Why? Tell me! They have things, they have money.’ (‘Mixed marriages’ e42-6)
- (24) a. *dh-adhvng-inungkwarbv-ma*
 3f-f.ALP-man-PRIV
 ‘widow’ (Lit: ‘she without a man’) (VL1 p.222)
- b. *nvngk-envng-angbilyuwa-ngv-ma nvngk-envngv-mijawara-ma*
 2-m.ALP-NEUT.sickness-?-PRIV 2-m.ALP-VEG.sadness-PRIV
 ‘you will be without sickness and without sadness’ (‘Mother’s advice’ j24-5)
- c. *nara ngarnvng-arvngka-ma*
 NEG 12a.m.ALP-NEUT.head-PRIV
 ‘we are not wise’ (‘Mixed Marriages’ e232)
- d. *n-envngi-yekirrerrv-ma*
 3m-m.ALP-happy-PRIV
 ‘unhappy man’ (VL1 p.193)

The PROP/PRIV suffix in these examples converts a noun with a frozen noun class marker into an adjective with a flexible noun class. For instance, the NEUT noun class marker *a-* of *alhvkvra* ‘NEUT.house’ in (23b) is inseparable from the noun root. When marked with PROP case, however, the noun obtains an additional class prefix that allows agreement with the head noun (here: *dvraka* ‘truck(VEG)’). Such double noun class marking is typologically uncommon, but it also occurs in other contexts in Enindhilyakwa, including the inalienable and alienable possession derivational prefixes described in Chapter 3.

Further evidence that the PROP/PRIV suffix converts a noun into an adjective comes from noun incorporation. As discussed in Chapter 7, noun incorporation is restricted to adjectives and verbs. However, nouns marked with the PROP/PRIV suffix may incorporate a generic noun, as in (23c) above.

There is an exception to the claim that nouns marked with PROP/PRIV case obtain an extra noun class prefix to show agreement. This involves NEUT class head nouns, which do not appear to show class agreement. Consider the following examples.

- (25) a. *nara a-lhvka-ngvma dhvngarrbiya-mvrru-wa*
 NEG NEGNP-go-NP3 FEM.crocodile-PROP-ALL
 ‘Don’t go to where there are crocodiles.’ (JS2 p.110)
- b. *kuw-ambilya-ma wurr-akina yilyaku-mvrrv-manja*
 IRR.3a-stay.NP2-*ma* 3a-that VEG.wild.honey-PROP-LOC
 ‘They will stay where there is wild honey.’ (JS2 p.100)

The subject argument in these examples presumably is *angalya* ‘NEUT.place’. However, this is not represented on the modifier: that is, we do not get **a-dhvngarrbiya-mvrru-wa* in (25a) or **a-yilyaku-mvrrv-manja* in (25b). This could mean that NEUT noun class is excluded from agreement on adjectival nouns derived with the PROP/PRIV suffix. Indeed, in the above examples agreement is with other classes, with the exception of (23c); here, the incorporated generic is *ekbvlk-* ‘plain’, in which we cannot tell whether an additional NEUT class prefix is present, as this would be absorbed by the initial vowel of the incorporated generic.

Considering the above range of meanings and functions of the *-ma* ~ *-mvrra* suffix, the question arises again whether these are distinguishable case relations, or that one suffix caters for all these meanings and functions. Syncretisms of PROP and INSTR are very common in Australia (Blake 1977), where the INSTR meaning could be an extension of an original ‘having’ meaning: ‘having, being equipped with’ > ‘using as an instrument’ (Evans 2003a: 139). However, despite their similar semantics, there are clear differences between PROP/PRIV case on the one hand, and INSTR and COM on the other in Enindhilyakwa. The former is evidently derivational, because this case suffix derives adjectives from nouns. Moreover, only PROP/PRIV case can be followed by another case suffix, as in (25) above and (26), whereas the INSTR and COM cases cannot.

- (26) *nv-ngurjirakv-na angalya-mvrrv-manja Amalyikba*
 3m/NEUT-deepen-P2 NEUT.camp-PROP-LOC A.
 ‘he made a big well [*edhvrra*(NEUT)] at the camping place, Amalyikba’ (Lit: ‘at the place having a camp’ (VL1 p.523-4))

Given this distinct morphosyntactic behaviour, I propose that the *-ma* ~ *-mvrra* suffix represents three distinct case relations:

- (a) grammatical INSTR case: indicates the grammatical relation of an argument to its predicate; only appears on oblique functions, so it is never cross-referenced on the verb; it cannot be followed by other case suffixes
- (b) adnominal COM case: indicates relation of one NP to another NP; is not cross-referenced on

the verb; does not convert nouns into adjectives; cannot be followed by other case suffixes

- (c) adnominal PROP/PRIV case: indicates the relation of one NP to another NP; is not cross-referenced on the verb; is a derivational suffix that converts nouns into adjectives; can be followed by other case suffixes⁶; is often used predicatively

However, again, the boundaries between these functions may be fuzzy as they involve very similar meanings. For example, is the suffix in *mamarra-mvrra* in (27a) PROP case ('land having little paperbark swamp'), where the NEUT head noun *ariba* 'NEUT.land' fails to be represented on the modifier (cf. [25])? Or does the *-mvrra* suffix represent COM case ('land with little paperbark swamp'), which does not require noun class agreement? Similarly, does the case suffix in *a-malyelyikba-ma* in (27b) represent INSTR case denoting the material from which something is made, which is not uncommon in Australia (Blake 1987: 42-3) and which does not require noun class harmony, or is it PROP case that lacks agreement with the NEUT class head noun?⁷

- (27) a. *Malkalha, ebina yakujina ariba-manja eyukujiya ekbvlku-warriya*
 M. NEUT.that there NEUT.land-LOC NEUT.small NEUT.plain-bad
mamarra-mvrra
 VEG.paperbark-PROP
 'Malkalha, that place there on the land with the little paperbark swamp' ('Brolga' q87)
- b. *bangkilya na-ngekburaka-jungu-nv-ma a-malyelyikba-ma bajikala*
 tomahawk(NEUT) NEUT-make-REFL-P2-*ma* NEUT-lid-PROP tin(NEUT)
 'tomahawks that were made from the lids of tins' ('Awurukwa' w10)

Given these similar meanings and hazy boundaries, it is possible that the synchronically distinct functions have developed from a single suffix. And this in turn may have entered the language through diffusion. Several languages in the region (some genetically unrelated) have an INSTR or PROP case suffix *-mirri* (e.g. Wubuy INSTR *-mirri*, Warndarang INSTR *-mirri*, Ritharrngu PROP

⁶ Followability has been one of the main criteria for considering a case suffix as derivational in many grammatical descriptions. For example, Dixon (1980: 300) argues for Yidiny that, since the POSS can be followed by other case suffixes it must be derivational; the case suffix derives a nominal stem that then takes an inflectional ending appropriate to its function in the sentence. Simpson (1991) observes that the criteria for classifying case suffixes as derivational in Warlpiri are elastic, as they have properties of both derivation and inflection. Like derivational suffixes, derivational cases can create nominals that are referential (e.g. *ngangkayi-kirli* [healing.powers-PROP] 'shaman, medicine man'), but like inflectional case suffixes, show concord (1991: 58).

Dench & Evans (1988: 10-3) counter the derivational analysis and claim that the 'followability' criterion is controversial and is not in itself sufficient for considering a suffix to be derivational rather than inflectional. The reason why adnominal suffixes can be followed by semantic suffixes, they argue, is because the outer suffixes originate in a higher constituent than the inner ones. They conclude that adnominal cases have a syntactic, hence inflectional, status; they relate phrases, not words, although of necessity they are marked on words (ibid p.12).

The followability criterion does not do much for Enindhilyakwa either, as both the POSS and the PROP/PRIV can be followed by other case suffixes, but only the PROP/PRIV is derivational. Adding the POSS suffix to a nominal does not result in a flexible noun class marker, so there is no reason for treating the POSS suffix as derivational.

⁷ This example is in fact rather complex. The nominal marked with the *-ma* case suffix is an adjective derived from the noun *alyelyikba* 'NEUT.lips' by the INALP prefix: *a-m-alyelyikba bajikala* [NEUT-INALP-NEUT.lips tin(NEUT)] expresses that part of a tin that resembles lips, i.e. that has thin lining. This is interpreted as the lid of the tin. Hence the NEUT noun class marker on the derived nominal represents *bajikala* 'tin(NEUT)', and not *bangkilya* 'tomahawk(NEUT)'. See Chapter 3 for a detailed discussion of the INALP construction and the body part nouns that participate in it.

-mirri, Djambarrpuyngu PROP *-mirr(i)*). Heath (1978b: 78-9) suggests that the Ritharrngu PROP suffix is archaic, as it is well-established in all Yolngu languages and is reconstructable for proto-Yolngu. He notes this suffix only occurs in a block of three continuous non-Pama-Nyungan languages: Wubuy, Enindhilyakwa and Warndarrang (and not Ngandi). The most likely explanation for this distribution, Heath proposes, is that Wubuy borrowed this suffix from Ritharrngu, specialising PROP as an INSTR, and that subsequently Enindhilyakwa and Warndarrang borrowed the INSTR from Wubuy.

However, Heath missed the PROP and COM uses of the Enindhilyakwa *-mvrra* ~ *-ma* suffix. If the original meaning of the suffix is PROP, it is perhaps more likely that it was the PROP suffix that diffused into Enindhilyakwa, which then extended its meaning to COM and INSTR - rather than borrowing the INSTR from Wubuy as suggested by Heath, and converting it to PROP:

(28) PROP ‘having’ > COM (‘accompanied by’) > INSTR (‘using as an instrument’)

Most likely the composite PRIV suffix developed from the PROP by addition of the ALP prefix. The *-mvrra* suffix could then have been shortened to *-ma* in Enindhilyakwa.

In common with Wubuy, the Enindhilyakwa INSTR suffix does not function as ERG case. The two languages differ in this from the Pama-Nyungan languages, where syncretism of INSTR suffix and ERG is extremely common (Blake 1977, 1987), but also from some non-Pama-Nyungan languages, including Gunwinyguan languages (e.g. BGW, Rembarrnga, Ngalakgan and Ngandi [Heath 1978b: 76]). Apart from the very occasional use of ABL case on transitive subjects, as in (19) above, Wubuy and Enindhilyakwa both lack a systematic ERG case.

8.5 Locative *-manja*

The primary use of the LOC suffix is as a semantic case expressing a static location:

- (29) a. *ambarri-ya arvmv-manja eeka*
 IMP.2.sit-NP1 NEUT.big-LOC NEUT.tree
 ‘sit next to the big tree!’ (VL1 p.308)
- b. *kembirra kvngv-ma-rerrma-ji-na mukwena-manja m-ardvdarra-manja*
 then IRR.3f-VEG-dry-CAUS-NP2 VEG.heat.of.sun-LOC VEG-hot-LOC
 ‘then she will dry them [*mvnhvnga* ‘VEG.burrawang’] in the hot sun’ (‘Burrawang’ o10)
- c. *Mema mawulbvrda nvm-ambilya-ma awurukwa-manja, adhalyvma-manja*
 VEG.this VEG.cormorant VEG-live.NP2-*ma* NEUT.billabong-LOC NEUT.river-LOC
akwa mijiyelya-manja.
 and VEG.beach-LOC
 ‘Cormorants live in billabongs, beside rivers and at the beach.’ (GED p.75)

LOC case indicates a stationary position of an item. An additional adverb can be used to specify this location:

- (30) *n-ambambilyv-mvrra n-akukawura arrawa medhvrrv-manja karrawara*
 3m-RDP.stay.P2-*ma* 3m-alone inside VEG.cave-LOC above
mamvdhangku-manja
 VEG.sandhill-LOC
 ‘he kept on sitting alone inside the cave high up in the sand hills’ (VL1 p.452)

LOC case can also be used as a matrix predicate:

- (31) a. *mijiyelyv-manja wurr-akina*
 VEG.beach-LOC 3a-that
 ‘they are at the beach’ (JS2 p.98)
- b. *Dh-angaba Jenny-lhangwa-manja angalya.*
 3f-that.over.there J.-POSS-LOC NEUT.place
 ‘She is at Jenny’s place.’ (JW1 p.50)

Note that the subject argument of LOC case is not represented on the nominal bearing this case; in other words, LOC case is not a derivational suffix that can add a flexible noun class prefix to a noun (cf. PROP/PRIV suffix discussed in the previous section).⁸

The LOC case suffix can also function as a grammatical case, in three different contexts. It can optionally mark a semantically unusual object that is cross-referenced on the verb, that is, an object other than patient/theme. This was shown in (4a) and (5b) above for the recipient argument of the ditransitive verbs ‘show’ and ‘give’, and it is illustrated again below for the recipient argument of the verbs ‘tell’ and ‘ask’ (see also Leeding 1989: 309). The (32b) and (33) examples show that LOC case on the object nominals is not obligatory.

- (32) a. *bvngv-maka nungkuwa-manja?*
 3fdu/2-tell.PST 2.PRO-LOC
 ‘[what] did they tell you?’ (‘Search’ z16)
- b. *Enena kemba nvngarra-maka-ma wurru-kwalha warnungkwarba=dha, [...]*
 neut.this then 1/3a-tell.PST-*ma* 3a-some 3a.man-TRM
akina bujiked a nvngv-rrvngka-ma.
 NEUT.that cat(NEUT) 1/NEUT-see.PST-*ma*
 ‘Then I told some other men [...] (about) the cat I had seen.’ (‘Bujikeda’ y113)
- (33) *Narra-yendhaba-rna abvrrv-lhangwa(-manja) wurru-ngw-arngwa*
 3a/3a-ask-P2 3a.PRO-POSS(-LOC) 3a-father-3a.KIN
warnv-k-abvrangki=yadha yaraja.
 3a.m-NSR-hunt=PURP MASC.goanna
 ‘They asked their fathers to hunt for goanna.’ (Fieldnotes 2/12/08, DL, ML)

⁸ Leeding (1989: 311) claims that the inflectional LOC case suffix *-manja* also has a derivational usage, as it can create new lexemes. However, her examples either involve place names (e.g. *mv-ngwarndv-manja* [VEG-stone-LOC] ‘Jagged Head’), or nouns derived with the ALP prefix (e.g. *n-envng-akarrngv-manja* [3m-m.AL-NEUT.tooth-LOC] ‘male dentist’). Forming place names with LOC case is a regular strategy in Australia, so this is not sufficient evidence for the derivational status of LOC case. In the second example the noun *akarrnga* ‘NEUT.tooth’ is converted into an adjective with a flexible class prefix, but this is due to the ALP derivational prefix, not to the LOC case suffix. Hence, I claim that LOC case, as well as the other semantic cases, have no derivational usage.

Another grammatical usage of LOC case involves disambiguation: a direct object argument of a transitive verb can be marked with LOC case if the pronominal prefixes on the verb are ambiguous as to who is the direct object. This can happen when both participants are of the same noun class, or when the prefix itself is ambiguous. The following examples come from Waddy (n.d.-b).

- (34) a. *nvng-env-rrvngka n-akina n-enjarrngalyilya mijiyelya-manja*
 1-3m-see.PST 3m-that 3m-boy VEG.beach-LOC
 ‘I saw that boy at the beach.’
- b. *nenv-rrvngka n-akina-manja n-enjarrngalyilya mijiyelya-manja*
 3a/3m-see.PST 3m-that-LOC 3m-boy VEG.beach-LOC
 ‘They saw that boy at the beach.’
- c. *nenv-rrvngka wurr-akina-manja wurr-enjarrngalyilya mijiyelya-manja*
 3m/3a-see.PST 3a-that-LOC 3a-boy VEG.beach-LOC
 ‘He saw those boys at the beach.’

In (34a), the pronominal prefix *nvngen-* unambiguously identifies the subject and the object argument, and the object nominal is not marked with LOC case. The prefix *nen-* in (34b,c), on the other hand, is ambiguous between a 3m/3a and 3a/3m reading, and LOC case is used to identify the object argument.

A third type of grammatical usage of LOC case, as already suggested in section 8.2, is to mark the object argument of verbs of surface contact, which includes ‘hit’, ‘grab’, ‘pull’, ‘rub’, ‘bite’, et cetera. When the object is animate (or a part of an animate) these have a strong tendency to be marked with LOC case.

- (35) a. *nvngkuwa yi-ngaja-ma ngayuwa-manja*
 2.PRO 2/1-hit.PST-*ma* 1.PRO-LOC
 ‘you hit me’ (VL1 p.400)
- b. *narrv-ma-lyungkwe-nv-ma mamvngba-manja kajungwa mv-lhvngajirrvri=yadha*
 3a-VEG-rub-P2-*ma* VEG.hair-LOC so.that VEG-long=PURP
 ‘women used to rub their hair [with seed pods of white cloud tree(FEM), so that it became long]’ (GED p.25)
- c. *David nenv-rrak-bajv-ma Goliath-lhangwa-manja arra*
 D. 3m/3m-forehead-hit.P1-*ma* G.-POSS-LOC NEUT.forehead
 ‘David hit Goliath on the forehead / Goliath’s forehead’ (Ansec1)

The pronominal prefix *nen-* in (35c) does not specify whether David or Goliath is the agent, but this is indicated by the POSS case that marks the possessor of the body part that is hit. Hence LOC case is not required for disambiguation purposes here: it is present on the object argument because its predicate is a verb of surface contact.

By contrast, inanimate object arguments of verbs of surface contact do not tend to be marked with LOC case. This is illustrated by the following two minimal pairs both involving a human and an inanimate patient.

(36) *Narri-lyang-baju-wa-manja angwarnda narr-ararvka-ma dhvngarrkwa-lhangwa*
 3a/NEUT-hard.and.round-hit-P2-LOC NEUT.stone 3a/NEUT-tie.PST-*ma* FEM.spear.grass-POSS
amarda warnv-mukurra-manja, ayarrka-kiya-manja akwa alhakba-kiya-manja
 NEUT.grass 3a.m-face-LOC NEUT.hand-DU-LOC and NEUT.leg-DU-LOC
kajungwa nari=yadha a-ngajv-ma angwarnda abvrruwa-manja.
 so.that NEG=PURP NEGNP-hit-NP3 NEUT.stone 3a.PRO-LOC
 ‘When they were hitting the stone they tied spear grass over their faces and around their
 arms and legs so bits of stone wouldn’t hit them.’ (GED p.47)

(37) a. *narri-lyungkwe-nv-ma abvrra-lhangwa-manja alhakba kajungwa nari=yadha*
 3a/NEUT-rub-P2-*ma* 3a.PRO-POSS-LOC NEUT.leg so.that NEG=PURP
karr-env-marnda-nga yarrnga
 IRR.3a.O-MASC.S-stick-P2 MASC.leech
 ‘they rubbed their legs [with the gum from *yinvbarrnginja* ‘MASC.ghost.gum.tree’] so
 leeches wouldn’t stick on them’ (GED p.24)
 b. *Biya ni-lyungkwena y-akina arakba m-amvrrijungwa-mvrra malharra*
 and 3m/MASC-paint-P2 MASC-that compl.act VEG-black-INSTR VEG.manganese
 ‘And he painted them [*yiraka* ‘MASC.didgeridoo’] with black manganese’ (GED p.183)

Differential object marking on the class of verbs of surface contact has been tested with speakers.⁹ All speakers approved of LOC case on the object of these verbs, but there was some variation as to how obligatory they considered it to be. Elaine Mamarika did not allow LOC case on the animate object of the non-verb of surface contact ‘wash’ (38a). She judged LOC case on the inanimate object of ‘hit’ as optional (38b), but said that it is obligatory on the human body part object of ‘hit’ in (38c). She also did not allow omission of LOC case on the human object of ‘stab’ in (38d), and thought ALL case was ungrammatical here.

(38) a. *nvng-en-ajirra-nga nu-warda*(-manja)*
 1-3m-wash-P2 3m-dog*(-LOC)
 ‘I washed the dog’
 b. *nvng-en-arrku-warda-nga yinungwalya(-manja)*
 1-MASC-small.and.round-tap-P2 MASC.oyster(-LOC)
 ‘I was tapping on the oysters (to open them up)’
 c. *wurri-yukwayuwa aka-ngina-dhadhe-na-ma yina*(-manja) akwa*
 3a-small.PL IRR.12a/3a-joints-poke-NP2-*ma* MASC.knee*(-LOC) and
arnda(-manja)*
 NEUT.elbow*(-LOC)
 ‘we will poke the children’s knees and elbows’¹⁰
 d. *ngayuwa ng-en-adhukwa enuwa*(-manja) / (*-wa)*
 1.PRO 1-3m-stab.PST 3m.PRO*(-LOC) / (*-ALL)
 ‘I stabbed him’ (anin4_em_au_002)

⁹ Elaine Mamarika: female, 54 years old, resident of Angurugu, but originally from Umbakumba (Map 1.2), fluency in other languages besides Enindhilyakwa and English not known. Milly Mamarika: female, 56, resident of Umbakumba, fluency in other languages not known. Dugururu Lalara: female, 56, resident of Angurugu, fluent in Wubuy, Ritharrngu and Kriol. The Umbakumba dialect is considered ‘purer’ than the Angurugu dialect (Leeding 1989), or “strong lingo” according to the speakers.

¹⁰ Elaine Mamarika provided the information that, in the olden times, when a baby is about to crawl, people used to take one of the crabs along the beach and poke the baby on the knees and joints with it so it crawls quickly.

Milly Mamarika judged omission of LOC case on the human object of verbs of surface contact ‘bite’ (39a), ‘pull’ (39b) and ‘hit’ (39c) as ungrammatical. On the other hand, she did not approve of LOC case on the human object of ‘see’ in (39d).

- (39) a. *n-enjarrngalya nang-anga-ma dh-adhiyarv*(-manja)*
 3m-boy 3m/3f-bite.PST-*ma* 3f-girl*(-LOC)
 ‘the boy bit the girl’
- b. *nvng-en-arrka-rnu-ma nenungkwarbv-lhangv*(-manja) ayarrka*
 1-3m-pull-P2-*ma* 3m-man-POSS*(-LOC) NEUT.hand
 ‘I pulled the man’s hand’
- c. *yiba-ngaji-na-ma nungkuwa*(-manja)*
 IRR.1/2-hit-NP2-*ma* 2.PRO*(-LOC)
 ‘I will hit you’
- d. *ngayuwa yiba-rrvngkvnama nungkuwa*(-manja) adhalyvmv-manja arnungkwaya*
 1.PRO IRR.1/2-see-NP2-*ma* 2.PRO*(-LOC) NEUT.river-LOC tomorrow
 ‘I will see you at the river tomorrow’ (anin4_mm_au_001,002)

And Dugururru Lalara thought the LOC case on human objects of ‘hit’ verbs in (40) was optional.

- (40) a. *nara a-ngajv-ma alhakbv-manja ~ alhakba*
 NEG NEGNP-hit-NP3 NEUT-leg-LOC NEUT.leg
 ‘don’t hit his leg’
- b. *nara a-ngajv-ma ni-yukujiya-lhanga(-manja) alhakba*
 NEG NEGNP-hit-NP3 3m-small-POSS(-LOC) NEUT.leg
 ‘don’t hit the boy’s leg’ (anin4_dl_au_001)

I conclude that the human object of verbs of impact verbs of surface contact are differentially marked with LOC case in Enindhilyakwa. Differential object marking for ‘hit’ verbs is common cross-linguistically (Tsunoda 1981, 1985).

To summarise, LOC case is primarily a semantic case that occurs on adjuncts and provides information about the location of an event. It can also be used as a grammatical case on object arguments that are represented on the verb: ‘surprising’ objects (e.g. recipients), objects that are not unambiguously identified by the verbal prefixes, and on objects of verbs of surface contact.

8.6 Allative -*wa*

The main use of ALL case -*wa* is to denote the goal of movement, and is glossed as ‘to’:

- (41) a. *nv-lhvk-ena arvma-wa alhvkvra*
 3m-go-P2 NEUT.big-ALL NEUT.house
 ‘he went to the big house’ (JS2 p.108)
- b. *Yadvkina makarda-lhangwa akwa angerriba akungwa-wa ngarnvngka*
 from.there VEG.sea-ABL and to.over.there NEUT.freshwater-ALL also
kvnu-wilyakv-na.
 IRR.2/MASC-take-NP2
 ‘Then you will also take it [yimadhuwaya ‘MASC.stingray’] from the sea to the freshwater.’
 (‘Yimadhuwaya’ b22)

- c. *Engkvrra-ja ayakwa ena nungkuwa-wa nvngi-yengbi-na-ma.*
 IMP.2.listen-NP2 NEUT.word NEUT.this 2.PRO-ALL 1-speak-NP2-*ma*
 ‘Listen to these words I am speaking to you.’ (‘Mother’s advice’ c3)

In this usage ALL case is semantically dative.¹¹

Some verbs have two alternants, where one is transitive and takes a caseless object nominal, while the other is intransitive and takes an object nominal in ALL case. Consider the following examples from my fieldnotes, with two different translations of the same sentence given by two speakers (same age, same dialect).

- (45) a. *wurr-akina narra-lharrvma-ngv-ma wurrendhindha* (CW 28/11/08)
 COLL-that COLL/COLL-chase-P2-*ma* COLL.rat
 b. *wurr-akina na-lharrvma-ngv-ma wurrendhindhu-wa* (DL 28/11/08)
 COLL-that COLL-chase-past2-*ma* COLL.rat-ALL
 ‘it [dog(COLL)] was chasing the rat’

Caroline Wurramara (female, 56 years old) took the verb *-lharr(v)ma-* ‘chase’ in (45a) as transitive with a regular, unmarked, patient object argument. Dugururru Lalara (female, 56), by contrast, treated this verb as morphologically intransitive in (45b) and put the object argument in ALL case. The following examples show a similar alternation with the transitive verb ‘see’, the object of which can be optionally marked with ALL case, which then has a slightly different meaning:

- (46) a. *ngayuwa ngarra-rrvngka wurruwarda*
 1.PRO 1/COLL-see.PST COLL.dog
 ‘I saw the dog.’ (anin4_dl_au_001)
 b. *ngayuwa ngarra-rrvngka wurruwarda ~ wurruwardu-wa*
 1.PRO 1/COLL-see.PST COLL.dog COLL.dog-ALL
 ‘I was looking at the dog.’ (anin4_dl_au_001)

When the object is marked with ALL case the meaning of the clause is more like directed towards a goal than without the case marker.

In sum, ALL case is a semantic case that provides information about the setting of an event (its goal). It can also be used as a grammatical case on object arguments: on unusual objects other than patient/theme, or on objects of intransitive intentional verbs. In this usage it shows some overlap with the DAT case. ALL case is also occasionally used to mark the object when the pronominal prefix on the verb is ambiguous as to who is the subject and who the object.

¹¹ In Wubuy, one suffix is used for both ALL and DAT: *-wuy ~ -kuy* (with hardening occurring after a stop or nasal). In dative function, the suffix marks a noun that is already cross-referenced on the verb, while this is not true of allative uses (Heath 1984: 201). ALL/DAT case in Wubuy also has special nuclear use to mark the object when the prefix does not specify this (ibid p.204). The Wubuy suffix *-wuy ~ -kuy* may be cognate with Enindhilyakwa ALL *-wa*, which has the same range of functions (see Chapter 9 for the sound correspondences between Enindhilyakwa and Wubuy).

8.7 Ablative-pergressive *-lhangwiya*

The semantic ABL.PRG case suffix *-lhangwiya* formally consists of ABL *-lhangwa* plus pergressive clitic *=wiya* (Leeding 1989), but functions semantically as a unit. The meaning of the pergressive clitic *=wiya* is difficult to capture and will be left for further research. Leeding (1989: 313) suggests it denotes progression through time or space, while the dictionary lists additional meanings of ‘plural’ when used on nouns and ‘just, only, still’ when used on adverbs. Some examples of this clitic are given in (47).

- (47) a. *dhvrija anhvnga=wiya*
 dress(FEM) NEUT.food=PRG
 ‘food-covered dress’ (VL1 p.300)
- b. *Arakba=wiya yirruwa yirri-yukwayuwa=wiya...*
 compl.act=PRG 1a.PRO 1a-small.PL=PRG
 ‘Long ago when we were children ...’ (‘Awurukwa’ w1)
- c. *Nvbardvbarda-manja neni-karra-ngv-ma lhukwakwa yukurna-mvrru=wiya*
 N.-LOC 3a/3m-roast-P2-ma on.the.way MASC.bailer.shell-INSTR=PRG
ngawa=dha
 still=TRM
 ‘they roasted Nvbardvbarda on the way with the bailer shells’ (‘Nvbardvbarda’ s128)

The ABL.PRG case suffix *-lhangwiya* denotes movement along a path or through space (Stokes 1982; Leeding 1989; Waddy n.d.-b). Leeding notes that some speakers spell this suffix as *-lhangwiya*, which confirms its composite nature (1989: 314).¹²

- (48) a. *nv-lhvke-na mi-yukujiya-lhangwiya mamvrukwa*
 3m-go-P2 VEG-small-ABL.PRG VEG.road
 ‘he went along the little path’ (JS2 p.116)
- b. *nvm-angkarrv-na arrawu-lhangwiya*
 VEG-fly-P2 inside-ABL.PRG
 ‘it [plane (VEG)] flew very low’ (Lit: ‘along a path inside the sky’) (JS2 p.118)
- c. *nv-lhvke-nv-ma angandhingv-lhangwiya amarda*
 3m-go-P2-ma NEUT.sharp-ABL.PRG NEUT.grass
 ‘He was going through the sharp grass.’ (VL1 p.314)
- d. *Yaka yinvbvrva ngenv-rrvngkv-na-ma akwalhiyadha n-angkarrv-na-ma*
 MASC.that MASC.frigate.bird 12a/MASC-see-NP2-ma sometimes MASC-fly-NP2-ma
mukumukwa-lhangwiya makarda-lhangwiya.
 VEG.deep.sea-ABL.PRG VEG.sea-ABL.PRG
 ‘We sometimes see frigate birds flying over the deep sea and the sea.’ (GED p.72)

The ABL.PRG suffix has no attested usage as a grammatical case.

¹² Wubuy has a similar ABL-PRG composite suffix *-walawaj ~ -kalawaj* ‘(going) along X’, which consists of the ABL *-wala* and pergressive *-waj* (Heath 1984: 210).

8.8 Denizen *-kba*

DENIZ case *-kba* is an adnominal case that expresses the habitat of an animal or species (Waddy n.d.-b). It attaches to the nominal that expresses the habitat (or its modifier). There are no attested examples of the inhabitant being human.

- (49) a. *Dhvngarrbiya dh-aka ngawa [...] arvmvrvma-kba adhalyvma*
 FEM.crocodile FEM-that still NEUT.RDP.big-DENIZ NEUT.river
 ‘Crocodile still lives in big rivers’ (‘Crocodile and Bluetongue’)
- b. *Akwa ebina yiningilya-kba alkwa [...]. Vmba ebina*
 and NEUT.that.same MASC.sandbar-DENIZ NEUT.bait.crab but NEUT.that.same
anhvma-kba alkwa ngarrv-mungkwadhv-na-ma...
 NEUT.mangroves-DENIZ NEUT.bait.crab 12a-dig-NP2-*ma*
 ‘That bait crab that lives on the sandbars [it’s not edible]. But that bait crab that lives in
 the mangroves, that we dig up [it’s edible].’ (‘Crabs’ d7-8)

There is no noun class agreement between the modifier and the head. DENIZ case is semantically very similar to LOC case *-manja* that equally denotes a static location. The difference, however, is that the former is adnominal and the latter semantic:

- (50) *Vmba ngalha-ja ebina envng-anhvma-kba alkwa,*
 but NEUT.PRO-CofR NEUT.that.same NEUT.m.ALP-NEUT.mangroves-DENIZ NEUT.bait.crab
akina anvma-manja nuw-ambilya-ma...
 NEUT.that NEUT.mangroves-LOC NEUT-live.NP2-*ma*
 ‘The bait crab that belongs in the mangroves, it lives in the mangroves...’ (‘Crabs’ d24)

Adnominal *-kba* relates the noun *alkwa* ‘NEUT.bait crab’ to the noun *anhvma* ‘NEUT.mangroves’, whereas semantic LOC case provides information about the setting of ‘living’.

Being adnominal, DENIZ case may be followed by a semantic case suffix. Only one example is attested:¹³

- (51) *yi-nungu-makardv-kbv-manja*
 MASC-m.ALP-VEG.sea-DENIZ-LOC
 ‘sea snake’ (VL2 p.231)

Adnominal DENIZ case is not a common case marker and it has no usage as a grammatical or semantic case.

8.9 Case concord

Case concord is optional in Enindhilyakwa when the modifier and the head are adjacent. In fact, in continuous NPs, usually only the modifier receives case (Stokes 1982; Leeding 1989). This is true for every case type, as can be seen in many of the examples above, and in (52).

¹³ Leeding (1996: 213) calls the *-kba* suffix a marker of “some sort of possession”.

- (52) a. *ambarri-ya arvmv-manja eeka*
 IMP.2.sit-NP1 NEUT.big-LOC NEUT.tree
 ‘sit next to the big tree!’ (VL1 p.308)
- b. *nvngi-lyingv-na-ma m-akina-lhangwa dvraka awarnda*
 1/NEUT-keep-NP2-*ma* VEG-that-DAT truck(VEG) NEUT.money
 ‘I keep the money for that truck’ (= [9b])
- c. *narr-akbilya-ngv-ma yilyakwa-lhangwa-ma amvlhvka merra-manja.*
 3a/NEUT-stick-P2-*ma* MASC.bee.POSS-INSTR NEUT.bees’.wax VEG.string-LOC
 ‘they stuck them [*adhvdhvra* ‘NEUT.bone’] on string with bees’ wax’ (= [17c])
- d. *y-aka yinvngvmambalba n-ambilya-ma warnv-mamalya-lhangwa-manja*
 MASC-that MASC.bat MASC-live.NP2-*ma* 3a.m-people-POSS-LOC
alhvkvra
 NEUT.house
 ‘bats live under people’s houses’ (= [17a])
- e. *ngayuwa kvnga-wilyaka-ji-na-ma dh-akina Judie mvnhvnga m-akina-lhangwa*
 1.PRO IRR.1/3f-take-CAUS-NP2-*ma* 3f-that J. VEG.cycad VEG-that-ABL
 ‘I will teach Judie about that burrawang [bread].’ (‘Burrawang’ o23)

In most cases the modifier precedes the head, but it is also possible for it to follow the head, as in (52e). In the absence of a modifier, case attaches to the head, as in many examples above. When there are two or more modifiers in a continuous NP, only one of them needs to be case-marked, as shown in (53a). Stokes (1982: 99) notes that if one of the modifiers follows the head, its case suffix is optional (53b). In the textual data though, both non-adjacent modifiers are usually case-marked, as illustrated in (53c,d).

- (53) a. *nenv-malyangkee-yi-nv-mvrra abvrnv-lhangu-mvrra a-yukwayuwa enungkwa*
 3mdu-play-RECP-P2-*ma* 3mdu.PRO-POSS-INSTR NEUT-small.PL NEUT.spear
 ‘the two [boys] were playing with their little spears’ (VL1 p.310)
- b. *nv-lhvke-na m-angabv-lhangwiya mamvrukwa mi-yukujiya(-lhangwiya)*
 3m-go-P2 VEG-that.over.there-ABL.PRG VEG.path VEG-little(-ABL.PRG)
 ‘he went along that little path’ (JS2 p.116)
- c. *nvng-ena nvngi-yengbi-na-ma mema-lhangwa adhuwaba dvraka*
 1-this 1-speak-NP2-*ma* VEG.this-ABL today truck(VEG)
ngakurra-lhangwa-lhangwa
 12a.PRO-POSS-ABL
 ‘I am talking today about that truck of ours’ (‘Vehicle hire’ k1)
- d. *dh-ababvrnv-lhangwa dhymbala ngakurrv-lhangwa karrawara*
 FEM-many-POSS clothes(FEM) 12a.PRO-POSS high
akvnga-wurdi-ji-na-ma eeka-manja
 IRR.12a/FEM-climb-CAUS-NP2-*ma* NEUT.tree-LOC
 ‘we will put our many clothes up high in the tree’ (VL1 p.294)

Also when case is used predicatively do both arguments receive case when they are non-adjacent:

- (54) *yirra-lhangwa yikarba yirr-arvma-lhangwa*
 1a.PRO-POSS MASC.woomera 1a-big-POSS
 ‘woomeras are for us adults’ (‘Lionel’ i14)

There are however a handful of examples of a continuous NP where both the head and the modifier are case-marked, some of which are given below.

- (55) a. *kembirra kvngv-ma-rerrma-ji-na mukwena-manja m-ardvdarra-manja*
 then IRR.3f-VEG-dry-CAUS-NP2 VEG.heat.of.sun-LOC VEG-hot-LOC
 ‘then she will dry them [*mvnhvnga* ‘VEG.burrawang’] in the hot sun’ (= [29b])
 b. *akwalha narri-yena-nga-ma alyarrngandhv-manja amarnvvn-manja*
 NEUT.some 3a/NEUT-roast-P2-*ma* NEUT.hot-LOC NEUT.coals-LOC
 ‘they cooked some in the hot coals’ (‘Malhamukwa-lhangwa’)

These examples suggest that case on the head of a continuous NP is optional, rather than obligatorily absent, as it would seem from (52)-(54).

In discontinuous NPs, by contrast, the modifier and the head both obligatorily receive case:

- (56) a. *dvngkiyv-manja arakba mi-yukujiyv-manja yirrv-ribijee-yi-na*
 dinghy(VEG)-LOC compl.act VEG-small-LOC 13a-disembark-RECP-P2
 ‘we went ashore in the small dinghy’ (VL1 p.308)
 b. *ngarr-ibina-lhangwiya kembirra ngarrv-minjirrv-mvrdha-lhangwiya ena*
 12a-that-ABL.PRG then 12a-skin-dark-ABL.PRG NEUT.this
angalya akv-mvn-ambilyi=yadha
 NEUT.place IRR.12a/NEUT-BENE-stay.NP2=PURP
 ‘so we can keep this place according to our full-blood way’ (‘Mixed marriages’ e115)

Complete concord for discontinuous NPs and marking of only one member of continuous NPs happens in other languages also; Dench & Evans (1988: 5) mention Diyari, for example.

In coordination structures, all conjuncts are case-marked:

- (57) a. *nenv-ma-ngv-ma yi-nv-mangwurracija yukungba-lhangwa akwa*
 3a/MASC-take-past-*ma* MASC-m-fur MASC.possum-POSS and
yelyuwarra-lhangwa
 MASC.sugar.glider-POSS
 ‘they took fur from possums and from sugar gliders’ (GED p.202)
 b. *Amarnvna-ma akwa ajirvngka-ma kvnv-karre-na...*
 NEUT.ashes-INST and NEUT.sand-INST IRR.2/MASC-roast.in.ashes-P2
 ‘You will roast it [burrawang(MASC)] with hot sand and ashes ...’ (‘Burrawang’ b11)
 c. *Mema mawulbvrda nvm-ambilya-ma awurukwa-manja, adhalyvma-manja akwa*
 VEG.this VEG.cormorant VEG-stay.NP2-*ma* NEUT.billabong-LOC NEUT.river-LOC and
mijiyelya-manja.
 VEG.beach-LOC
 ‘Cormorants live in billabongs, beside rivers and at the beach.’ (= [29c])

In sum, case concord is optional when the modifier(s) and head are adjacent, but obligatory for discontinuous NPs and in coordination structures.

8.9.1 Case concord involving relative clauses

Relative clauses are obligatorily marked with the subordinate clause marker *-ma ~ -mvrra* that follows the tense/aspect inflectional suffixes (section 6.7). The *-ma ~ -mvrra* suffix also very frequently appears on verbs in the main clause, where I analysed it as a ‘first person focalisation marker’, hence relative clauses may look identical to main clauses:

- (58) *narrv-m-angka-rnv-ma mvnhvnga m-ibina narrv-ma-lyakukwa-ma akungwa-manja*
 3a-VEG-collect-P2-*ma* VEG.burrawang VEG-that 3a-VEG-soak.P2-*ma* NEUT.water-LOC
 ‘they collected the burrawang nuts that they had soaked in water’ (GED p.85)

The pronominal prefix on the verb shows what the relative clause modifies: here the object represented on the verb in the relative clause is the same as the object of the main clause. An alternative translation of this example could therefore be: ‘they collected the burrawang nuts, they had soaked them in water’.

The verb in a relative clause is fully inflected, but it behaves like a nominal in that it agrees in case with the head noun in the main clause. The distribution of the case suffixes involving relative clauses is identical to that of nominals discussed above: only the modifier obligatorily receives case in a continuous NP. Compare for instance [big-ALL tree] ‘to the big tree’ with [woman 3f-sit-NP2-*ma*-ALL] ‘to the woman that is sitting’. It is always the verb of the relative clause that receives case. Only in discontinuous NPs are the head and the relative clause obligatorily case-marked.

This is pattern illustrated in the following examples for: LOC in (59); ALL in (60); ABL in (61); DAT in (62); and INSTR in (63). When two examples are given for a particular case suffix, the noun in the main clause and the relative clause are adjacent in the (a) examples - and thus only the verb of the relative clause is marked for case - whereas they are non-adjacent in the (b) examples, and both the noun and the verb of the relative clause are case-marked.

- (59) a. *narri-lyungkwe-nv-ma ebina nuw-arrkujeeyi-nv-mvrrv-manja a-madhangkwa*
 3a/NEUT-rub-P2-*ma* NEUT.that NEUT-be.painful-P2-*ma*-LOC NEUT-body
 ‘... they rubbed [the leaves of *engbajengbaja* ‘NEUT.boronia’] on the part [of their body] that was hurting’ (GED p.9)
- b. *nvng-akvma-rna amawalyuwa ebina-manja angalya na-jungu-na-mvrrv-manja*
 1/NEUT-put-P2 NEUT.flowers NEUT.that-LOC NEUT.place COLL-die-P2-*ma*-LOC
 ‘I put flowers on the place where it [bird(COLL)] died’ (anin1_ ‘my dream’ _dl)
- (60) a. *nuw-errikbi-nv-ma akina nvm-angkarrv-nv-mvrru-wa m-ibina mamarika*
 3a-throw-P2-*ma* NEUT.this VEG-run-P2-*ma*-ALL VEG-that VEG.southeast.wind
 ‘they tossed them [leaves(NEUT)] to the southeast wind that was blowing’ (GED p.58)
- b. *lhvki-yee=ka nungkwa-lhangu-wa angalya arakba*
 2.IMP.go-NP1=EMPH 2.PRO-POSS-ALL NEUT.place now
nvngkv-ngekbvraka-mvrru-wa, nungkwa-ja!
 2/NEUT-make.PST-*ma*-ALL 2.PRO-CofR
 ‘Go to your place that you have made, you!’ (‘Crocodile and Bluetongue’)

- (61) a. *akina edhvrira nvngv-mungkwadhv-nv-ma-lhangwa kembirra nvngu-wurda-ngv-ma*
 NEUT.that NEUT.hole 1-dig-P2-*ma*-ABL then 1-climb-P2-*ma*
 ‘I climbed out of the hole that I dug.’ (Fieldnotes, ML 3/12/08)
- b. *nvngv-lhvka-rna ngi-jadha-nga akina-lhangwa angalya ngayuwa*
 1-go-P2 1-appear-P2 NEUT.that-ABL NEUT.place 1.PRO
ngv-ngekvraka-ma-lhangwa
 1/NEUT-make.PST-*ma*-ABL
 ‘I went out of the house that I built.’ (Fieldnotes, ML 3/12/08)
- (62) *vmba n-akina nara kenu-kwa ngayuwa-wa awarnda a-mvrndak-akina*
 but 3m-that NEG IRR.3m/1-give.P2 1.PRO-ALL NEUT.money NEUT-many-that
m-ibina kvrramu-wurraki-lyilya-ngv-mv-lhangwa
 VEG-that VEG/2a-many-take-P2-*ma*-DAT
 ‘but he didn’t give me all that money for the truck(VEG) that took you out’ (‘Vehicle hire’ k18)
- (63) *Biya wurr-ibina nuw-ambilyv-mvrrv-mvrra angalya-manja narrv-dhaka-ma*
 and 3a-that 3a-stay.P2-*ma*-INSTR NEUT.place-LOC 3a/NEUT-cook.P2-*ma*
arndvrrba
 NEUT.waterlily.roots
 ‘And they cooked the waterlily roots with those who stayed at the camp’ (‘Awurukwa’ w29)

In the last example *angalya-manja* is part of the relative clause ‘those who stayed at the camp’.

The cases that appear on the verb in a relative clause have the same meaning and function as they do on nominals: semantic LOC case in (59), for instance, denotes the location of an event, and grammatical DAT case in (62) denotes the purpose of an event. And in (64a) DAT case occurs on the oblique complement of ‘fear’ in the main clause (identical to the use of this case on nominal complements of ‘fear’). The matrix NP and the subordinate clause are adjacent, so only the relative clause receives case. However, it is also possible for both the noun and the adjacent relative clause to be case-marked, as in (64b). This shows that, as with nominals, case on the head noun of a continuous NP is not obligatorily absent, but merely optional.

- (64) a. *Warnv-mamalya nuw-akbardhe-na-ma y-akina kvn-awiyeba-mv-lhangwa*
 3a.m-people 3a-be.afraid-NP2-*ma* MASC-that IRR.MASC-enter.P1-*ma*-DAT
abvrra-lhangwa-manja madha.
 3a.PRO-POSS-LOC VEG.ear
 ‘People are afraid of them [*ylhama* ‘MASC.bug’] getting into their ears.’ (GED p.95)
- b. *Arakbawiya warnv-mamalya nuw-akbardha-ngv-ma y-akina-lhangwa*
 long.time.ago 3a.m-people 3a-be.afraid-P2-*ma* MASC-that-DAT
kvnv-ngekvraka-mv-lhangwa edhvrira emindhha-manja.
 IRR.MASC/NEUT-make.P2-*ma*-DAT NEUT.hole NEUT.nose-LOC
 ‘A long time ago people were afraid of them [*yangungwa* ‘MASC.eel’] making a hole in their noses.’ (GED p.101)

Case suffixes that specify various kinds of co-reference relationships between main and subordinate clause arguments are called C-complementisers in the literature (e.g. Dench & Evans 1988). The case suffixes as they appear on the verb in relative clauses in Enindhilyakwa, although

reminiscent of C-complementisers, are not analysed as such, because they do not have a subordinating function: it is the *-ma ~ -mvrra* suffix that functions as the subordinator. The case suffixes on the verb in the relative clause are added to the subordinate clause marker and only appear in agreement with the head noun in the main clause.

In sum, nominal case suffixes are used on fully inflected verbs in relative clauses in the same way as they appear on nominals. Case suffixes appearing on finite verbs, rather than say, non-finite nominalised verbs, are typologically unusual. Other instances are given in section 8.11.

8.10 NP constituency

Some researchers have claimed for particular Australian languages that these do not have noun phrases, but that instead nominals are simply juxtaposed in the syntax. For example, Heath (1978a: 52) claims for Ngandi that “noun phrases which have more than one constituent are typically formed by apposition [...] where the various constituents are often formally independent of each other [...] and may be separated from each other”. Similar claims for a flat structure have been made by Blake (1983) for Kalkatungu, Evans (1995) for Kayardild, Wilkins (2000) for Mparntwe Arrernte, Gaby (2006) for Kuuk Thayorre (cited in Sadler & Nordlinger 2009), and Heath (1986) for Wubuy. Other languages may have clear NP structures for head-modifier relations, but simultaneously have a range of constructions that are seemingly appositional without any evidence of syntactic asymmetry. Examples are the part-whole and generic-specific constructions, or various other types of nominal-nominal ‘appositions’ (Sadler & Nordlinger 2009). In section 7.10 I argued for an appositional analysis of part-whole and generic-specific constructions in Enindhilyakwa.

The situation is different for head-modifier relations. We have seen above that when a head and a modifier are adjacent, only the modifier needs to be case-marked. Hence the head of the NP can clearly be identified: it is the one that does not bear case (although admittedly the head can optionally receive case as well). The fact that case can be factored out over the members of the NP suggests that these form a constituent. In discontinuous NPs, by contrast, both heads and modifiers receive case. Together with the fact that any nominal (allowing for its semantics) can act as a predicate, this makes it impossible to determine the head of the phrase and thus these nominals can be seen as in apposition.

This asymmetry does not exist for POSS case (and probably not for COM and DENIZ case either but the data are too scarce to draw any firm conclusions). The modifier marked for POSS case is always adjacent to the head which is caseless. This was true for all the above examples, and the following.

- (65) a. *ak-akvma-manja ngakurra-lhangwa ayarrka ena-lhangwa-manja*
 IRR.12a/NEUT-put.NP1-LOC 12a.PRO-POSS NEUT.hand MASC.PRO-POSS-LOC
edhvrra...
 NEUT.mouth
 ‘if we put our hands into their [*yulkwa* ‘MASC.toadfish’] mouths...’ (GED p.115)
- b. *ne-beki-nv-ma m-akina ma-malyirra akena abvr-ra-lhangwa mulkwa*
 3a-drink-P2-*ma* VEG-that VEG-liquid but 3a.PRO-POSS VEG.stomach
nvm-arrkujeeyi-nv-ma
 VEG-be.painful-P2-*ma*
 ‘they drank the liquid(VEG) but their stomachs hurt’ (GED p.7)

It is always the caseless head noun that is cross-referenced on the verb. There is no noun class agreement between the noun marked with POSS case and the head noun. This lack of agreement is somewhat remarkable, because modifiers always agree in noun class with their head. The question then is how the modifier-head relationship is represented. One plausible answer is that this is done by configurational means, as the modifier bearing POSS case and its head form a tight unit. The lack of noun class harmony could thus be made up for by adjacency. When this NP constituent is in a non-zero case category, i.e. other than subject and direct object, only the modifier is marked for peripheral case, as in (52d) and (53a,c) above, and the following.¹⁴

- (66) *biya n-eniyuwangku-lhangu-manja alhvkvra yirr-ambilyv-ma*
 then 3m-old.man-POSS-LOC NEUT.house 1a-stay.p2-*ma*
 ‘then we were staying at the old man’s house’ (VL1 p.309)

LOC case denoting the location of the event is factored out over the NP constituent.

If the analysis of NP constituency of possessor nouns marked with POSS case and their heads is correct, we would expect case to be able to be factored out over a coordination structure as well. This expectation is borne out:

- (67) *Nara angkarrkajv-ma dambakwa vmba wurr-ambilya karnvngaba*
 not NEGNP.smoke-NEGNP tobacco(FEM) but 2a.IMP-live.NP2 2a.good
yik-arrvngkv-na=yadha nungkurrv-lhangwa angkuwa akwa
 IRR.2/NEUT-see-NP2=PURP 2.PRO-POSS NEUT.child.of.daughter and
ambinya
 NEUT.child.of.son
 ‘Don’t smoke, live well to see your grandchildren.’ (Angurugu Linguistics)

¹⁴ This structure then differs from the Wubuy structure of possession NPs: Heath (1986: 392-4) suggests that the syntactic asymmetry between possessor and possessum is blurry. Although the possessor is marked with the Wubuy equivalent of POSS case, and verb agreement is with the possessum only (similar to the Enindhilyakwa situation), the major evidence for an appositional analysis comes from case-marking when the possessum is not subject or object. In this event, POSS case on the possessor is frequently replaced by a copy of the case suffix found on the possessum. The result is a surface string that has the appearance of an appositional juxtaposition: *he-went to-me to-the-house* ‘he went to my house’. This is very different from Enindhilyakwa, where we would find *he-went to-POSS-me house* ‘he went to my house’.

Coordination takes place *within* a constituent, so POSS case can be factored out over both coordinates. This coordination structure can be represented as follows.

(68) [you-POSS [[child of daughter] and [child of son]]]

In conclusion, Enindhilyakwa appears to have both nominal appositional structures, where neither nominal can be identified as the head, and asymmetrical head-modifier NP structures, where a head can easily be identified.

8.11 T-complementising case

As we have seen in section 8.9.1, the domain of nominal case marking is readily extended to finite verbs in a relative clause, where the case suffixes follow the subordinate clause marker *-ma ~ -mvrra* and agree with the head noun in the matrix clause. However, case suffixes can also appear on fully inflected verbs in another type of subordinate clause: in adverbial subordinate clauses that specify temporal or logical relations with the main clause. Case suffixes that take two clauses as their arguments are called ‘T-complementisers’ in the Australianist literature (e.g. Hale 1976; Simpson 1988; Dench & Evans 1988). Complementising case suffixes are most common on non-finite nominalised verbs in Australian languages, but in the eastern Gunwinyguan languages (Ngalakgan, Rembarrnga, Wubuy - but not Ngandi) they occur on finite verbs.¹⁵ Nominalised verbs are very rarely case-marked in Enindhilyakwa. The only morphemes they take are some enclitics, such as PURPOSIVE =*yadha* (Appendix H) and REASON =*baba* (see Leeding 1989) (these clitics have similar semantic functions to case suffixes but with a different distribution).

All T-complementiser case suffixes except LOC case obligatorily occur with the subordinating *-ma ~ -mvrra* suffix. A difference with the case markers appearing on verbs in relative clauses - which were *not* analysed as complementising cases - is that they are not triggered by agreement with a head noun in the matrix clause. They indicate the relationship of a subordinate clause with the main clause, with adjusted semantics, so the T-complementation analysis is justified. Table 8.2 lists the various Enindhilyakwa T-complementiser suffixes and their meanings.

Suffix	Label	Gloss as T-complementiser
<i>-manja</i>	LOC	‘if, when’
<i>-lhangwa</i>	ABL	‘after’
<i>-wa</i>	ALL	‘until’
<i>-lhangwiya</i>	ABL.PRG	‘while’
<i>-kba</i>	DENIZ	‘see whether’

Table 8.2: T-complementiser case suffixes and their meanings

¹⁵ Other languages in which this happens are Kamilaroi and Yuwaaliyaay (Dench & Evans 1988: 18), and Martuthunira (Dench 1995, cited in Nordlinger 1998).

An example of each T-complementiser case suffix is presented below. LOC case with realis mood prefixation means ‘when’, as in (69), and with irrealis mood prefixation yields conditional ‘if’ (70). I demonstrated in section 6.7 that the absence of the *-ma ~ -mvrra* suffix with LOC T-complementising case was not due to haplology, as the two suffixes do occur together in relative clauses (see examples in [59] above). Instead I suggested the absence of *-ma ~ -mvrra* with LOC T-complementising case is for semantic reasons, as this suffix is incompatible with unrealised events. However, this issue clearly needs more research. The use of ABL case as a T-complementiser meaning ‘after’ is illustrated in (71); of ALL meaning ‘until’ in (72); of ABL.PRG meaning ‘while’ in (74); and of DENIZ meaning ‘see whether’ in (75). LOC and ABL are the most common T-complementiser cases. No examples of DAT and INSTR cases in this function have been found.

- (69) a. *nvm-awiyebe-nv-manja m-ibina mamawura arakba*
 VEG-enter-P2-LOC VEG-that.same VEG.sun already
yirru-mvrndak-arrv-mvrndukwa-ma bajikala
 13a/NEUT-many-small.and.round-gather.P2-*ma* tin(NEUT)
 ‘when the sun set we gathered our tins’ (‘Awurukwa’ w35-6)
- b. *Nvm-abvlhvwendha-ma ngarra-mv-rrvngkv-na-manja ngarnv-mamalya...*
 VEG-bow.down.NP1-*ma* 12a.O-VEG.S-see-NP2-LOC 12a-people
 ‘They [*mamvkiyeliya* ‘VEG.shy crab’] tuck their heads in when they see us people...’
 (‘Crabs’ d28-9)
- (70) a. *nvngk-akina kvnv-ngalyakv-manja y-akina yingarna ken-ardhvrri-ya-ma*
 2-that IRR.2/MASC-tread.on.NP1-LOC MASC-that MASC.snake IRR.MASC/2-spear-NP1-*ma*
 ‘If you stand on that snake it will bite you.’ (VL1 p.491)
- b. *kenu-warde-na-manja, nungkwa-ja kvnu-warde-na arrkalha*
 IRR.3m/2-hit-NP2-LOC 2.PRO-CofR IRR.2/3m-hit-NP2 on.the.other.hand
 ‘if he hits you, you can hit him back’ (‘Children’ h15-6)
- (71) a. *akv-dhakv-na-mv-lhangwa akwalya iya yimendha, aku-wurymbiji-na-ma*
 IRR.12a/NEUT-cook-NP2-*ma*-ABL NEUT.fish and MASC.turtle IRR.12a/NEUT-cover-NP2-*ma*
y-aka-mvrra yi-nv-m-amarda
 MASC-that-INSTR MASC-m-INALP-NEUT.grass
 ‘after we cook fish and turtles, we cover the meat with the leaves of these trees
 [*yawurdarra* ‘MASC.red jungle berry’]’ (GED p.3)
- b. *Kembirra nenv-ringandha-ngv-mv-lhangwa nuw-awurikee-yi-na wurr-ababvrnalhangwa*
 then 3a/MASC-cut-P2-*ma*-ABL 3a-share-RECP-P2 3a-everyone
 ‘After they had cut up the turtle, they shared it with everyone’ (GED p.172)
- (72) *n-embvmbivrarv-nv-ma ngawa wurr-ababvrnv-lhangwa*
 3m-RDP.wait-P2-*ma* cont.act 3a-many-POSS
ka-mungku-mungkulhi-jee-yi-nv-mvrriu-wa
 IRR.3a-RDP-sleep-CAUS-RECP-P2-*ma*-ALL
 ‘he kept on waiting until everyone was sleeping’ (VL1 p.405)
- (73) *kv-lhvka-ja-mv-lhangwiya ngayuwa nvng-env-m-alhvka yikv-lhukwa-mvrrkaji-na*
 IRR.1-go-NP2-*ma*-ABL.PRG 1.PRO 1-m-INALP-NEUT.foot IRR.2a/1-track-follow-NP2
 ‘while I will be going [through the area], you can follow my tracks’ (VL1 p.314)

- (74) *n-embvrrarv-nv-ma kenu-kwa-mvrrv-kba wun-alh-akina wurrawuminya*
 3m-wait-P2-*ma* IRR.3a/3m-give.P2-*ma*-DENIZ 3mdu-du-that COLL.duck
 ‘he was waiting to see if they two would give him a duck’ (VL1 p.493)

As for relative clauses (section 8.9.1), T-complementisers occur on the head of the subordinate clause only. In the presence of the negator *nara*, the case suffix attaches to this element instead, as in (75). The negator can thus be assumed to be the head. The example in (75b) shows that *nara* can also be the matrix predicate.

- (75) a. *akv-lhvka-ja-manja erriberriba-wa akwa nara-manja a-rrvngka-ma dh-akina*
 IRR.12a-go-NP2-LOC NEUT.bush-ALL and NEG-LOC NEGNP-see-NEGNP FEM-that
 ‘if we go to the bush and if we don’t see that snake(FEM)...’ (GED p.102)
 b. *Nara-manja alyukurra ak-akvmv-rna-ma awalyuwa akwalya*
 NEG-LOC NEUT.paperbark IRR.12a/NEUT-put-NP2-*ma* NEUT.ripe NEUT.fish
ngalha-lhangwa-manja amarda.
 NEUT.PRO-POSS-LOC NEUT.leaves
 ‘If there is no paperbark, we put the cooked fish on their leaves.’ (GED p.17)

Finally, T-complementiser case can also appear on adjectives:

- (76) a. *kembirra yirrv-kalharu-kwa-ja-ma akina amarda, vmba*
 then 13a/NEUT-burnt.off.bush-FACT-CAUS.NP1-*ma* NEUT.that NEUT.grass but
nara engkalya-manja, engbvrngka-manja
 NEG NEUT.wet-LOC NEUT.dry-LOC
 ‘then we start burning off the grass, but not when it is wet, when it is dry’ (‘Ekalhara’ g4-8)
 b. *yi-ma-warrukwa-ji-na arakba mu-walyuwa-mvrrv-kba*
 HORT.12-VEG-cross-CAUS-NP2 already VEG-ripe-*ma*-DENIZ
 ‘let’s turn it [*mvnhvnga* ‘VEG.burrawang’] over now to see if it is already cooked’
 (‘Burrawang’ o49-50)

Note that the LOC case in (76a) does not appear on the negator *nara*, as it does in (75), but on the predicate. This is because these examples have different structures: in (75), the suffix *-manja* has scope over [*nara a-rrvngka-ma*] in (75a) and over [*nara alyukurra*] in (75b); but in (76a) *nara* has scope over [*engkalya-manja*]. This difference can be represented as follows:

- (77) a. [*nara a-rrvngka-ma dh-akina*]-*manja* (if [not see snake])
 b. [*nara alyukurra*]-*manja* (if [not paperbark])
 c. *nara* [*engkalya-manja*] (not [if dry])

In other words, the examples in (76a) do not contradict my claim that T-complementisers occur on the head of the subordinate clause only.

The meanings of the case suffix as it appears on nominals and as a T-complementiser on verbs are clearly related: the ABL meaning ‘from’ is extended to ‘after’ (from having done X, we did Y), and the ALL meaning of ‘to, towards’ becomes ‘until’ (waiting towards X). Similar meaning extensions have taken place in for instance Pitta-Pitta (Blake 1987: 143), and in Wubuy (Heath

1984: 573). The development of LOC case *-manja* to denote ‘if’ or ‘when’ is less clear (LOC case as a T-complementiser in Pitta-Pitta means ‘while’; ‘at a time’ is parallel to ‘at a place’). We will see below that Wubuy has a cognate suffix *-ma(ny)jii* that is used exclusively on conditionals (i.e. it does not function as LOC case on nominals).

8.11.1 Complementising cases in Gunwinyguan languages

It has often been claimed for polysynthetic languages that they have little in the way of formal marking of subordinate clause types (e.g. Heath 1975; Mithun 1984b, cited in Evans 2003a). Dixon (1980: 460) notes that this is true for the non-Pama-Nyungan languages of Australia, where subordination is usually shown by parataxis (juxtaposition of clauses). Indeed, in for example BGW there is a paucity of formally distinct subordinating structures. Evans (2003a: 628-31) suggests that the complex verbal morphology and obligatory argument registration of the language reduces the need for subordination. For example, the semantic relationships between clauses can to a large extent be inferred from a comparison of the TAMs of each clause: (78) has a sequence of three tenses signalling cross-clausal relations: past imperfective in the framing ‘when’ clause, past perfective for the framed event (an act of perception), then the non-past for the perceived event.

(78) *Kum-kuyin-re-y Ø-bekka-ng kabene-mim-baye man-mim...*
 3Phither-almost-go-PI 3/3P-hear-PP 3ua-seed-biteNP III-seed
 ‘As he was coming closer he heard two people eating seeds...’ (Evans 2003a: 631, ex.14.15)

However, in some Gunwinyguan languages case suffixes are used to mark subordinate clauses. Although rare, LOC case can be used in BGW on fully inflected verbs to signal temporal relations between clauses, as in the following.

(79) *Na-mekke Ø-wam nungka kornkumo bi-nahna-ng-kah Ø-wam.*
 MASC-DEM 3P-gOPP he father3REF 3/3P-watch-PP-LOC 3P-gOPP
 ‘His father went off (to find him) while (the clever man) watched him.’ (ibid, ex. 14.19)

This example is much more like the type of subordination that we have seen in Enindhilyakwa. In addition, Evans notes that Dalabon also has extensive possibilities for inflecting verbs for case showing interclausal relations (2003a: 628, fn1). Heath discusses two examples in Ngandi of a relative clause that is formed “by simply adding a case suffix to the inflected verb to agree with the case of the head noun in its clause” (1978a: 126) - similar to the Enindhilyakwa way of forming relative clauses. Ngalakgan and Rembarrnga also use a range of semantic cases, plus the POSS, as complementisers on finite verbs (Brett Baker, p.c.). And in Wubuy too, case suffixes occur as subordinators on finite verbs, creating either relative clauses or adverbial subordinate clauses. Heath (1984: 573) lists the following case suffixes with such functions, some of which are uncommon:

(80) <u>Suffix</u>	<u>Label</u>	<u>Gloss as T-complementiser</u>
<i>-wala ~ -kala</i>	ABL	‘after’
<i>-waj ~ -baj</i>	PRG	‘while’
<i>-waj ~ -kaj</i>	retrospective PRG	‘back when’
<i>-wuy ~ -kuy</i>	ALL-DAT	‘as soon as’
<i>-majii ~ -manyjii</i>		‘if, when’

The Wubuy system is quite similar to the Enindhilyakwa system in Table 8.2. Although *-ma(ny)jii* is not a case suffix in Wubuy but is only used as a conditional, it could be related to LOC *-manja* in Enindhilyakwa that appears in conditional clauses (Heath n.d. recorded this suffix as *-maja*). The semantics of the case suffixes as T-complementisers are very similar in the two languages: ABL means ‘after’, ABL.PRG (Enindhilyakwa) and PRG (Wubuy) mean ‘while’, and ALL case means ‘until’ in Enindhilyakwa, similar to the Wubuy meaning ‘as soon as’.

8.12 Summary

Enindhilyakwa case morphemes conform to the case typology proposed by Dench & Evans (1988): the same case morphemes operate at a number of different syntactic levels with related meanings. They may indicate that the nominal to which they attach bears a particular grammatical function (grammatical case); they may express the semantic role of an adjunct nominal (semantic case); they may be used to relate nominals to other nominals within the noun phrase (adnominal case); and they can be used on verbs and function at the clause level (T-complementising case).

Even though polysynthetic languages universally may have little or no formal marking of subordinate clauses (see e.g. the BGW example in [78]), the eastern Gunwinyguan languages and Enindhilyakwa do employ a formal subordination strategy. The use of semantic cases as T-complementisers appears to be most elaborate in Enindhilyakwa.

Furthermore, despite the possibility of relatively free word order, NP constituents can be identified in Enindhilyakwa. A nominal marked for POSS case is always adjacent to, and forms a tight unit with, the nominal denoting the possessum.

Chapter 9: The genetic position of Enindhilyakwa

“A study of language contact phenomena in the immediate region (Heath 1978b, 1981a) showed that Ngandi, Nunggubuyu and Anindhilyakwa, though nominally contiguous, have not been in intense recent contact relationships. [...] [T]here is no indication of important grammatical diffusion, or even heavy lexical diffusion, among the three focal languages themselves in recent centuries. [...] We will therefore consider structural similarities and cognate morphemes [...] of the three languages to reflect genetic inheritance rather than borrowing.” (Heath 1997: 201)

This chapter investigates the genetic relatedness of Enindhilyakwa with the adjacent Gunwinyguan language family, and in particular with Wubuy and Ngandi. Wubuy (aka Nunggubuyu¹) is spoken around the Rose River mouth opposite Groote Eylandt and is geographically the closest neighbour of Enindhilyakwa (Map 1.1). Ngandi is spoken directly to the south and east of Wubuy country. Enindhilyakwa and Wubuy were both classified as family-level language isolates in the O’Grady et al. (1966) classification, whereas Ngandi was subsumed under the Gunwinyguan (GN) family. This classification was based primarily on lexico-statistics. In recent work, however, Wubuy has been added to the GN family, based on shared systems of verbal suffixal paradigms (Alpher, Evans & Harvey 2003; see also Harvey 2003a). Heath (1978b, 1997) and Baker (2004) provide evidence for a subgrouping of Wubuy and Ngandi.

Yet the genetic position of Enindhilyakwa has remained largely uninvestigated. Some researchers have observed that, although Enindhilyakwa and Wubuy differ substantially in their vocabularies, they are structurally very similar (Capell 1942: 376; Worsley 1954a: 20). Yallop (1982: 40) notes that the two languages are “similar in grammar and possibly share the distinction of being the most grammatically complex Australian languages”. Based on these structural similarities, Heath has long claimed that Enindhilyakwa forms a subgroup with Wubuy and Ngandi (1978b, 1984: 638, 1990, 1997, n.d.), but without providing much evidence to support this claim - for example by systematically comparing grammatical morphemes of the three languages.² Dixon (2002) follows Heath’s proposed subgrouping, though still “without any justification for the reasons” (Evans 2005: 254).

Thus, the grouping of Enindhilyakwa together with Wubuy and/or Ngandi is not an accepted view by most linguists. Alpher, Evans & Harvey (2003), henceforth AEH, in their study of GN verbal suffixes, state that the relationship of Enindhilyakwa to any other language has not “been demonstrated conclusively at this point with any significant body of cognate lexical items or

¹ The language is probably best known as Nunggubuyu, as in Heath (1982, 1984), but strictly speaking, the Nunggubuyu are the people and Wubuy is their language.

² Although he makes a start in his unpublished Enindhilyakwa sketch grammar by comparing verbal suffixes paradigms. In Heath (1997) he takes the genetic relation of the three languages as a given, and he discusses the verbal prefixes. In particular he deals with the *non*-cognacy of some of the morphemes involved, amongst others the non-cognate ‘Inverse’ markers in the three languages. His important proposal is summarised in Appendix L.

grammatical morphology” (p.308, fn4). Baker (2004, fn25) claims that Enindhilyakwa “retains so little in the way of recognisable monomorphemic roots and inflections that it is impossible to say whether it was once related to Ngandi and Nunggubuyu”. Heath (1978b), although arguing for a subgrouping of the three languages, concedes that the genetic relationship is problematic. His preliminary data suggest that Enindhilyakwa is rather remote from the other prefixing languages, “particularly in pronominal and tense-aspect inflections of verbs and in case suffixes” (p.5). In later work he claims that Ngandi, Wubuy and Enindhilyakwa “form a clear genetic subgroup” (1997: 200), but without providing evidence to substantiate this proposal. Evans (2005: 250) concludes that the support for Heath’s claim is slender, and that Enindhilyakwa should, for the moment, be maintained as a family-level isolate - as was originally proposed by O’Grady et al.

At the same time, Wurm (1972) and Koch (2004) stress that it should not be forgotten that the O’Grady et al. classification - although widely adopted, and institutionalised by frequent quotation (Koch 2004: 33) - was “to be regarded as only a very preliminary and highly tentative genetic classification” (Wurm 1972: 109), and that each grouping requires confirmation or correction by traditional historical methods (Koch 2004: 33). Koch (2004) provides the following representative statement:

“[O’Grady et al.] contains a preliminary classification of Australian languages based on cognate densities calculated by Hale, O’Grady and Wurm, in which the authors make a plea for the future consideration of types of evidence additional to that of lexicostatistics, in order that a balanced perspective of Australian historical linguistics might be achieved.” (O’Grady 1966: 71)

Indeed, in recent work the scope of for example the GN family has undergone many revisions. As already mentioned, Wubuy has been included, as have Warray and Uwinymil (now extinct) (AEH). R. Green (2003) expresses scepticism about whether GN really is a family at all, and makes proposals for a single “Arnhem” family, based on shared verbal suffixes, which unites GN with the Maningrida languages to its north, Gaagudju to the west, and some others (though without mentioning Enindhilyakwa).

In this chapter I propose another revision of the O’Grady et al. schema, which is that Enindhilyakwa is not an isolate. Focussing on Wubuy, I will show that the two languages share a significant amount of vocabulary (at least 32% of core vocabulary) and verbal suffixal paradigms. Because of space and time limitations, I will only bring Ngandi into the discussion of the verbal suffixal paradigms. It will turn out that there are plenty of formal similarities, including shared innovations, to indicate that the three languages are genetically related. Therefore, Jeffrey Heath was right: Enindhilyakwa shares a common ancestor with Wubuy and Ngandi. In other words, Enindhilyakwa is to be subsumed under the Gunwinyguan family.

There are several reasons for why the considerable amount of shared vocabulary and grammatical morphology has not been recognised before. Firstly, as argued in Chapter 2, Enindhilyakwa phonology and phonotactics have undergone dramatic changes, resulting in a system that is atypical of the GN languages (or, indeed, of other Arnhem Land languages). These changes include: (i) strong tendency to avoid codas - evidenced by the fact that all words end in [a], the heavy usage of schwa-epenthesis, and the development of complex consonants; (ii) loss of retroflexion and palatalization of laterals; (iii) development of the mid-central phoneme /ə/; (iv) loss of phonemic status of [u]; and (v) loss of /o/. Further phonological shifts will come to light in this chapter.

These sound changes may obscure related forms. For example, Enindhilyakwa *a+lhvmilya* ‘NEUT+bloodwood’ is proposed to be a reflex of proro-Gunwinyguan (pGN) **dhumurluk* ‘bloodwood’ (Wubuy: *lhumurluk*, Ngandi: *dhumurluq*), through the following sound changes, which are all regular:

- (i) **dh > lh* (a well-known shift in Wubuy that has thus far not been identified in Enindhilyakwa; section 9.2.1.2.2): **dhumurluk > *lhumurluk*
- (ii) reanalysis of the *u* vowels, which in Enindhilyakwa can only occur surrounded by velars (sections 2.6.7 and 9.2.2.2.3): **lhvmvrlvk*
- (iii) pre-palatalisation of retroflex lateral (section 9.2.2.1): **lhvmilyvk*
- (iv) loss of intolerated word-final codas and conversion of word-final vowel to *a* (rule P-7B; sections 2.6.3.1 and 9.2.2.2.4): **lhvmilya*
- (v) addition of the NEUT class prefix *a-* and fusion of class marker and stem (section 3.4.1): *a+lhvmilya*

Not all correspondences involve such complex reconstructions; for example Enindhilyakwa *mulkwa* ‘VEG.belly’ corresponds to Wubuy *murلكu* ‘belly’ by loss of retroflexion of the lateral and conversion of the word-final vowel only.³

A second reason for why corresponding forms have not been recognised before may be that sometimes only *incorporated* forms have cognates in other GN languages. For example, Harvey (2003a) reconstructs the body part noun ‘head’ as **Long*⁴ ~ **rong* for pGN (Wubuy: *rlaang*, Ngandi *rlong*). This does not resemble the Enindhilyakwa noun *arvngka* ‘NEUT.head’ much. However, the form that is incorporated into verbs and adjectives is suppletive in Enindhilyakwa:

³ Corresponding forms may also be obscured by the orthography in the previous work of Leeding (1989, 1996). For example, [mulk^wa] ‘belly’ is represented as *mwilkwa* or *mwilhkwa* in her orthography (I believe the lamino-dental lateral of in coda position in the latter variant is incorrect; lamino-dentals are incompatible as codas in Enindhilyakwa - as they typically are in Australian languages [Hamilton 1996]). This representation obscures similarities with Wubuy *murلكu*.

⁴ Harvey (2003a) does not reconstruct an alveolar-retroflex contrast in morpheme-initial position, using archiphoneme symbols.

lyang- ‘head’ (see Chapter 7 and Appendix N). This is clearly related to the Wubuy and Ngandi forms through the regular sound changes proposed in this chapter: **rl > ly*, and **o > a* (the vocalic shift also took place in Wubuy). Enindhilyakwa free nominals have frequently been replaced, as suggested in section 7.6.

Another reason for why the shared grammatical morphemes have not been recognised before may simply be that no-one has yet taken up the task of systematically comparing the Enindhilyakwa and Wubuy paradigms, despite their being adjacent languages with similar structures (Evans 2003b: 4). Due to the “difficulties” of the Enindhilyakwa data (AEH p.308, fn4), and probably also to the presumed isolate status of the language, Enindhilyakwa has been left out of most historical and comparative studies on GN languages, including: verbal inflectional morphology (Heath 1978b; AEH; R. Green 2003; Baker 2004), phonology (Heath 1978b; Harvey 2003a), and pronominal and noun class prefixes (Heath 1978b; Harvey 2003b - though see Heath 1997). Enindhilyakwa was also ignored in Verstraete’s (2005) comparative study of composite mood marking in non-Pama-Nyungan languages, even though this language would be the richest in his sample in terms of morphologically distinct modal categories (Chapter 6).

The current chapter is a first attempt at a systematic comparison of Enindhilyakwa and Wubuy, and, to a lesser extent, Ngandi. I will address the three main criteria for recognising a genetic relation between languages (Campbell & Poser 2008: 4):

- 1) shared basic vocabulary
- 2) systematic sound correspondences in shared forms
- 3) shared grammatical features (especially morphological)

Section 9.1 starts with an investigation of the vocabulary shared between Enindhilyakwa and Wubuy. The regular sound correspondences in the shared forms will be examined in section 9.2. Section 9.3 compares the verbal inflectional suffixal paradigms of Enindhilyakwa, Wubuy and Ngandi, and links them to the reconstructed pGN paradigms, where available.

The classic criterion to establishing a subgroup within a larger family is common innovations (Bowern & Koch 2004). Given the sheer mass and complexity of the morphology that we have to deal with in determining whether a locally shared feature is an innovation or a retention (I. Green 2003: 129), a rigorous and comprehensive demonstration that Enindhilyakwa constitutes a subgroup with Wubuy and Ngandi, by reconstructing an intermediate parent language within GN, is an elaborate undertaking. Not only do we need to show that Enindhilyakwa retains features from pGN, but we also have to demonstrate that it has innovated in common with Wubuy and Ngandi. In this dual task I will focus on what I believe are the most representative developments and tentatively reconstruct some higher level forms for the language ancestral to Enindhilyakwa,

Wubuy and Ngandi. The main aim, though, is to lay some solid foundations on which a much lengthier proof of the subgrouping claim can later be built.

The Wubuy data in this chapter come from Heath (1982, 1984), and the Ngandi and pGN data from Heath (1978b), Harvey (2003a) and AEH.⁵ Their orthographic representations have been adjusted to the orthography used in this thesis.⁶ The Macassan data come from Evans (1992), maintaining the original orthography. The Macassan consonant inventory distinguishes between voiced and voiceless stops, which is reflected in the orthography, and it does not contain retroflexes. The symbol *r* is used for the apico-dental trill (cf. Enindhilyakwa *r*, which represents retroflex /ɺ/; *rr* is used for the apico-alveolar trill /r/). Furthermore, Macassan has a glottal stop, the orthographic symbol for which is *ʔ* (note that the GN symbol is *q*). The ‘+’ sign designates a frozen boundary or a bound form.

9.1 Shared vocabulary

Appendix O presents a 186-item Swadesh list of Enindhilyakwa and Wubuy core vocabulary. This list consists of body parts, verbs, adjectival nominals, terms for common natural phenomena, manufactured items and basic human classification terms. Basic core vocabulary is considered to be more resistant to borrowing than nominals belonging to the domain of ceremonies, natural species and some material objects (Harvey 2003a; Koch 2004).⁷ Inspection of the core vocabulary list gives the following lexical cognacy rates:

- free forms: 31.7%
- free forms and bound forms: 38.7%
- free forms and bound forms and semantic change: 45.2%

Free forms are verbs, nouns, and so on. Bound forms are the nominal roots that can be incorporated into verbs and adjectives discussed in Chapter 7, and the bound thematics discussed in Chapter 5. ‘Semantic change’ refers to forms (free or bound) that have undergone a shift in meaning. Three different percentages are given because, as already mentioned, in some cases only an incorporated nominal or a bound thematic corresponds to a free form in another language. Including bound forms increases the cognate density, which increases even further when including those forms that have undergone a semantic shift. According to these cognate densities,

⁵ AEH and Harvey (2003a) use the following daughter languages for the reconstruction of pGN: Wubuy, Ngandi, Ngalakgan, Rembarnga, Mangarayi, Bininj Gun-Wok, Dalabon, Kunbarlang, Jawoyn, and Warray. Heath (1978b, 1997) only discusses Wubuy, Ngandi and Enindhilyakwa.

⁶ This is not problematic because GN languages (and Australian languages in general) do not have a phonemic contrast between voiced and voiceless stops - the orthographic symbol for which is thus more or less arbitrary.

⁷ Borrowing is a major problem with shared vocabulary, and an important factor in Arnhem Land (Heath 1978b), as it is universally. Heath argues that, due to the social structures of this area, especially the norm of multilingualism and intermarriage, this allows for extensive borrowing, including bound morphemes and phonemes. This appears to be an issue of concern across Australia, as argued extensively by Dixon (2001, 2002, *inter alia*). Core vocabulary, however, is considered to be immune to diffusion.

Enindhilyakwa and Wubuy are different subgroups of the same group in the O’Grady et al. classification (which requires 26-50% shared core vocabulary).

The following examples illustrate some corresponding free forms of core vocabulary: body part terms in (1), adjectival nominals in (2) and verbs in (3). Many more correspondences can be found in Appendix O. Appendix P contains the full list of Enindhilyakwa, Wubuy and pGN correspondences that this study has uncovered.

(1)		<u>Enindhilyakwa</u>	<u>Wubuy</u>	<u>pGN</u>
	skin	<i>-makulya</i>	<i>makurlak</i>	<i>*kurlak</i>
	hand, fin	<i>a+yarrka</i>	<i>yarrka</i>	<i>?*jakku</i> ‘left hand’
	belly	<i>mulkwa</i>	<i>murlku</i>	
	throat	<i>yambiya</i>	<i>yambiya</i>	
(2)		<u>Enindhilyakwa</u>	<u>Wubuy</u>	
	some, few	<i>-adhvrra</i>	<i>adharra</i>	
	old	<i>-yuwangkwa</i>	<i>yiwangku</i>	
	new	<i>-kadhuwa</i>	<i>kadhuwa</i>	
	alone	<i>-awura</i>	<i>wiriwiri</i>	
(3)		<u>Enindhilyakwa</u>	<u>Wubuy</u>	
	lie down	<i>-murrkulha-</i>	<i>-murrkulha-</i>	
	bathe	<i>-ngambe-</i>	<i>-ngambi-</i>	
	pull	<i>-arrka-</i>	<i>-arrki-</i>	
	come in of tide	<i>-angkarr-</i>	<i>-angkarri-</i>	

The following examples lists some Enindhilyakwa incorporated nominals that correspond to free forms in Wubuy and pGN.

(4)		<u>Enindhilyakwa</u>	<u>Wubuy</u>	<u>pGN</u>
	head	<i>lyang-</i>	<i>rlaang</i>	<i>*L/rong</i>
	voice	<i>yeng-</i>	<i>yang</i>	<i>*yang</i>
	leaves	<i>mvnjvrr-</i>	<i>manjarr</i>	<i>*manjarr</i>
	leg	<i>lharr-</i> ‘bone, long and solid things’	<i>lharrbij</i>	<i>*dharr</i>

Examples of corresponding forms with semantic shifts are the verb stem *-warda-*, which means ‘hit, kill’ in Enindhilyakwa, but ‘tap, knock, break’ in Wubuy. Other examples are Enindhilyakwa *arnda* ‘NEUT.elbow’ and *-arndaka-* ‘to hunt with spear’, which have a plausible semantic relation with Wubuy *warndak* ‘woomera’ (pGN **borndok* ‘woomera’; **o > a* being a regular change in Wubuy and Enindhilyakwa): an elbow is an important body part involved in spear-throwing, and the hook on a woomera (a spear-throwing device) has the same shape as an elbow (as became clear in Chapter 7, shape is an important feature in Enindhilyakwa in classifying objects).

Although borrowing appears to be most probable in certain nominal domains (e.g. ceremonies, natural species, material objects), the fact that a nominal belongs to such a domain does not

necessarily mean it is a loan (Harvey 2003a: 209). There are correspondence sets of material objects that show a strong correlation with the GN group of languages, such as ‘woomera’:

- (5) BGW *borndok*, Dalabon *borndok*, Ngalakgan *borndok*, Rembarrnga *borndok*, Ngandi *borndok*, Wubuy *warndak* (Kungarakany *borndok*, Ritharrngu *barndak*) (Harvey 2003a: 210)

Non-GN languages are given in brackets. Based on these correspondences, Harvey reconstructs **borndok* ‘woomera’ for pGN. This form corresponds to the Enindhilyakwa noun *arnda* ‘NEUT.elbow’ and the verb *-arndaka-* ‘to hunt with spear’, allowing for semantic shift. In Wubuy the ancestral **b* has lenited to *w*, which is a regular sound change (see Heath 1978b). The initial consonant has disappeared in Enindhilyakwa, but there is some evidence that it once was *w*, as in Wubuy. This tentative evidence is presented in Appendix Q.

9.1.1 Bound thematics

Thematics provide another context in which correspondences can be found. All GN languages have two types of verb stem, simple and complex (AEH p.310). Simple verb stems consist of a verb root to which the tense/aspect inflection may be added directly, while complex verb stems consist of either a verb or nominal root (designated ‘prebound’), followed by a ‘thematic’ which takes the inflections. These segments are tightly fused and the stem may be synchronically unanalyseable. Chapter 5 described simple and complex stems in Enindhilyakwa, which follow the GN pattern. Some Enindhilyakwa bound thematics are also attested in Wubuy, Ngandi and pGN. An example is the reconstructed pGN thematic **+ma-*, which can also function as an independent verb **-ma-* ‘do, say’. The same form occurs in Enindhilyakwa (see Table 5.9), where it can also function as an independent verb (*-ma-* ‘do, say’), as well as a thematic (e.g. *-ya+ma-* ‘do, say’; *-kurarr+ma-* ‘spit’; *-rndang+ma-* ‘make an intermittent noise’). AEH reconstruct the ‘do/say’ verb as **-yama-* for pGN, which they propose is a compound of the prebound **ya* (which may be related to **yang* ‘voice’) plus thematic *-ma-* (p.339). The Enindhilyakwa reflex is *-ya+ma-*.

Enindhilyakwa thematics may also correspond to independent verbs in other languages. For example, *-ka-* ‘carry’ is a common GN verb and reconstructed for pGN (AEH). In Enindhilyakwa it only occurs as a bound thematic, and the same is true for Wubuy (see Heath 1984: 419, 470), where it may lenite to *+wa-*. This is illustrated with the following correspondences (Enindhilyakwa conjugation 3 corresponds to Wubuy conjugation N; section 9.3.4.3).

(6)	<u>Enindhilyakwa [3]</u>	<u>Wubuy [N]</u>
taste, try, test	<i>-lhawurr+ka-</i>	<i>-lhawi+wa-</i> ‘ask, inquire’
sneak up on	<i>-wal+ka-</i>	<i>-waal+ka-</i>
send	<i>-lharr+ka-</i>	<i>-lharr+ka-</i>
hunt	<i>-ngurr+kwa-</i>	<i>-ngurr+ka-</i>

Another example is the reconstructed pGN INCH suffix **-me-*. This is not a synchronically productive INCH suffix in Enindhilyakwa, but *+mv-* is attested as a thematic in a number of complex stems (**e > v* is a regular sound change; section 9.2.2.2.1). The continuant hardens to a stop when following a stop (tentative evidence for this archaic process is given in Appendix D). All verb stems composed of this thematic are intransitive, and the prepounds may be attested as free forms, which are mostly nouns:

(7) <u>Enindhilyakwa +mv- ~ +bv-</u>	<u>Enindhilyakwa free form</u>	<u>Wubuy free form</u>
<i>-lhakar+mv-</i> ‘choke’		<i>lhakar</i> ‘saliva’
<i>-rerr+mv-</i> ‘dry’		<i>rarri</i> ‘dry’
<i>-warrngarv+mv-</i> ‘sneeze’		<i>-warrngara-</i> ‘to burp’
<i>-nyirr+mv-</i> ‘blow nose’	<i>enyirra</i> ‘NEUT.runny nose’	
<i>-rak+bv-</i> ‘blow didgeridoo’	<i>yiraka</i> ‘MASC.didgeridoo’	
<i>-mvdhilyak+bv-</i> ‘cough’	<i>amvdhilya</i> ‘NEUT.common cold’	

Another common Enindhilyakwa thematic is *+bi-* (Table 5.9). This is proposed to be related to the Wubuy INCH suffix *-wi- ~ -bi-* (the Wubuy continuant hardens to a stop after a stop or nasal). Stems composed of this thematic are intransitive, and the prepounds may be attested as free forms in Wubuy (Enindhilyakwa conjugation 1A corresponds to Wubuy I₁; section 9.3.4.4):

(8) <u>Enindhilyakwa +bi- [1A]</u>	<u>Wubuy INCH -wi- ~ -bi- [I₁]</u>
<i>-yeng+bi-</i> ‘speak’	<i>-yam+bi-</i> ‘speak’
<i>-errik+bi-</i> ‘throw’	(<i>-warrka-</i> ‘to throw’)
<i>-errek+bi-</i> ‘vomit’	(<i>warrkard</i> ‘vomit’)
<i>-me+bi-</i> ‘sing’	(<i>-maya-</i> ‘to sing’)

The Enindhilyakwa stems could be historically composed of a nominal (still attested as free forms in Wubuy), plus an INCH suffix (also still productive in Wubuy). The Enindhilyakwa *e* vowels may result from i-umlaut (rule P-5). The ‘speak’ stem contains the nominal *yang* ‘voice’ (pGN **yang* ‘voice’) in both languages. In Enindhilyakwa **a* has been fronted due to the preceding lamino-palatal (rule P-4), and in Wubuy the nasal has assimilated to the following stop (cf. Heath’s Nasal-assimilation rule P-27 for Wubuy [1984: 70]).

Table 9.1 (next page) lists the attested corresponding bound thematics in Enindhilyakwa, Wubuy, Ngandi and pGN. Enindhilyakwa thematics may correspond to free verbs in other languages. The thematics belong to matching conjugations in Enindhilyakwa and Wubuy: for example, Enindhilyakwa conjugation [3] of thematic *+ka-* corresponds to Wubuy [N], and so on. The only exception is *(+)ba-*, which is proposed to be a reflex of pGN **-bu-* ‘hit’, but the paradigms do not match. This issue is taken up in section 9.3.4.2.

Enindhilyakwa		Wubuy		Ngandi	pGN
thematic	example	thematic	example		
+ <i>mi-</i> ~ + <i>bi-</i> 'thematic' [1A]	- <i>errek+bi-</i> 'vomit' - <i>edhvrre+mi-</i> 'deny'	- <i>wi-</i> ~ - <i>bi-</i> 'INCH' [I ₁] + <i>mi-</i> [I ₁]	<i>X-wi-</i> ~ <i>X-bi-</i> 'to become X' - <i>wadhaari+mi-</i> 'to say no'		
+ <i>mv-</i> ~ + <i>bv-</i> 'thematic' [1A]	- <i>mvdhilyak+bv-</i> 'cough' - <i>lhvlhvl+mv-</i> 'blow fire'	??(+) <i>wu-</i> ~ (+) <i>bu-</i> 'hit, thematic' [MA ₁]	- <i>yaali+bu-</i> 'cough' - <i>ranga+wu-</i> 'yawn'		INCH * <i>-me-</i>
(+) <i>ma-</i> 'do, say, thematic' [4]	- <i>kurarr+ma-</i> 'spit'	- <i>ma-</i> 'INCH' [A ₁]	<i>X-ma-</i> 'to become X'	+ <i>ma-</i> 'thematic' [4a]	*(+) <i>ma-</i> 'do, say, thematic'
(+) <i>ba-</i> 'hit, argue, thematic' [4]	- <i>jira+ba-</i> 'pour'	(+) <i>wu-</i> ~ (+) <i>bu-</i> 'hit, thematic' [MA ₁]	- <i>yaali+bu-</i> 'cough' - <i>ranga+wu-</i> 'yawn'	*(+) <i>bu-</i> 'hit, thematic' [irr.]	* <i>-bu-</i> 'hit'
(+) <i>ma-</i> 'get, thematic' [2A]	- <i>lharr+ma-</i> 'chase'	(+) <i>ma-</i> [A ₃] 'get, thematic'	- <i>lharr+ma-</i> 'chase'	(+) <i>ma-</i> 'get, thematic' [irr.]	* <i>-ma-</i> 'get'
+ <i>ka-</i> [3] 'thematic'	- <i>lharr+ka-</i> 'send'	+ <i>ka-</i> [N] 'thematic'	- <i>lharr+ka-</i> 'send'	(+) <i>ka-</i> 'carry, thematic' [5]	* <i>-ka-</i> 'carry'
- <i>ka-</i> ~ - <i>kwa-</i> 'FACT, give' [4]	<i>X-ka-</i> ~ <i>X-kwa-</i> 'to make X'	- <i>wa-</i> ~ - <i>ka-</i> , - <i>ka-</i> 'FACT' [A ₁]	<i>X-wa-</i> ~ <i>X-ka-</i> 'to make X'	- <i>wo-</i> 'give'	* <i>-wo-</i> 'give'
+ <i>dha-</i> [2B] 'thematic'	- <i>rid-vm-dha-</i> 'read'	+ <i>dha-</i> [A ₂] 'thematic'	- <i>rid-em-dha-</i> 'read'	+ <i>dhu-</i> 'thematic' [1]	-

Table 9.1: Corresponding bound thematics in Enindhilyakwa, Wubuy, Ngandi and pGN

Thematic +*dha-* is common to Enindhilyakwa and Wubuy and is used to inflect Kriol loans (section 5.4.3). Other GN languages use different thematics here (e.g. Rembarrnga, Ngalakgan and Warray use +*mi-* [AEH]). Ngandi +*dhu-* is a thematising augment.

Some common free verbs in GN languages, such as -*bu-* 'hit' or -*ka-* 'carry', correspond to bound forms in Enindhilyakwa. This may be why Baker states that Enindhilyakwa retains very little in the way of recognisable monomorphemic roots (2004: fn25). The Enindhilyakwa correspondences to these common GN roots may be obscured by the fact that they are locked up in the verb stem.

9.2 Sound correspondences

This section investigates the sound correspondences between Enindhilyakwa and Wubuy, and the sound changes that have taken place. I will not be concerned here with the Ngandi sound correspondences. Before embarking on this exercise, it will be useful to reiterate the phonemic inventories of the two languages. The Wubuy consonants and vowels are set out in Tables 9.2 and

9.4, respectively, and the Enindhilyakwa consonants (save the complex segments) and vowels in Tables 9.3 and 9.5, respectively.

Wubuy has a phonemic length distinction in the vowels, but this is of little functional interest and there are very few minimal pairs (Heath 1978b, 1984). It is hard to hear the difference between phonemic long and short vowels (Brett Baker p.c.). There is no phonemic length distinction in the corresponding Enindhilyakwa vowels, so I will ignore Wubuy vowel length in what follows. Enindhilyakwa *a* and *e* are inherently longer than the remaining vowels.

	Labial	Dental	Alveolar	Retroflex	Palatal	Velar
Stop	<i>b</i>	<i>dh</i>	<i>d</i>	<i>rd</i>	<i>j</i>	<i>k</i>
Nasal	<i>m</i>	<i>(nh)</i>	<i>n</i>	<i>rn</i>	<i>ny</i>	<i>ng</i>
Lateral		<i>lh</i>	<i>l</i>	<i>rl</i>		
Tap/trill			<i>rr</i>			
Approx.	<i>w</i>			<i>r</i>	<i>y</i>	

Table 9.2: Wubuy consonant phonemes

	Labial	Dental	Alveolar	Retroflex	Palatal	Velar	Labialised velar
Stop	<i>b</i>	<i>dh</i>	<i>(d)</i>	<i>rd</i>	<i>j</i>	<i>k</i>	<i>kw</i>
Nasal	<i>m</i>	<i>(nh)</i>	<i>n</i>	<i>rn</i>	<i>ny</i>	<i>ng</i>	<i>ngw</i>
Lateral		<i>lh</i>	<i>l</i>	<i>(rl)</i>	<i>ly</i>		
Tap/trill			<i>rr</i>				
Approx.	<i>w</i>			<i>r</i>	<i>y</i>		

Table 9.3: Enindhilyakwa consonant phonemes

	Front	Central	Back
High	<i>i, i:</i>		<i>u, u:</i>
Mid			
Low		<i>a, a:</i>	

Table 9.4: Wubuy vowel phonemes

	Front	Central	Back
High	<i>i</i>		
Mid	<i>e(:)</i>	<i>v</i>	
Low		<i>a(:)</i>	

Table 9.5: Enindhilyakwa vowel phonemes

Some remarks can be made about these inventories in the context of the GN languages and the Arnhem Land languages in general (based on Harvey 2003a):

- (a) Within the GN family, lamino-dentals are only found in Wubuy and Ngandi (a lamino-dental stop is also common in the Yolngu and Maran languages). Enindhilyakwa also has a lamino-dental series. The lamino-dental lateral only occurs in Wubuy and Enindhilyakwa
- (b) All GN languages, except Wubuy and Mangarayi, show a systematic contrast between fortis and lenis stops (a stop contrast is an areal feature of Arnhem Land, and Harvey 2003a reconstructs it for pGN). Enindhilyakwa, like Wubuy, lacks this contrast

- (c) A phonemic glottal stop /ʔ/ is an areal feature in the Top End languages: it occurs in the Yolngu languages and all GN languages save Wubuy, and Enindhilyakwa
- (d) The palatal lateral /ɬ/ is found as a phoneme in Enindhilyakwa and as a phonetic variant in Wubuy (Heath 1984: 12). This segment occurs in no GN language (though it appears in Kamu, Matngele [Eastern Daly] and Wardaman [Yangmanic])
- (e) The mid-central phoneme /ə/ that is common in Enindhilyakwa is absent in Wubuy and most other GN languages, except Rembarrnga (and Dalabon has a high-central /i/)
- (f) Most GN languages, including Ngandi, have a mid-back vowel /o/, which is reconstructed for pGN. Enindhilyakwa and Wubuy lack this vowel
- (g) /u/ is a common vowel phoneme in Arnhem Land and in Australia generally, but in Enindhilyakwa it is not contrastive (Chapter 2)

I will first discuss the corresponding matching sounds in section 9.2.1, and then turn to the systematic changes in section 9.2.2.

9.2.1 Matching correspondences

9.2.1.1 Heath's lenition scenario for Wubuy stops and continuants

Two features that Enindhilyakwa and Wubuy have in common that are especially relevant in the investigation to their genetic relatedness are the absence of two contrasting stop series, and the presence of the lamino-dental lateral. Heath (1978b) proposes an historical scenario for Wubuy in which these two features are related. He suggests that the single stop system in Wubuy descends from an ancestral system with a fortis-lenis contrast, preserved in Ngandi. The ancestral fortis stops developed into lenis stops in Wubuy, pushing the old lenis stops into continuant status (an historical 'push chain').

Harvey (2003a) interprets the fortis-lenis stop contrast in Arnhem Land languages as geminate vs. singleton stops. He reconstructs the geminate-singleton contrast for pGN. I will follow Harvey (2003a) here in representing the fortis stops as geminates and the lenis stops as singletons. An example of Heath's lenition chain is **dhdh* > *dh*, and **dh* > *lh*. Heath proposes that the following correspondences systematically hold between Wubuy and Ngandi (where Ngandi is representative of other GN languages, and of pGN).⁸ The correspondence *d* : *rr* is left out here as it is not uncontestedly attested (Heath 1978b: 38).

⁸ In this scenario etymological continuants either exist alongside the derived ones, or, in some cases of **w*, are deleted, becoming \emptyset (Heath 1978b).

Ngandi	<i>bb</i>	<i>b</i>	<i>dhdh</i>	<i>dh</i>	<i>dd</i>	<i>rdrd</i>	<i>rd</i>	<i>jj</i>	<i>j</i>	<i>kk</i>	<i>k</i>
Wubuy	<i>b</i>	<i>w</i>	<i>dh</i>	<i>lh</i>	<i>d</i>	<i>rd</i>	<i>r</i>	<i>j</i>	<i>y</i>	<i>k</i>	<i>w</i>

Table 9.6: Systematic correspondence sets for Wubuy and Ngandi (Heath 1978b: 37-41; Harvey 2003a: 211)

If geminate > singleton is thought of as the earliest shift, then the singleton > continuant shift can be understood as “readjustments designed to maintain as many as possible of the old [geminate-singleton] oppositions in new form” (Heath 1978b: 40). Heath notes that since **lh* did not occur in the proto-language, the lenition **dh > lh* did not create any chain reaction. This is significant, because **dh* was very common. The shift **dh > lh* should be weighted as more important than say, **rd > r* (ibid).

Synchronically, the continuants can harden back to stops in certain environments in Wubuy, which in effect reverses the historical lenition process. The lamino-dental lateral, for instance, has a hardened variant *dh* occurring after a stop or nasal: *lh > dh / C_[+stop/nasal] ___*. As we will see in the next section, this hardening process is only marginally present in Enindhilyakwa.

9.2.1.2 Enindhilyakwa and Wubuy stops and continuants

In this section I will show that the Enindhilyakwa singleton (phonetically lenis/short) stops systematically match those in Wubuy. The same is true for the continuants. Furthermore, traces of the Wubuy hardening rule can also be found in Enindhilyakwa. These similarities, in particular the matching lamino-dental lateral, which is absent in GN and in Arnhem Land in general, are indicative of shared phonological innovations. I will only list a few correspondences of each phoneme under discussion; many more correspondences can be found in Appendix P. Ngandi and pGN correspondences will also be provided where available.

9.2.1.2.1 Bilabials

The Enindhilyakwa bilabial singleton stop corresponds to this phoneme in Wubuy, as shown in Table 9.7. The labio-velar glide also matches in the two languages, as illustrated in Table 9.8 (next page).

	Enindhilyakwa <i>b</i>	Wubuy <i>b</i>	pGN <i>*bb</i>
man’s child	<i>nebiba</i> (~ <i>nebbibba</i> VL1 p.26)	<i>nabiba</i>	<i>*bibbi</i>
to put down	<i>-abvrra-</i>	<i>-burra-</i>	
to bathe	<i>-ngambe-</i>	<i>-ngambi-</i>	
to bubble, boil	<i>-bvlbeeyi-</i>	<i>-bulbayi-</i>	
good at	<i>abarda</i>	<i>babarda</i> ‘to be lame’	
coral trout	<i>dhvmabvrna</i>	<i>dhumaabirna</i>	

Table 9.7: Enindhilyakwa *b* : Wubuy *b*

	Enindhilyakwa <i>w</i>	Wubuy <i>w</i>	pGN <i>*b</i>
to hit	-waja- ‘brush away’ +baja- ‘hit’	+wadja- ~ +badja-	*-badja-
new	-kadhuwa	kadhuwa	
ALL case	-wa	-wuy ~ -kuy ⁹	
to sew	-warrka-	-warrka- ~ -barrka-	
to hit, tap	-warda-	-warda- ~ -barda-	
shellfish sp.	melhuwa	malhiwu	

Table 9.8: Enindhilyakwa *w* : Wubuy *w* : pGN **b*

As can be seen from Table 9.8, morpheme-initially Wubuy *w* has two variants: it can vary with *k* (e.g. **-wuy** ~ **-kuy** ‘ALL case’), or with *b* (e.g. **-warrka-** ~ **-barrka-** ‘to sew’). Heath proposes that this necessitates positing two morpho-phonemically distinct *w* phonemes in Wubuy: *w*₁ (which alternates with *k*) and *w*₂ (which alternates with *b*). Hardening takes place after a stop or nasal: compare *nga-warrkaa* ‘I sewed it’, where *w* is maintained following a vowel, with *ngam-barrkaa* ‘I would have sewed it’ where *w* hardens to *b* following a nasal (Heath 1978b, 1984). The two phonemes can be traced back to their historical source, Heath claims: *w*₁ originates from lenition of **k*, and *w*₂ from lenition of **b* (1978b). The original stops are preserved in Ngandi: *kudduq* : *wudu* ‘tree sp.’, and *budhdhalakk* : *wudhalak* ‘ochre’.

This productive hardening does not happen in Enindhilyakwa. At active morpheme boundaries, such as those between prefixes and stems, epenthetic schwa is inserted between two consonants (rule P-1), and stem-initial *w* is preserved: for example, the stem **-warrka-** combined with the ‘1’ prefix *nvng-* gives *nvngu-warrka-* ‘1-sew’, not **nvng-barrka-* (cf. Wubuy *ngam-barrkaa*). Schwa-epenthesis can be seen as removing the hardening environment: stem-initial *w* is not preceded by a stop, but by a vowel.

There are, however, some lingering traces of the *w* > *b* hardening in Enindhilyakwa, as in some frozen reduplicated stems: **-lhvngak+balhu+walha** ‘wide and tall’; **-wilyik+bilyik-** ‘warm up food on ashes’; **-angv+banga-** ‘RDP+bite’; and **-alyv+baly-** ‘RDP+eat’. The latter two verb stems begin with a vowel, but in Appendix Q I suggest that they may historically have started with *w*.¹⁰ In Appendix D I provide more tentative evidence for hardening of *w* > *b* in Enindhilyakwa.

There are no apparent traces in Enindhilyakwa of *w* hardening to *k*, à la Wubuy *w*₁. From the available correspondences, it appears that Wubuy *w*₁ relates to Ø- in Enindhilyakwa:

⁹ Word-final *y* is not possible in Enindhilyakwa: all words end in *a*. The ALL suffix always occurs word-finally, which could explain the correspondence of Wubuy *uy*# : Enindhilyakwa *a*#. Either the sequence *uy* has been replaced in Enindhilyakwa, or the final *y* has disappeared and the remaining vowel converted to *a*.

¹⁰ According to this hypothesis, stem-initial *w* has a hardened variant *b* when reduplicated: *nu-wangv+banga* ‘he kept on biting it’.

	Wubuy <i>w-</i> ~ <i>k-</i>	Enindhilyakwa <i>Ø-</i>
say no	<i>-wadhaari+mi- ~ -kadhaari+mi- [1₁]</i>	<i>-edhvrrre+mi-</i> ‘deny’ [1A]
in poor physical condition	<i>-wirr-kirrkirru-j- ~ -kirr-kirrkirru-j-</i>	<i>-erri+kirrik+arrnga-</i> ‘be tired’
wet	<i>warlarlij ~ karlarlij</i>	<i>alya</i>
look	<i>-warrangka- ~ -karrangka- [A₁]</i>	<i>-rrvngka- [4]</i>
stab	<i>-walharra- ~ -kalharra- [A₂]</i>	<i>-a(r)dhvrra- [2B]</i>

Table 9.9: Stem-initial Wubuy *w-* ~ *k-* : Enindhilyakwa *Ø-*

Note that *w₁* and *w₂* are only distinct in Wubuy in morpheme-initial position; morpheme-internally we find stable *w*, *b* and *k* segments.

To summarise so far, the following correspondences systematically hold between Enindhilyakwa and Wubuy bilabials:

	anywhere	morpheme-internal	morpheme-initial	
Enindhilyakwa	<i>b</i>	<i>w</i>	<i>w- (~ b-)</i>	<i>Ø-</i>
Wubuy	<i>b</i>	<i>w</i>	<i>w- ~ b-</i>	<i>w- ~ k-</i>

Table 9.10: Summary of systematic correspondences of bilabials

Since Enindhilyakwa *b* matches Wubuy *b*, as does morpheme-internal *w*, this suggests that the lenition scenario proposed by Heath for Wubuy can also account for the Enindhilyakwa data.

There is an additional complication though: Wubuy *b* sometimes corresponds to Enindhilyakwa *kb*. In section 2.5.7 the *kb* cluster was analysed as a complex single segment, for the reasons given (e.g., it is never broken up by an epenthetic vowel and it syllabifies in the onset). Interestingly, Enindhilyakwa *kb* corresponds to a geminate *bb* in other GN languages, as illustrated in Table 9.11. Harvey (2003a) reconstructs **bb* for pGN.

	Enindhilyakwa <i>kb</i>	Wubuy <i>b</i>	pGN <i>*bb</i>
flat area	<i>akbal-</i>	<i>abarla</i>	<i>*kabbal</i>
dry	<i>ekbvrvngka</i>		<i>*kabburk</i>
plover	<i>dhv+rrvkba</i>	<i>birrbirrk</i>	<i>*berreberreb</i>
tree sp.	<i>mangkarrkba</i>	<i>mangkarrabi</i>	
pelican	<i>dhv+makbvlha</i>	<i>maabulhu</i>	
now	<i>arakba</i>	<i>ardaba</i>	
desert	<i>a+yilkbilkba</i>	<i>wulbulk</i>	
to jump	<i>-akbi+janga-</i>	<i>-abi-</i>	

Table 9.11: Enindhilyakwa *kb* : Wubuy *b* : proto-Gunwinyguan **bb*

These data counter the lenition scenario above according to which pGN **bb* would correspond to *b* in both Wubuy and Enindhilyakwa. One possible answer to this discrepancy is that there were *two* distinct stop clusters in the language ancestral to the GN family and Enindhilyakwa: a heterorganic cluster **kb* and a homorganic cluster **bb*. The former is preserved only in Enindhilyakwa, whereas

in the other languages it assimilated to a geminate, which lenited to a singleton in Wubuy. The second ancestral cluster was the homorganic cluster **bb*, which lenited to *b* in Wubuy and Enindhilyakwa, but was preserved in the other GN languages:

- (9) a. **kb* > *kb* (Enindhilyakwa)
 > *bb* (GN) > *b* (Wubuy)
 b. **bb* > *b* (Wubuy, Enindhilyakwa)
 > *bb* (GN)

One question to answer with this hypothesis is, was /kp/ the only heterorganic cluster to get converted to a geminate (or long) consonant? In Appendix C I discuss some further heterorganic consonant clusters that may correspond to a geminate in GN languages. A full account of the various stop cluster correspondences must await further phonological analysis of the Enindhilyakwa clusters, and a more detailed investigation of corresponding segments.

9.2.1.2.2 Lamino-dentals

The Wubuy lamino-dental laterals and stops correspond to these phonemes in Enindhilyakwa, as shown in Tables 9.12 and 9.13, respectively (more correspondences can be found in Appendix P). The lamino-dental nasal is a rare phoneme in both languages, as it is in Ngandi (it is absent in other GN languages [see Heath 1978b: 35]). The only attested correspondence with a lamino-dental nasal is Enindhilyakwa *anhvma* ‘NEUT.mangrove (tree)’ and Wubuy *anhuma* ‘seedpod of mangrove tree’ (NEUT).

	Enindhilyakwa <i>lh</i>	Wubuy <i>lh</i>	Ngandi <i>dh</i>	pGN <i>*dh</i>
to stand	<i>-lhalha-</i>	<i>-lha-</i>	<i>-dhi-</i>	<i>*dha-</i>
leg	<i>lhandharr-</i> <i>lharr-</i> ‘bone’	<i>lharrbij</i>	<i>dharrbbij</i>	<i>*dharr</i>
beard	<i>lhabvrr-</i> ‘face’	<i>dhaarrak</i> ¹¹	<i>dhawarrak</i>	<i>*dhawarrak</i>
meat	<i>lhangungkwV-</i> <i>-ma+dhangkwa</i>	<i>lhangku</i>	<i>dhangku</i>	<i>*dhangku</i>
canoe	<i>a+lhamukwa</i>	<i>lhamuku</i>		(GP <i>dhamukku</i> VL1 p.59)
tree sp.	<i>lhang-</i> ‘long tall standing things, e.g. trees’	<i>lhangki</i>	<i>dhangkiq</i>	<i>*dhangkiq</i>
bloodwood	<i>a+lhmilya</i>	<i>lhumurluk</i>	<i>dhumurluq</i>	<i>*dhumurluk</i>
to chase	<i>-lharrma-</i>	<i>-lharrma-</i>		
shellfish sp.	<i>melhuwa</i>	<i>malhiwu</i>		

Table 9.12: Enindhilyakwa *lh* : Wubuy *lh* : Ngandi *dh* : pGN **dh*

¹¹ As Harvey (2003a: 261) notes, this form is unexpected - the regular reflex would be *lhaarrak* - and may be influenced by the Ritharrngu form *dhawarrak*.

	Enindhilyakwa <i>dh</i>	Wubuy <i>dh</i>	Ngandi (<i>dh</i>)<i>dh</i>
Dreaming	<i>a+ma+lhawudhawarra</i>	<i>lhawadhawarra</i>	<i>dhowo</i> ‘word, story’
ochre	<i>alvdha</i>	<i>wudhalak</i>	<i>budhdhalak</i>
some, few	<i>-adhvrra</i>	<i>adharra</i>	
to move	<i>-dharrbv-</i>	<i>-dhadharrbi-</i>	
to stab	<i>-adhukwa-</i>	<i>-adhuka-</i>	

Table 9.13: Enindhilyakwa *dh* : Wubuy *dh* : Ngandi (*dh*)*dh*

Heath (1978b) proposes that the Wubuy simple stop derives from an ancestral geminate stop **dhdh*, preserved in Ngandi (cf. **budhdhalakk* : Wub *wudhalak* ‘ochre’). The evidence for Enindhilyakwa *dh* corresponding to Ngandi (or pGN) *dhdh* is scarce: I have only found one potential correspondence: Enindhilyakwa *alvdha* ‘NEUT.ochre’ could be related to the Wubuy form by metathesis.¹²

Correspondences of Enindhilyakwa and Wubuy *lh* with Ngandi *dh*, by contrast, are plentiful. This suggests that Heath’s change **dh > lh* for Wubuy also holds for Enindhilyakwa. Based on Wubuy and Ngandi, Harvey (2003a) reconstructs **dh* for pGN,¹³ even though this sound does not occur in most GN languages: it continues as either a palatal stop (e.g. Ngalakgan *jangku* ‘meat’), as an alveolar (e.g. Rembarrnga *dangku* ‘meat’), or as a lamino-dental lateral (Wubuy, Enindhilyakwa). The reconstructed pGN singleton **dh* is thus only preserved in Ngandi.

If indeed Enindhilyakwa has undergone the lenition **dh > lh*, then the form *-ma+dhankwa* ‘meat, flesh’ is unexpected - the regular reflex would be *-ma+lhankwa* (the *ma-* prefix is the inalienable possession prefix¹⁴; section 3.4.5.1). The hardened stop may be influenced by the Ngandi *dhangku* and/or Ritharrngu *dhaangku*. Alternatively, it may be indicative of a preceding consonant that induced hardening of the continuant back to the stop: *lh > dh*.

Wubuy *lh* regularly hardens to its homorganic stop counterpart after a stop/nasal. For example, the verb stem *-lharrma-* ‘to chase’ has two realisations: in *nga-lharrma-ni* ‘I chase it’, where *lh* is preserved after a vowel, and *ngam-dharrma-ni* ‘I will chase it’, where *lh* hardens to *dh* after a nasal (Heath 1984: 63).

This hardening is not a productive process in Enindhilyakwa. At synchronically active morpheme boundaries such as between prefixes and stems, the lamino-dental lateral is maintained regardless of whether the prefix ends in a vowel or a consonant. An epenthetic vowel is inserted between two consonants of an affix and a stem: compare *na-lharrme-na* ‘it(VEG) chases it(NEUT)’ (prefix: *na-*), with *kv-lharrme-na* ‘I will chase it(NEUT)’ (prefix: *k-*).

¹² The Wubuy and Ngandi correspondences here are also sparse: the only example of **dhdh* : *dh* in Heath (1978b) is the ‘ochre’ example. The only correspondence I found in Harvey’s (2003a) extensive list is Ngandi *ngadhdhu*, Wubuy *ngadhu* ‘cycad’. This word has no correspondence in Enindhilyakwa.

¹³ He thereby refutes Heath’s (1978b) claim that the lamino-dental stop has diffused from the Yolngu languages.

¹⁴ The INALP prefix allows the possessor or ‘whole’ to be represented by a pronominal prefix: for example *dhv-ma+dhankwa* ‘meat of FEM class animal’ (e.g. *dhvngarrbiya* ‘FEM.crocodile’).

However, as with the labio-velar continuant discussed above, there are some traces of hardening of the lateral. Examples include the frozen reduplicated stem *-lharrmvn+dharrma-* ‘RDP+chase’, and the complex stem *-akbal+dhamvra-* ‘to tie around waist’, from *-lhamvra-* ‘tie, wrap’. More evidence of this hardening is presented in Appendix D. These data suggest that the hardening *lh > dh* may have been productive at some point in Enindhilyakwa, as it still is in Wubuy today.

In sum, Enindhilyakwa *dh* corresponds to Wubuy *dh*, and the lamino-dental laterals also match in the two languages. In both languages the evidence for the **dhdh > dh* shift is rather marginal, as there are not many cognates. The shift **dh > lh*, on the other hand, is well-supported in both languages. The lamino-dental lateral is an innovation characteristic of Enindhilyakwa and Wubuy.

9.2.1.2.3 Alveolars

The alveolar stop is a rare phoneme in Enindhilyakwa. Consequently, there are very few corresponding alveolar stops in Wubuy and Enindhilyakwa. Some involve homorganic clusters, as in Table 9.14.

	Enindhilyakwa <i>d</i>	Wubuy <i>d</i>
to close	<i>-dhida-</i>	<i>-dhida-</i>
to want	<i>-ngayinda-</i>	<i>-nganybanda-</i>
fish sp.	<i>mandarra</i>	<i>mandarra</i>

Table 9.14: Enindhilyakwa *d* : Wubuy *d*

The lenition **d > rr* is not incontestably attested in Wubuy (Heath 1978b: 38) and will not be addressed here either.

9.2.1.2.4 Retroflexes

In Heath’s account, the Wubuy retroflex stop *rd* descends from a geminate stop **rdrd*, preserved in Ngandi (cf. **mirdrdiwiriq* : *mirdiwiri* ‘possum’). The ancestral singleton **rd* preserved in Ngandi continues in Wubuy as a continuant (cf. **mardakarr(i)jj* : *marakarr(i)j* ‘dangerous’) (Heath 1978b: 37). The Enindhilyakwa correspondence to Wubuy *rd* is unclear: it can be either *rd* (Table 9.15), or *r* (Table 9.16, next page). The retroflex continuant, on the other hand, matches in the two languages, as shown in Table 9.17 (next page).

	Enindhilyakwa <i>rd</i>	Wubuy <i>rd</i>
grass	<i>a+marda</i>	<i>marda</i>
to climb	<i>-wurda-</i>	<i>-wirda- ~ -birda-</i>
mud-whelk	<i>yi+lharda</i>	<i>lhaardu</i>

Table 9.15: Enindhilyakwa *rd* : Wubuy *rd*

	Enindhilyakwa <i>r</i>	Wubuy <i>rd</i>
ray sp.	<i>a+rimba</i>	<i>rduumbi</i>
olive Ridley turtle	<i>yi+jirakamvrra</i>	<i>jardakaamirri</i>
spear bush	<i>a+waruwara</i>	<i>wardawarda</i>
didgeridoo	<i>yiraka</i>	(Yolngu: <i>yirdaki</i>)

Table 9.16: Enindhilyakwa *r* : Wubuy *rd*

	Enindhilyakwa <i>r</i>	Wubuy <i>r</i>
to push	<i>-jira-</i>	<i>-jura-</i>
to scrape	<i>-rija-</i>	<i>-ruja-</i>
to buzz around, fly away	<i>-wuruma-</i>	<i>-wuruma-</i> ~ <i>-kuruma-</i> ¹⁵
red emperor fish	<i>yimawura</i>	<i>yimawuru</i>

Table 9.17: Enindhilyakwa *r* : Wubuy *r*

Loss of retroflexion is a synchronically productive process in Enindhilyakwa (section 2.5.8), which may account for the *rd* : *r* correspondences in Table 9.16. The Wubuy continuant hardens to a stop after a stop/nasal (e.g. *nga-ruma* ‘1-go’ ~ *ngan-rduma* ‘IRR.1-go’), but there is no trace of hardening in Enindhilyakwa. In reduplicated and complex stems schwa-epenthesis occurs between the stop/nasal and continuant and the continuant is preserved. Examples are: *-rakv-rakaji-* ‘RDP-make a comfortable place’ and *-makv-ruk+bijangaji-* [place-body+jump] ‘to move camp’.

9.2.1.2.5 Lamino-palatals

In Heath’s scenario Wubuy palatal stops developed from a geminate **jj*, preserved in Ngandi (cf. **mardakarr(i)jj* : *marakarr(i)j* ‘dangerous’). The ancestral singleton stop lenited to a glide in Wubuy (cf. **jork-dhu* : *yardha* ‘go past’). The palatal stops and glides systematically match in Wubuy and Enindhilyakwa, as demonstrated in Tables 9.18 and 9.19 (next page), respectively.

	Enindhilyakwa <i>j</i>	Wubuy <i>j</i>
water python	<i>dhu+wajja</i>	<i>arlja</i>
paddle	<i>miyeja</i>	<i>miyaja</i>
root or vine sp.	<i>ma+rija</i>	<i>riija</i>
mist	<i>a+wija</i>	<i>wuuja</i>
to scrape	<i>-rija-</i>	<i>-ruja-</i>

Table 9.18: Enindhilyakwa *j* : Wubuy *j*

¹⁵ I suggested in Table 9.9 above that Wubuy morpheme-initial *w-* ~ *k-* corresponds to Enindhilyakwa \emptyset -. However, this is only the case when the following vowel is *a* or *e*, as this is a permitted morpheme-initial vowel. When the following vowel is *u*, which is not a permitted morpheme-initial vowel, *w* is preserved (but does not harden to *k*).

	Enindhilyakwa <i>y</i>	Wubuy <i>y</i>	pGN <i>*y</i> (<i>*j</i> ?)
hand, fin	<i>a+yarrka</i>	<i>yarrka</i>	?* <i>jarrkka</i> ‘water goanna’ ?* <i>jakku</i> ‘left hand’
throat	<i>yambiya</i>	<i>yambiya</i>	
voice, language	<i>yeng-</i>	<i>yaang</i>	* <i>yang</i>
to do, say	<i>-yama-</i>	<i>-yama-</i>	* <i>yama-</i>

Table 9.19: Enindhilyakwa *y* : Wubuy *y*

The lamino-palatal glide in the last two examples in Table 9.19 is not derived from an ancestral stop **j*, but is an etymological continuant (cf. **yang*, **-yama-*). In Heath’s account derived continuants may exist alongside etymological ones, which may be what we see happening here.

Wubuy *y* (whether etymological or derived) productively hardens to a stop when following a stop/nasal: an example is *nuny-jama-ny* ‘you said’ (Heath 1978b: 38). Again, this does not happen in productive affixation patterns in Enindhilyakwa, where *y* is maintained and an epenthetic vowel is inserted when two consonants meet across a morpheme boundary: *nvngki-yama* ‘you said’ (prefix: *nvngk-*). Some traces can however still be found, as the frozen reduplicated stem *-yamvn+jama-* ‘RDP+say’.

9.2.1.2.6 Velars

In Heath’s scenario the Wubuy velar stop descends from **kk*, preserved in Ngandi (cf. **-makka-* : *-maka-* ‘tell’) (1978b: 37). The labio-velar glide *w* lenited from **k* (cf. **kudduq* : *wudu* ‘tree sp.’). Enindhilyakwa *k* systematically corresponds to Wubuy *k*, and to Ngandi and pGN *kk*, as shown in Table 9.20. Enindhilyakwa *w* corresponds to Wubuy *w*, as was demonstrated in Table 9.8 above.

The systematic sharing of Wubuy and Enindhilyakwa *k*, which corresponds to *kk* in other GN languages, suggests that the change **kk* > *k* is shared between Wubuy and Enindhilyakwa. The ancestral **k* in turn lenited to *w* in both languages, as is evidenced by *-walka-* : *-waalka-* : *-kalkka-* ‘to sneak up on’.

	Enindhilyakwa <i>k</i>	Wubuy <i>k</i>	Ngandi <i>kk</i>	pGN <i>*kk</i>
herring	<i>alkvrra</i>	<i>warlkarra</i>	<i>warlkkarra</i>	* <i>warlkkarra</i>
parallel grandparent	<i>kaku</i>	<i>kaaku</i>	<i>kokkok</i>	* <i>ka(k)kak</i>
tobacco	<i>dhambakwa</i>	<i>dhamba(a)ku</i>	<i>dhambakku</i>	* <i>dhambakku</i> ~ * <i>jambakku</i>
to tell	<i>-maka-</i>	<i>-maka-</i>	<i>-makka-</i>	
to sneak up on	<i>-walka-</i>	<i>-waalka-</i>	<i>-kalkka-</i> ¹⁶	

Table 9.20: Enindhilyakwa *k* : Wubuy *k* : Ngandi *kk* : pGN **kk*

¹⁶ Heath (1978a) writes *galka*, where *g* represents a lenis stop, and *k* a fortis stop. Since Heath’s lenis-fortis analysis is interpreted as a singleton-geminate contrast, I have retranscribed his form to conform to the transcription in this thesis.

As usual, the Wubuy glide hardens back to its historical source after a stop or nasal, but this variation is not attested in Enindhilyakwa. Enindhilyakwa *w* that corresponds to Wubuy *w ~ k* disappears in stem-initial position (Table 9.9). The stem *-walka-* ‘sneak up on’ is interesting in this regard: the Wubuy variant after a stop/nasal is not the anticipated form *-kaalka-* (as would be expected from Ngandi *-kalkka-*), but *-baalka-*. The stable *w* in the Enindhilyakwa correspondence *-walka-* supports a *w- ~ b-* in Wubuy (see Table 9.10). Perhaps the Enindhilyakwa/Wubuy stem-initial segment originally was *w- ~ k-*, but it was reanalysed as *w- ~ b-*.

9.2.1.3 The mid-back vowel

Enindhilyakwa and Wubuy both lack the mid-back vowel *o*, which is present in all other GN languages. Harvey (2003a) reconstructs **o* for pGN. In Wubuy the regular reflex of **o* is *a* (Heath 1978b: 44). This is also true for Enindhilyakwa:

	Enindhilyakwa <i>a</i>	Wubuy <i>a</i>	Ngandi <i>o</i>	pGN <i>*o</i>
woomera	<i>arndaka</i> ‘to throw spear’	<i>warndak</i>	<i>borndok</i>	<i>*borndok</i>
head	<i>lyang-</i>	<i>rlaang</i>	<i>rlong</i>	<i>*L/rong</i>
ground	<i>jal(k)-</i>		<i>jolkko</i>	<i>*jolkko</i>
to give	<i>-kwa-</i>		<i>-wo-</i>	<i>*wo-</i>
to chop	<i>-ridha-</i>	<i>-lha-</i>	<i>-dho-</i>	<i>*dho-</i>
to hit (PP)	<i>-ba-</i>	<i>-ba-</i>	<i>-boo-</i>	<i>*bo-</i>
Dreaming	<i>a+ma+lhawudhawarra</i>	<i>lhawadhawarra</i>	<i>dhowo</i> ‘word’	
dark, night	<i>marrvnga</i>			<i>*morr</i> ‘be/get dark’
plant sp.	<i>dhv+makelya</i>			<i>*makorkorl</i>

Table 9.21: Wubuy *a* : Enindhilyakwa *a* : pGN **o*

The correspondence *e* in the last word, *dhv+makelya* ‘FEM+mistletoe’, to pGN **o* probably is an *a* vowel that has been fronted due to the following lamino-palatal according to rule P-4.

The change **o > a* is a shared innovation of Wubuy and Enindhilyakwa.

9.2.1.4 Summary of shared innovations

Table 9.22 summarises the correspondences that systematically hold between Enindhilyakwa, Wubuy and pGN. Correspondences are given in parentheses where they are assumed according to Heath’s scenario, but cognates are scarce. Ngandi is in all cases identical to pGN.

pGN, Ngandi	(*bb)	(*b)	(*dhdh)	*dh	(*jj)	*y (*j?)	*kk	*o
Wubuy	<i>b</i>	<i>w ~ b</i>	<i>dh</i>	<i>lh</i>	<i>j</i>	<i>y</i>	<i>k</i>	<i>a</i>
Enindhilyakwa	<i>b</i>	<i>w (~ b)</i>	<i>dh</i>	<i>lh</i>	<i>j</i>	<i>y</i>	<i>k</i>	<i>a</i>

Table 9.22: Summary of shared phonological innovations

The sound changes common to Enindhilyakwa and Wubuy that are best supported by cognates are **dh > lh*, **kk > k* and **o > a*. The other diachronic shifts that Heath proposes for Wubuy appear to be plausible for Enindhilyakwa also, but at present lack sufficient cognates.

The correspondence pGN **bb* : Enindhilyakwa *kb* : Wubuy *b* is well-attested. This correspondence is especially interesting in the light of the debate on whether the phonetically fortis/long stops in Arnhem Land languages are to be analysed as geminate clusters or as single segments (see Harvey 2003a; Baker 2008a and the references therein). Since GN long stops may correspond to the heterorganic cluster *kb* in Enindhilyakwa, this supports a geminate analysis.

9.2.2 Sound changes

This section investigates the language-specific sound changes in Enindhilyakwa.

9.2.2.1 The laterals

Retroflex laterals are extremely rare in Enindhilyakwa, occurring only in a handful of identifiable loanwords (Leeding 1989). In the GN languages, on the other hand, retroflex laterals are common. In onset position they correspond to a palatal lateral in Enindhilyakwa, as shown by the following correspondence sets.

	Enindhilyakwa <i>ly</i> __	Wubuy <i>rl</i> __	Ngandi <i>rl</i> __	pGN <i>rl</i> __
head	<i>lyang-</i>	<i>rlaang</i>	<i>rlong</i>	<i>*L/rong</i>
skin	<i>-ma+kulya</i>	<i>ma+kurlak</i>	<i>kurlaq</i>	<i>*kurlak</i>
bloodwood	<i>a+lhvmilya</i>	<i>lhumurluk</i>	<i>dhumurlug</i>	<i>*dhumurluk</i>
curlew	<i>dhu+walya</i>	<i>wuwarlurlu</i>	<i>kuwarlurlu</i>	<i>*kuwarlu</i>
butterfly	<i>wurrv+milyija</i>			<i>*merlemerle</i>
to go around	<i>-wilyake-</i>			<i>*warluk-</i>
plant sp.	<i>dhv+maketya</i>			<i>*makorkorl</i>
sugarbag	<i>yi+lyakwa</i>	<i>rlaku</i>		
language name	<i>e+nindhilyakwa</i>	<i>nundhirlaku</i>		

Table 9.23: Enindhilyakwa *ly* : Wubuy, pGN *rl* (onset)

Retroflex laterals in coda position correspond to an alveolar lateral in Enindhilyakwa:

	Enindhilyakwa __ <i>l</i>	Wubuy __ <i>rl</i>	pGN __ <i>*rl</i> ~ <i>*l</i>
belly	<i>mulkwa</i> (~ <i>murlkwa</i>)	<i>murlku</i>	
plain	<i>-akbal-</i>	<i>abarla</i>	<i>*kabbal</i>
herring	<i>alkvrra</i>	<i>warlkarra</i>	<i>*warlkkarra</i>
barramundi	<i>yukulbanda</i>	<i>yingkurlbandi</i>	
water python	<i>dhu+walya</i>	<i>arlja</i>	
toadfish	<i>yulkwa</i> ~ <i>yurlkwa</i>	<i>yirlku</i>	
shellfish sp.	<i>yu+wa(r)lkurra</i>	<i>warlkurrk</i>	
tree sp.	<i>ma+balba</i>	<i>barlbi</i>	
to pelt with stones	<i>-am+balk-</i>	<i>-warlka-</i> ~ <i>-barlka-</i>	

Table 9.24: Enindhilyakwa *l* : Wubuy, pGN *rl* (coda)

There are some exceptions to the above two patterns: in some words *rl* in Wubuy onsets corresponds to *l* in Enindhilyakwa, as shown in Table 9.25. Most of these are listed in the dictionary as Macassan loans (but only one of them is included in Evans' 1992 list of Macassan loans in Top End languages). Macassan did not have a retroflex lateral, so we can assume that Enindhilyakwa preserved the original alveolar lateral, while Wubuy turned it into a retroflex. Note that the Macassan loans do not have a noun class prefix in Enindhilyakwa, indicating that overt noun class marking on nouns had already lost its productivity at the time of Macassan contact (which is believed to have started in the late 17th century [MacKnight 1976; section 1.1.5]).

	Enindhilyakwa <i>l</i>__	Wubuy <i>rl</i>__	Macassan <i>l</i>__
Clan name	<i>lalara</i>	<i>rlarlarra</i>	-
egret	<i>a+marrvrla ~ a+marrvla</i>	<i>marraarla(k)</i>	-
sheet iron	<i>babvlykarna</i>	<i>babirlikan</i>	?
Carissa sp.	<i>jungkulvla</i>	<i>jingkurliarli</i>	?
shovel spear	<i>lama</i>	<i>rlama</i>	<i>laman</i>
northeast wind	<i>lungkurrma</i>	<i>rlungkurrma</i>	?

Table 9.25: Enindhilyakwa *l* : Wubuy *rl* (onsets in loanwords)

Loss of the Macassan final nasal is common in some Australian languages (Evans 1992: 58), and happened in the Enindhilyakwa and Wubuy versions of Macassan *laman* 'shovel spear'.

The first two words in this table, *lalara* and *amarrv(r)la*, are not loanwords. Here we cannot tell whether it is the alveolar or the retroflex lateral that is archaic, as we only have correspondences in two languages. The *l ~ rl* variation in Enindhilyakwa 'egret' may be due to apical dissimilation (Table 9.44 below): Enindhilyakwa does not tolerate sequences of same place apicals in consecutive syllables (with the exception of reduplication). Sequences such as *l...rr* are dispreferred (whereas reduplication of segments, such as *l...l* or *rr...rr*, is not problematic). Loss of retroflexion in *amarrvrla* would result in a sequence of two apico-alveolars, so the choice is between two equally unsatisfactory options: maintaining the retroflex lateral, or allowing a sequence of two same place apicals. Note that this problem is resolved in *lalara* (Wubuy: *rlarlarra*): the alveolar tap present in Wubuy is converted into a retroflex in Enindhilyakwa, thereby avoiding a clash of apicals.

The interesting shift from a retroflex to a palatal lateral in Enindhilyakwa (Table 9.23) is reminiscent of the prepalatalisation of apicals in the Arandic languages. Koch (1997: 180-1) proposes the following diachronic change of etymological retroflex laterals¹⁷: **rli > yl*. This shift took place in Alyawarr and Arrernte, as evidenced by **karli* 'boomerang', which became *aylaylv* in Alyawarr, and *alyv ~ ilyv* in Arrernte. The phonetic realisation of the Alyawarr sequence *ayl*,

¹⁷ Prepalatalisation also affected apical obstruents and nasals in Arandic.

with a palatal onglide, is [æil] ~ [ɛil] (Harvey 2011: 88). In Arrernte the prepalatalised lateral merged with the etymological prepalatal lateral *ly* (Koch 1997).

The prepalatalisation scenario could also account for the **rl* > *ly* change in Enindhilyakwa. If we take pGN **dhumurluk* ‘bloodwood’ (Enindhilyakwa: *alhvmilya*) as an example, I propose the following changes concerning the lateral:

(10) **url* > **uyl* (prepalatalisation of retroflex) > **iy/* (assimilation of **u* to palatal onglide) > *ily*

As Harvey (2011) notes for Arandic, the nature of the diachronic relationship between retroflexes and prepalatals in Enindhilyakwa remains a topic for further investigation.¹⁸

9.2.2.2 The vowels

The Enindhilyakwa vowel phonemes /ɛ/ and /ə/ are absent from Wubuy. Leeding (1989) claims that [ɛ] is synchronically an allophone of /a/, generated by a high front vowel in the next syllable. Schwa is a synchronic allophone of /i/ in her analysis, conditioned by a following retroflex consonant. In Chapter 2 I dismissed these claims and argued that /ɛ/ and /ə/ are both contrastive sounds. Yet Leeding’s analysis may provide a plausible *historical* scenario, as Enindhilyakwa /ɛ/ frequently corresponds to Wubuy /a/ __ /i/. And Enindhilyakwa /ə/ corresponds to a variety of vowels in Wubuy, in a number of conditioning environments, retroflexes being only one of them. The two vowels are discussed here in turn.

9.2.2.2.1 The phoneme /ɛ/

The following examples involve Enindhilyakwa /ɛ/ corresponding to Wubuy *a* followed by *i* in the next syllable (I use orthographic representation for the other languages as that is how the data are transcribed).

	Enindhilyakwa /ɛ/	Wubuy <i>a</i> __ <i>i</i>	pGN / Mac <i>*a</i>
sedge sp.	<i>mendheba</i>	<i>mandhabi</i>	
shellfish sp.	<i>melhuwa</i>	<i>malhiwu</i>	
salt	<i>dhv+lhvngena</i>	<i>lhanganik</i>	
dry	<i>-rerr+mv-</i> (verb)	<i>rarri</i> (adj)	
tuskfish	<i>yembvrrkwa</i>	<i>yambirrku</i>	
trepan	<i>dherriba</i>	<i>dhaarriba</i>	Mac <i>taripaŋ</i>
bush	<i>erriberriba</i>	<i>warrinybarriny</i>	
to deny	<i>-edhvrrre+mv-</i>	<i>-wadhaari+mi-</i>	
raincloud	<i>ebvrra</i> (VL1 p.44)	<i>-abirrarraki-</i> ‘to dawn’	

Table 9.26: Enindhilyakwa *eC(C)V* : Wubuy *aC(C)i*

¹⁸ Another interesting correspondence involving the lamino-palatal lateral is Macassan *ladin* ‘knife’, which continues as *lyelyinga* ‘knife(NEUT)’ in Enindhilyakwa. The alveolar lateral and the alveolar stop are both uncommon sounds in Enindhilyakwa, which may be why they both developed into the common sound *ly*.

These correspondences suggest that Enindhilyakwa /ɛ/ may historically derive from /a/ through i-umlaut. Although this is also a synchronic rule (P-5), in some of these examples there is no /i/ vowel that could have conditioned raising of /a/ to [ɛ]. For example, there is no synchronic reason for /ɟar+mə/ in Table 9.26 to be realised as [ɟɛrmə] ‘to dry’, so i-umlaut must have been a diachronic process.

The Enindhilyakwa verbs *-errik+bi-* ‘throw’ and *-errek+bi-* ‘vomit’ in (8) above could then have developed from the Wubuy verb *-warrka-* ‘to throw’ and noun *warrkard* ‘vomit’, respectively, by addition of the INCH suffix *-bi-*, as shown in (11) and (12):

- (11) **-warrka-bi-* [throw-INCH] > **-warrk+bi-* (loss of root-final vowel) > *-werrk+bi-* ~ *-werrik+bi-* (i-umlaut) > *-errk+bi-* ~ *-errik+bi-* (loss of stem-initial vowel) ‘to throw’
- (12) **-warrkard-bi-* [vomit-INCH] > **-warrkerd+bi-* (i-umlaut) > **-warrke+bi-* (simplification of consonant cluster) > **-warrek+bi-* (metathesis) > *-werrek+bi-* (i-umlaut) > *-errek+bi-* (loss of stem-initial w) ‘to vomit’

Harvey (2003a) reconstructs **e* for pGN, but this does not seem to continue in Enindhilyakwa, and neither in Wubuy. Furthermore, Macassan *e* does not map onto *e* in Enindhilyakwa or Wubuy - rather, as is the rule for Top End languages (Evans 1992: 62), Macassan *e* maps onto *i*:

	Enindhilyakwa <i>V</i>	Wubuy <i>V</i>	pGN / Mac <i>*e</i>
plover	<i>dhv+rrvkba</i>	<i>birrbirrk</i>	pGN <i>*berrebberreb</i>
butterfly	<i>wurrv+milyja</i>	<i>murla</i> ‘mosquito’	pGN <i>*merlemerle</i>
INCH	+ <i>mv-</i> (thematic)	<i>-ma-</i>	pGN <i>*-me-</i>
fish hook	<i>bikanga</i>	<i>bikangi</i>	Mac: <i>pekaŋ</i>
machete	<i>kaliwanga</i>	<i>kaliwanga</i>	Mac: <i>kalewaŋ</i>
canoe	<i>libaliba</i>	-	Mac: <i>lepalepa</i>
fish bait	<i>libanga</i>	<i>libangi</i>	Mac: <i>eppaŋ</i>

Table 9.27: Wubuy *V* : Enindhilyakwa *V* : pGN or Macassan **e*

From these correspondences it appears that Wubuy and Enindhilyakwa both lost pGN **e* as a phoneme, which continues as a variety of vowels. Macassan *e* continues as *i*, as in the other Top End languages. The Enindhilyakwa *e* vowel arose independently, from *a* conditioned by the high front vowel in the next syllable.

9.2.2.2.2 The phoneme /ə/

The Enindhilyakwa vowel /ə/ (orthographic symbol: *v*) relates to a number of vowels in Wubuy and pGN. Firstly, it may correspond to *i* adjacent to a retroflex or tap/trill, as illustrated in Table 9.28.

	Enindhilyakwa /ə/ (v)	Wubuy <i>i</i> (~ <i>u</i>)	pGN *<i>i</i>
Turrum fish	<i>kv(r)nkvrna</i>	<i>kirnkirn</i>	* <i>kirnqkirn</i>
shoulder	<i>a+mvrndha</i>	<i>muurn</i>	* <i>mirni</i>
tusk fish	<i>yembvrrkwa</i>	<i>yambirrkku</i>	
milkfish	<i>yimvrrarra</i>	<i>yimirdaarri</i>	
sinker	<i>mvr(v)ngkvrna</i>	<i>mirnkirra</i>	
coral trout	<i>dhamabvrna</i>	<i>dhumaabirna</i>	
eagle ray	<i>a+marnvndhangwa</i>	<i>marnindhangu</i>	
INSTR case suffix	<i>-mvrna</i>	<i>-mirri</i>	Yolngu, Wa: <i>-mirri</i> ¹⁹

Table 9.28: Enindhilyakwa /ə/ : Wubuy and pGN *i* (in rhotic environment)

Front vowels commonly centralise in retroflex environments in Australian languages (Flemming 2003), and Enindhilyakwa is no exception. Retroflex environments are also a common conditioning factor for the high central vowel in Dalabon (AEH p.334; Baker 2004: 8). Front vowels are incompatible with retroflexed consonants in Enindhilyakwa, and they are very rare with the alveolar tap/trill and the retroflex continuant. Wubuy is special in this regard in allowing a front high vowel to precede a retroflex or tap/trill. These correspondences tell us that one possible source for the Enindhilyakwa phoneme /ə/ is /i/ in a conditioning retroflex environment.

Alternatively, Enindhilyakwa /ə/ may correspond to /a/ in an unstressed position:

	Enindhilyakwa /ə/ (v)	Wubuy <i>a</i>	pGN *<i>a</i>
herring	<i>'alkvrna</i>	<i>warlkarra</i>	* <i>warlkkarra</i>
fish sp.	<i>'adhvka</i>	<i>adhakak</i>	
salt	<i>dhv+lhv'ngena</i>	<i>lhanganik</i>	
season	<i>akv'lharr-</i>	<i>akalhal-</i>	
some, few	<i>'adhvrna</i>	<i>adharra</i>	

Table 9.29: Enindhilyakwa /ə/ : pGN **a* (in unstressed position)

These correspondences suggest that another possible source for Enindhilyakwa /ə/ is from reduction of /a/ in unstressed position. Vowel-reduction in unstressed syllables is also attested in Arandic (Koch 1997), and GN (e.g. pGN **bardrdi* ‘marchfly’ > *bardrdv* ‘mosquito’ in Dalabon, *bardrdv(q)* ‘marchfly’ in Rembarrnga) (Harvey 2003a: 223, 226).

Thirdly, Enindhilyakwa /ə/ may be a reflex of pGN **e*, as per Table 9.27 above. And finally, Enindhilyakwa /ə/ may correspond to Wubuy *u* (pGN **u*) surrounded by consonants other than labio-velar *w* or labialised velars *ngw* and *kw* (or phonetic non-labialised velars for which a labialised underlying representation is possible), as illustrated in Table 9.30.

¹⁹ Heath claims that the PROP suffix *-mirri* is reconstructable for proto-Yolngu. He suggests that this suffix has diffused into Wubuy, Enindhilyakwa and Warndarrang, where it was adopted as an INSTR suffix (1978b: 78-9).

	Enindhilyakwa /ə/ (v)	Wubuy u	pGN *u
bloodwood	<i>a+lhvmilya</i>	<i>lhumurluk</i>	<i>*dhumurluk</i>
mangrove (tree)	<i>anhvma</i>	<i>anhuma</i>	
pelican	<i>dhv+makbvlha</i>	<i>maabulhu</i>	
hair	<i>ma+mvngba</i>	<i>muung</i>	?* <i>mud</i> ‘body hair’
flea, lice	<i>yi+mvrnda</i>	<i>murndik</i>	
to put down	<i>-abvrra-</i>	<i>-burra-</i>	

Table 9.30: Enindhilyakwa /ə/ : pGN *u (in non-conditioning environment)

These data confirm the analysis in Chapter 2 that [u] obtains its rounding from contiguous rounded velars: since [u] is only compatible with labialised velars (whether these are labialised on the surface or underlyingly), *u was reanalysed in other environments as a different vowel in Enindhilyakwa: /ə/. This schwa in turn may have assimilated to lamino-palatals, as in **dhumurluk* > *a+lhvmilya* ‘bloodwood’, and be realised as [i].

Macassan loanwords have undergone a similar treatment. The Macassan vowel *o* maps onto *u* in the Top End languages (Evans 1992: 62). An example is *tambako* ‘tobacco’, which continues as *dhambakku* in Ngandi, *dhambaku* in Wubuy, *jambakku* in Ngalakgan, et cetera. In Enindhilyakwa, the rounding of [u] is interpreted as a feature of the preceding velar (rule P-3). The rounding of the consonant only shows up in word-final position: *dhambakwa* (see Table 9.35 below). In environments incompatible with [u], Macassan *o* may correspond to [ə] in Enindhilyakwa (and [a] in word-final position):

	Enindhilyakwa /ə/ (v)	Wubuy u	Macassan o
sail, cloth	<i>dhymbala</i>	<i>dhumbala</i>	<i>sombala?</i>
northeast wind	<i>dhymbvrra</i>	<i>dhimburru</i>	<i>timoro?</i>
nail, peg	<i>baja</i>	<i>baaju</i>	<i>paso?</i>

Table 9.31: Enindhilyakwa /ə/ : Wubuy u : Macassan o

The last word is interesting, because Tindale recorded it as *baju* ‘spearhead’ (1925: 93), with word-final [u]. This could mean that the Enindhilyakwa conversion of word-final vowels to [a] (rule P-7B) is a comparatively recent phenomenon.

9.2.2.2.3 The vowel [u]

Enindhilyakwa [i] is incompatible with *ngw*, *kw* and *w* (for the latter only when not followed by a conditioning lamino-palatal; hence *awiija* ‘NEUT.mist’ is permissible because of the following *j*; see section 2.6.7). The Wubuy correspondences with rounded velars only involve *w*; *ngkw* and *kw* are unattested in Wubuy.

	Enindhilyakwa [u]	Wubuy <i>i</i>
shellfish sp.	<i>melhuwa</i>	<i>malhiwu</i>
to climb	<i>-wurda-</i>	<i>-wirda- ~ -birda-</i>
alone	<i>-awura</i>	<i>wiriwiri ~ biriwiri</i>

Table 9.32: Enindhilyakwa [u] : Wubuy *i* (contiguous to *w*)

Wubuy *i* corresponds to Enindhilyakwa [u] when adjacent to *w*. This confirms my analysis in Chapter 2 that the rounding of [u] is an underlying feature of consonants in Enindhilyakwa. The *melhuwa* word indicates the following ordering of historical changes:

- (13) 1. i-umlaut (P-5): **malhiwu* > *melhiwu*
 2. vowel rounding and backing 1 (P-2): **melhiwu* > *melhuwu*

Since /a/ can only raise to [ɛ] when conditioned by a high front vowel in the next syllable, this must have happened before assimilation of /i/ to the following labio-velar to become [u].

On the other hand, if Wubuy *u* occurs in an environment that *is* compatible with this vowel in Enindhilyakwa - i.e., contiguous to velars - this quality is maintained. This is also the case for Macassan loans:

	Enindhilyakwa [u]	Wubuy <i>u</i>	Macassan <i>u</i>
to sleep	<i>-mungskulha-</i>	<i>-mungskulha-</i>	
to catch fish	<i>-kurda-</i>	<i>-kura-</i>	
sacred	<i>-kurdukurda</i>	<i>kurdukurdu</i>	
cloud	<i>a+ngubina</i>	<i>ngubunung</i>	
sea wasp	<i>yabungurra</i>	<i>yabungurru</i>	
rudder	<i>kulvnga</i>	<i>kulinga</i>	<i>guliŋ</i>
coconut	<i>kalukwa</i>		<i>kaluku</i>

Table 9.33: Enindhilyakwa [u] : Wubuy *u* : Macassan *u* (contiguous to velars)

In these correspondences the Enindhilyakwa velars are interpreted as underlyingly rounded (i.e. /mVŋk^wV ɭa/ [muŋkuɭa] ‘sleep’). This is supported by *kalukwa* ‘coconut’, where the Macassan word-final *ku* maps onto [k^wa] in Enindhilyakwa (recall that all words end in [a]).

When the Wubuy correspondence has *u* followed by an unrounded velar in the next syllable, this *u* may be maintained in Enindhilyakwa, while the velar is interpreted as rounded:

	Enindhilyakwa [u]	Wubuy <i>u</i>	Macassan <i>u</i>
to hunt	<i>-ngurrkwa-</i>	<i>-ngurrka-</i>	
to stab	<i>-adhukwa-</i>	<i>-adhuka-</i>	
to come together	<i>-mvrndukwa-</i>	<i>-murnduka-</i>	
SE wind	<i>dhungwarra</i>		<i>tuŋkara</i>

Table 9.34: Enindhilyakwa *u(C)kwa#* : Wubuy *u(V)ka#*

In these correspondences, [u] quality in Enindhilyakwa is maintained, at the expense of the velar.

9.2.2.2.4 Word-final [a]

One of the main differences between Enindhilyakwa and all other GN languages is that every word in Enindhilyakwa ends in [a].²⁰ Wubuy correspondences may end in a consonant, such as *kuwak* ‘koel’ (Enindhilyakwa: *kuwaka*). Others may end in a different vowel, such as *yakarri* ‘sweetlips (fish)’ (Enindhilyakwa: *yakarra*). Correspondences that end in /Cu/, where /C/ is a velar, relate to [C^wa] in Enindhilyakwa, as shown in Table 9.35. Macassan loans ending in /Co/, where /o/ maps onto /u/ in Top End languages, correspond to [C^wa] in Enindhilyakwa. This is also true for English loans ending in /Co/, as shown in the table.

	Enindhilyakwa [C ^w a]#	Wubuy Cu#	pGN Cu#	Mac Co#
tobacco	<i>dhambakwa</i>	<i>dhamba(a)ku</i>	* <i>dhambakku</i> ~ * <i>jambakku</i> ²¹	<i>tambako</i>
meat	<i>-ma+dhangkwa</i>	<i>lhangku</i>	* <i>dhangku</i>	
canoe	<i>ma+lhamukwa</i>	<i>lhamuku</i>	GP: <i>dhamukku</i> (VL1 p.59)	
deep sea	<i>mukumukwa</i>	<i>mukumuku</i>		
catfish	<i>yi+mvdhvrngwa</i>	<i>midhurrungu</i>		
old (man)	<i>n-eni-yuwangkwa</i>	<i>yiwangku</i>		
anchor	<i>balangwa</i>	<i>balangu</i>	(e.g. Yanyuwa <i>balangu</i>)	<i>balano</i>
coconut	<i>kalukwa</i>		Mac: <i>kaluku</i>	
calico	<i>kalikwa</i>	<i>kaaliku</i>		Eng: <i>calico</i>

Table 9.35: Enindhilyakwa [C^wa]# : pGN */Cu/# : Mac /Co/#

Since Enindhilyakwa [u] is generated by rounded velars, the preceding velar is reanalysed as underlyingly labialised: *Cu > /C^wV/. This becomes [C^wa] word-finally. The mapping of Macassan *o* onto *u* can only be observed indirectly in Enindhilyakwa, due to the fact that the preceding velar becomes rounded: Co# (Mac) > Cu# (GN) > [C^wa]# (Enin).

The fact that Macassan *o* continues as *u* in Enindhilyakwa and Wubuy (which may be reanalysed as /ə/ in Enindhilyakwa), is interesting, because it differs from the treatment of pGN **o*: I have shown in Table 9.21 above that the reflex of this **o* is *a* in both languages (e.g. pGN **borndok* : Wub *warndak* ‘woomera’ : Enin *-arndaka-* ‘to hunt with spear’). I proposed this to be an innovation unique to Enindhilyakwa and Wubuy. This must then have taken place at a different time than the mapping of Macassan *o* onto *u* that has happened across the Top End. The treatment of the English loan *calico* in Table 9.35, which continues as *kalikwa* in Enindhilyakwa, tells us that English *o* is treated like Macassan *o*, at least in word-final position. This suggests the following ordering of the changes in time:

- (14) 1. pGN **o* > *a* (Enin, Wub)
 2. Macassan, English *o* > *u* (GN) (= [C^wa] when word-final in Enin)

²⁰ The only other Arnhem Land language in which all words end in a vowel is Tiwi (Dixon 2002: 646).

²¹ The reconstruction of ‘tabacco’ for pGN comes from Harvey (2003a), who does not distinguish between loanwords and inherited words in his paper.

The word *kalikwa* is a dictionary entry, which I have never heard myself. If this is indeed phonetically [kalik^wa], with [i] preceding [k^w], as the spelling suggests, then this also tells us that rule P-2 (vowel rounding and backing) is not applied to recent loanwords. That is, we do not get /kalik^wa/ [kaluk^wa] (as this would be spelled *kalukwa* in the dictionary).²²

9.2.2.3 Summary of sound changes

Enindhilyakwa has undergone drastic sound changes that distinguish its phonology from that of other GN languages. Some changes are shared with Wubuy, and some are language-specific:

- pGN **o* > *a* (shared with Wubuy)
- pGN **e* > *V* (shared with Wubuy)
- pGN **dh* > *lh* (shared with Wubuy)
- loss of singleton-geminate stop contrast (shared with Wubuy)
- creation of phoneme /ə/ (in retroflex or rhotic environments)
- creation of phoneme /ɛ/ (by i-umlaut)
- limiting the distribution of [u] to a restricted set of predictable environments, and the related development of labialised velars /k^w/ and /ŋ^w/
- creation of phoneme /ʎ/ (by loss of retroflexion and prepalatalisation)
- apical dissimilation (see also section 9.3.4.3 below)
- all words ending in [a]
- extensive usage of vowel epenthesis

The latter two changes, together with the syllabification of certain consonant clusters as onsets (sections 2.3.2 and 2.5.7), appear to be driven by the pressure to avoid codas.

9.3 Verbal suffixal paradigms

Verbal suffixal paradigms are assumed to be particularly resistant to borrowing. They are also the site of greatest irregularity and least productivity (Heath 1978b; Baker 1999; AEH). The sharing of such paradigms thus provides evidence for genetic relationships between languages. The study of shared paradigmatic irregularities has been crucial to the genetic subclassification of languages in Australia and elsewhere in the world. Even in cases of intense linguistic diffusion such as those in Eastern Arnhem Land (Heath 1978b), verbal conjugational irregularities do not appear to diffuse (as opposed to, say, case suffixes or pronominal clitics [AEH]).

This section lines up some of the Enindhilyakwa tense/aspect suffixal paradigms from Chapter 6 with the corresponding paradigms in Wubuy, Ngandi and pGN. My objective here is twofold: firstly, by showing that the Enindhilyakwa paradigm exhibits many of the characteristics of the

²² An alternative explanation is that the [i] vowel is maintained to differentiate *kalikwa* ‘calico’ from the Macassan loan *kalukwa* ‘coconut’ (< *kaluku*).

GN paradigm, I aim to establish that Enindhilyakwa is a GN language. But secondly, I will demonstrate that Enindhilyakwa also diverges from the typical GN paradigm, and that this can be captured by reconstructing a common ancestor of Enindhilyakwa, Wubuy and Ngandi.

9.3.1 Tense, aspect, mood categories

Like all GN languages save Mangarrayi (AEH), and also like other non-Pama-Nyungan (nPN) languages, the basic form of the Enindhilyakwa verb is (where IN stands for incorporated nominal):

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

As in the GN languages, the Enindhilyakwa verb stem may be simple or complex, with complex stems consisting of an uninflecting prebound plus an inflecting thematic element.

NPN languages characteristically combine verbal prefixes with the suffixes to mark a variety of modal meanings (Verstraete 2005). The Irrealis category is typically marked with a specific prefix, which may be morphologically fused with the bound pronominals, as was described in Chapter 4 for Enindhilyakwa.²³ The GN languages, by contrast, do not follow the nPN pattern as they not tend to have a broad modal prefix; instead they distinguish between Realis and Irrealis in the tense suffixes (AEH; Verstraete 2005). Five languages in Verstraete's sample of 28 nPN languages are organised this way, four of which are GN: BGW, Ngalakgan, Rembarrnga and Ngandi distinguish between Realis and Irrealis in the suffixes only.²⁴ Dalabon is another GN language that operates this way (Evans & Merlan 2003).

The organisation of the Enindhilyakwa and Wubuy TAM systems differs from the typical GN pattern (including Ngandi), but resembles the pattern characteristic of the other nPN languages in sharing one set of tense suffixes between distinct sets of Realis and Irrealis prefixes. What sets Wubuy and Enindhilyakwa apart, however, are the striking correspondences in the inflectional suffix system and its covariation with the prefix system. Table 9.36 compares the Wubuy and Enindhilyakwa TAM systems with those of BGW (Evans 2003a) and Wagiman (Wilson 1999) (cited in Verstraete 2005). The BGW system follows the typical GN pattern, whereas Wagiman shows the pattern characteristic of the nPN languages. Wagiman is both geographically and genetically distant from Wubuy and Enindhilyakwa (Map 1.1). These languages are randomly chosen to show the characteristics of Enindhilyakwa and Wubuy on the one hand, and their shared distinctions with other nPN languages on the other.²⁵

²³ The Enindhilyakwa and Wubuy Irrealis markers are not cognate, as argued in Heath (1997). See Appendix L.

²⁴ The fifth language is Mawng.

²⁵ Labels: R 'Realis'; IRR 'Irrealis'; P1 'Punctual/atomic Past'; P2 'Continuous/neutral Past'; NP1 'Punctual/atomic Non-past'; NP2 'Continuous/neutral Non-past'; NP3 'Negated Non-past' (Enindhilyakwa), 'Future negative and Evitative' (Wubuy); PP 'Past Perfective'; PI 'Past Imperfective'; FUT 'Future'; PR 'Present'; H 'Habitual'.

		Enindhilyakwa	Wubuy	BGW	Wagiman
Positive	Past1	R-verb-P1	R-verb-P1	PST-verb-PP	PST-verb-PP
	Past2	R-verb-P2	R-verb-P2	PST-verb-PI	PST-verb-PST(H)
	Past Potential	IRR-verb-P2	IRR-verb-P2	PST-verb-IRR	IRR-verb-PST(P)
	Present1	R-verb-NP1	R-verb-NP2	NP-verb-NP	PR-verb-PR
	Present2	R-verb-NP2			
	Future1	IRR-verb-NP1	IRR-verb-NP1		FUT-verb-FUT/IRR
	Future2	IRR-verb-NP2	IRR-verb-NP2		
	Imperative1	IMP-verb-NP1	IRR-verb-NP1	NP/PST-verb-IMP	
	Imperative2	IMP-verb-NP2	IRR-verb-NP2		
	Evitative	IRR-verb-NP2/P2- <i>maka</i>	IRR-verb-EVIT/NP3- <i>maki</i>	NP-verb-NP	IRR-verb-FUT
Negative	Present	<i>a-/ŋ-</i> verb-NP3	IRR-verb-NP1	NP-verb-NP	IRR-verb-PR
	Future		R-verb-NP3		IRR-verb-FUT
	Imperative				FUT-verb-FUT/IRR
	Past	IRR-verb-NP2	IRR-verb-NP2	PST-verb-IRR	IRR-verb-PST(P)
	Evitative	IRR-verb-P2- <i>maka</i>	R-verb-EVIT/NP3- <i>maki</i>	NP-verb-NP	

Table 9.36: TAM systems of Enindhilyakwa, Wubuy, Bininj Gun-Wok and Wagiman

The Wubuy/Enindhilyakwa system differs substantially from the BGW system. Beside the fact that the Realis-Irrealis distinction is not made in the prefixes but in the suffixes, tense is confined to Realis mood in BGW, and aspect is confined to the Past tense. In Wubuy/Enindhilyakwa, tense and aspect do not have such limitations: tense occurs in both Realis and Irrealis mood, and aspect in both Past and Non-past tense. We will see below that one major innovation of Wubuy and Enindhilyakwa is the aspectual distinction in the Non-past (which also happened in Ngandi).

Wagiman has more categories expressed by prefixes, and more categories expressed by suffixes than do Wubuy/Enindhilyakwa. Nonetheless, like BGW, Wagiman only makes aspectual distinctions in the Past (Perfective, Habitual and unmarked Past). This language uses different suffixes for Present (PR) and Future (FUT), while in Wubuy/Enindhilyakwa the same suffixes are used for both categories (the Present-Future distinction is made by the prefixes). Different prefixes are used to mark Future/Imperative and Past Potential in Wagiman (FUT and IRR, respectively). In Wubuy/Enindhilyakwa these categories are both marked with IRR prefixes.

The Negated Non-past is expressed by a distinct suffix in Wubuy/Enindhilyakwa, which does not exist in the other languages.

The distribution of mood prefixes and tense/aspect suffixes in Enindhilyakwa and Wubuy is virtually the same. Some minor differences are that the Enindhilyakwa NP3 takes a special prefix (*a- ~ ng-*) and is used for the Negated Non-past. In Wubuy NP3 is used for the Future Negative (with Realis prefixes), or the Evitative (with Irrealis prefixes). Another difference is the neutralisation of aspect in the Present Realis Positive in Wubuy, but not in Enindhilyakwa. Furthermore, Wubuy lacks distinct Imperative (IMP) and Hortative (not shown) prefix series

present in Enindhilyakwa, which were suggested in section 4.2 to be recent innovations. But these differences are minor and, as Heath (n.d.) puts it, “do not disguise the very obvious close formal connection between the verbal systems of the two languages”.

9.3.2 The innovated Non-past category

Whereas the verbal inflectional suffixes in the bulk of GN languages encode one Non-past category and two Past categories (typically Past Perfective [PP] and Past Imperfective [PI], also labelled Punctual and Continuous in some grammars [AEH]), Enindhilyakwa, Wubuy and Ngandi have elaborated the Non-past. Enindhilyakwa and Wubuy have created an aspectual distinction in the Non-past, which Heath labels NP1 ‘Punctual’ and NP2 ‘Continuous’ for Wubuy. Ngandi distinguishes Present (PR) and Future (FUT).²⁶ In Chapter 6 I also labelled the two Non-past categories NP1 and NP2, where NP1 represents atomic Non-past and NP2 neutral Non-past.

Baker (2004) proposes that the pGN Non-past (which encodes Present and Future tenses) corresponds to Wubuy NP1 and Ngandi FUT. The inflectional category equivalences are presented in Table 9.37, with their Enindhilyakwa correspondences as proposed in this chapter (apart from the Enindhilyakwa data, this table is taken from Baker 2004).

Enindhilyakwa	Wubuy	Ngandi	pGN
Non-Past1	Non-Past1	Future	Non-Past
Non-Past2	Non-Past2	Present	
Non-Past3	Non-Past3	Evitative	Irrealis
Past1	Past1	Past Punctual	Past Perfective
Past2	Past2	Past Continuous	Past Imperfective
	Evitative	Potential	

Table 9.37: Verb inflectional category equivalences of Enindhilyakwa, Wubuy, Ngandi and pGN

The Enindhilyakwa/Wubuy NP2 and Ngandi PR are an innovation. The suffix representing these categories is *-na* or *-ni*.

The PP and PI of pGN roughly correspond to these categories in Enindhilyakwa, Wubuy and Ngandi (labelled P1 and P2, respectively, in Enindhilyakwa and Wubuy). The pGN IRR corresponds to Wubuy NP3 and Ngandi EVIT according to Baker (2004). The Enindhilyakwa NP3 is formally distinct from the corresponding Wubuy and Ngandi categories.²⁷ I view these as language-specific generalisations and will not address them here. The Wubuy Evitative ~ Ngandi Potential are an innovation, which lacks an analogue in pGN (ibid). This category does not appear

²⁶ Ngalakgan and Rembarnga also have a FUT category, but this is an innovation unique to these two languages, unrelated to the innovated Ngandi and Wubuy/Enindhilyakwa NP categories. In Ngalakgan and Rembarnga the Future is composed by adding FUT suffixes to the (pGN) NP stem (Baker 2004). The innovated Ngandi FUT ~ Wubuy/Enindhilyakwa NP1 categories are built by adding the relevant suffixes directly to the verb root.

²⁷ Enindhilyakwa NP3: *-ma* ~ *-ngvma*, with both allomorphs often possible for the same verb; Wubuy NP3: mostly \emptyset , sometimes *-u* after a stem ending in *u*; Ngandi Evitative: often \emptyset , in some irregular verbs *-yi* or *-ngi*.

to have a formal or functional equivalence in Enindhilyakwa and will therefore not be discussed here either. Only the Wubuy/Enindhilyakwa names for the inflectional categories will be used in the following sections, together with pGN Non-Past (NP).

9.3.3 Generalisations

To appreciate the shared innovations and the language-specific generalisations, it is useful to line up the inflectional endings of the corresponding (sub-)classes in the three languages. This is done in Table 9.38, which is to be read in a vertical direction. The corresponding conjugations are based on shared verbs, and on formal similarities of the suffixes. Corresponding suffixes that are formally similar to those in Enindhilyakwa are bolded.

Enindhilyakwa		1A(i)	2A	3	4	6A (stance)
	NP1	<i>-∅</i>	<i>-ya</i>	<i>-ya</i>	<i>-∅</i>	<i>-nga-∅ ~ -ya</i>
	NP2	<i>-na</i>	<i>-na</i>	<i>-ja</i>	<i>-na</i>	<i>-∅</i>
	P1	<i>-∅</i>	<i>-∅</i>	<i>-∅</i>	<i>-∅</i>	<i>-nga-∅</i>
	P2	<i>-nv</i>	<i>-ngv</i>	<i>-rnv ~ -nv</i>	<i>-∅</i>	<i>-∅</i>
Wubuy		I₁	A₃	N	A₁	NGA₁ (stance)
	NP1	<i>-ny</i>	<i>-ng</i>	<i>-ng</i>	<i>-ng</i>	<i>-nga-ng</i>
	NP2	<i>-na</i>	<i>-ni</i>	<i>-n-ji</i>	<i>-na</i>	<i>-a</i>
	P1	<i>-ny</i>	<i>-ny</i>	<i>-ng</i>	<i>-ny</i>	<i>-nga-ny</i>
	P2	<i>-ni</i>	<i>-ngi</i>	<i>-n-di</i>	<i>-a</i>	<i>-∅</i>
Ngandi		3a	irregular	5	4a	
	NP1	<i>-ng</i>	<i>-yang</i>	<i>-n</i>	<i>-rang</i>	
	NP2	<i>-na</i>	<i>-ni</i>	<i>-n-jini</i>	<i>-na</i>	
	P1	<i>-ny</i>	<i>-y</i>	<i>-ng</i>	<i>-ng</i>	
	P2	<i>-ni</i>	<i>-ngi</i>	<i>-n-di</i>	<i>-ri</i>	

Table 9.38: Generalisations in corresponding Enindhilyakwa, Wubuy, Ngandi conjugations

From this table we can observe that the NP2 suffixes are formally very similar in each conjugation in the three languages. The stance verbs in the right hand column are anomalous in Enindhilyakwa and Wubuy, but these verbs tend to be irregular in other languages also (AEH p.318). The enigmatic retroflex nasal in Enindhilyakwa P2 of conjugation 3, which occurs in no other GN language, will be argued in section 9.3.4.3 to be related to Wubuy and Ngandi P2 *-n-di*. Another important commonality between Enindhilyakwa and Wubuy is the *-nga-* augment for stance verbs.

The following language-specific generalisations can be observed:

- Enindhilyakwa: NP1 *-ya ~ -∅*; P1 *-∅*
- Wubuy: NP1 *-ng* (Baker 2004); P1 *-ny* (AEH)

- Ngandi: NP1 regularly adds *-Vng* to the reconstructable pGN NP form (AEH) (this can be seen in the table only in class 4a *-r-ang*, which corresponds to pGN **-r*); P1 *-ng* is an analogical reformation in some cases (AEH p.336)

These generalisations only apply to the NP1 and P1 and do not descend from a proto-language, so they cannot contribute to the reconstruction of inherited forms. The Enindhilyakwa zero morphs where the other languages have overt morphemes are problematic when trying to relate categories. Both the NP1 and P1 have zero allomorphs, but these categories are distinct by virtue of the NP1 allomorph *-ya*, and the P1 allomorph *-nga*. The existence of zero morphs in more than one category means that the absence of a morpheme carries less meaning than overt material does in Wubuy and Ngandi. In other words, $-\emptyset$ does not carry a tense meaning in Enindhilyakwa. Hence these empty morphs are useless when they correspond to overt forms in other languages (I do believe, however, that the zero forms are relatable to the Wubuy and Ngandi overt endings: since the majority of these Wubuy and Ngandi endings consist of a single consonant only, it is plausible that these have been deleted in Enindhilyakwa due to the ban on word-final codas). In what follows, I will focus on the NP2 and P2 forms.

9.3.4 Tense/aspect suffixal paradigms

Enindhilyakwa has six main inflectional classes characterised by distinct pairs of NP2 and P2 suffixes, as discussed in Chapter 6. These are the most variable suffix categories in Enindhilyakwa and thus most diagnostically useful. The same categories are the most variable in Wubuy and Ngandi, though in Ngandi the PP category is also quite flexible. In Enindhilyakwa most of the classes can be further divided into subclasses, with only minor formal differences between them, such as the quality of the stem-final vowel, or the presence of suffix allomorphs. Heath lists a larger number of classes in Wubuy, comprising a total number of 18, plus an additional eight high-frequency monosyllabic roots with special paradigms.²⁸ Ngandi has six classes, plus a number of irregular roots with special paradigms. Not all classes in the three languages are attested in the other languages. Contrary to Wubuy and Ngandi, Enindhilyakwa does not appear to have irregular verbs that require special paradigms.

In the following sections I will start with the conjugations that are least complex in their cross-linguistic comparison (conjugations 2 and 4), and then work my way through the more complex

²⁸ The Wubuy classes are distinguished by and named after the final vowel of their roots (e.g. A₁, I₁, U₁), or after a characteristic augment that is used in a subset of inflected forms (e.g. N, NGA₁, MA₁). The subscripts are used to differentiate more than one class. However, paradigms of different classes can be very similar (e.g. U₂ and A₁, or U₃ and I₂, take almost identical suffixes). In other words, if one disregards the quality of the stem-final vowel, the number of verb classes may be reduced in Wubuy. In my analysis of the Enindhilyakwa classes outlined in Chapter 6 I disregard the quality of the stem-final vowel and look at the suffixes only.

ones (conjugations 3, 1 and 6, in that order). I will not discuss the Enindhilyakwa conjugation 5, as this has one member: the causative suffix *-ji-*. This class has no analogue in Wubuy or Ngandi.

Based on the common features, I will reconstruct the paradigms of the immediate parent language, which I will call ‘Eastern GN’ (EGN) (after Baker’s 2004 ‘EGN’ subgroup, which only comprises Wubuy and Ngandi). I will compare the EGN paradigms with the pGN paradigms, taken from AEH. It is important to note here that Wubuy and Ngandi were used by AEH in their reconstruction of pGN, so similarities between Wubuy, Ngandi and pGN are to be expected. Crucially, I will show that Enindhilyakwa fits in with this characteristic pattern.

9.3.4.1 Enindhilyakwa 2A, 2B : Wubuy A₂, A₃ : Ngandi 2

Enindhilyakwa conjugation 2 is characterised by NP2 *-na* and p2 *-ngv*. Two subclasses were distinguished in Chapter 6, based on the place of articulation of the final consonant of the verb root (but their inflectional endings are the same). In subclass 2A this consonant is a peripheral, and in subclass 2B it is a coronal. The stem-final vowel in class 2 is /a/. The two subclasses have close correspondences in the Wubuy classes A₃ and A₂, respectively. The Wubuy verbs also end in /a/ (which provides the name for the classes), which is preceded by a coronal consonant for class A₂ verbs, and a bilabial for A₃ verbs. Most A₃ verbs end in *-ma* (Heath 1984: 417-8). Wubuy classes A₂ and A₃ only differ in the NP2.

The following shared verbs are attested in the corresponding conjugations (more can be found in Appendix P):

(15)	<u>Enindhilyakwa 2A</u>	<u>Wubuy A₃</u>	<u>Ngandi (irr.)</u>
get, thematic	(+)ma-	(+)ma-	(+)ma-
chase	-lharr+ma-	-lharr+ma-	
fly away, buzz around	-wurv+ma-	-wuru+ma-	
(16)	<u>Enindhilyakwa 2B</u>	<u>Wubuy A₂</u>	<u>Ngandi 2</u>
hit	+baja	+badja-	-bajja-
thematic	+dha-	+dha-	+dha-
hit, tap	-warda-	-warda-	
yell	-arda-	-arda-	
catch fish with hands	-marra-	-marra-	
write, draw ²⁹	-arrvkarra-	-arrarra-	

The correspondences of Enindhilyakwa subclass 2A are illustrated in Table 9.40 with the verb *-ma-* ‘get’. This verb can be found as a free verb in all GN languages (AEH). In EGN, it also functions as a thematic (section 9.1.1).

²⁹ These are probably Macassan loans (< Mac *ukirriq* ‘write’).

	Enindh. 2A (+)ma- ‘get, thematic’	Wubuy A₃ (+)ma- ‘get, thematic’	Ngandi (irr.) (+)ma- ‘get, thematic’	pEGN *(+)ma- ‘get, thematic’	pGN *-ma- ‘get’
NP1	<i>-mi-ya</i>	<i>-ma-ng</i>	<i>-mi-yang</i>	<i>*-mi-yang</i>	<i>*-ma-ng</i>
NP2	<i>-me-na</i>	<i>-ma-ni</i>	<i>-ma-ni</i>	<i>*-ma-ni</i>	
P1	<i>-mv-Ø</i>	<i>-mi-ny</i>	<i>-ma-y</i>	<i>*-ma-y</i>	<i>*-ma-y</i>
P2	<i>-ma-ngv</i>	<i>-ma-ngi</i>	<i>-ma-ngi</i>	<i>*-ma-ngi</i>	<i>*-ma-ng-iny</i>

Table 9.39: Enindhilyakwa 2A, Wubuy A₃, Ngandi and pGN -ma- ‘get’

The NP2 suffixes in the three languages are quite similar and can be reconstructed as **-ni*. The suffix-final *a* quality in Enindhilyakwa is probably due to analogy with the NP2 of other conjugations in this language, which is typically *-na*. Stem-final *a* is raised to *e* in Enindhilyakwa (i-umlaut), while Wubuy and Ngandi maintain *a* quality. The NP2 form ancestral to Enindhilyakwa, Wubuy and Ngandi can therefore be reconstructed as **ma-ni*, preserved exactly in Wubuy and Ngandi, but with the following changes in Enindhilyakwa:

- (17) **-ma-ni* > **-me-ni* (root vowel conditioned by suffix vowel) > *-me-na* (suffix vowel changed to [a] analogous to other conjugations)

The P2 endings also match in the three languages and can be reconstructed as **-ngi*. In Enindhilyakwa **/i/* became */ə/* (symbol: *v*), which is a regular sound change for vowels in unstressed position, as proposed in section 9.2.2.2.2. Since no i-umlaut occurs in Enindhilyakwa, I analyse the Enindhilyakwa suffix as *-ngv* rather than *-ngi*.

The NP1 forms are quite different in the three languages. Heath (n.d.) hypothesises that in the language ancestral to Wubuy, Ngandi and Enindhilyakwa, **-mi-ya-ng* was the NP1 form, preserved exactly in Ngandi. In Enindhilyakwa the final consonant of **-mi-ya-ng* was lost due to the ban on word-final codas, resulting in *-mi-ya* (loss of the final consonant in the NP1 ending has happened in all conjugations, as we will see below). Wubuy generalised the NP1 ending *-ng* found in other conjugations, resulting in **-ma-ng*. I will follow Heath and reconstruct NP1 **-mi-ya-ng* for pEGN.

The Enindhilyakwa P1 suffix *-Ø* is formally unrelated to the P1 ending in the other languages. Enindhilyakwa P1 has a zero allomorph in all conjugations (plus an allomorph *-nga* in conjugations 2B and 6), which corresponds to overt material in the other languages. The Enindhilyakwa ending thus does not contribute to the reconstruction of the pEGN P1, except that this probably consisted of a single consonant, as this is always deleted in Enindhilyakwa. In Wubuy the ending *-ny* is by far the most common P1 inflection across the conjugations, so its presence here is likely to be due to analogy. The Ngandi ending *-y* is comparable to pGN. Since the Enindhilyakwa and Wubuy endings do not appear to go back to a proto-language, I reconstruct P1 **-y* for pEGN, preserved in Ngandi.

Comparing the proposed pEGN paradigm with the pGN paradigm reconstructed by AEH, we can observe some differences but also similarities. The NP2 suffix **-ni* does not occur in pGN at all, but is characteristic of pEGN. The pEGN NP1 **-yang* contains a segment *y* absent in pGN. However, the P1 endings are arguably the same, and pEGN P2 **-ngi* is relatable to pGN **-ng-iny*. The *-ngi* ending occurs in BGW also; AEH reconstruct **-ng-iny* as deletion of a segment is more plausible than insertion.

Table 9.40 illustrates the Enindhilyakwa 2B, Wubuy A₂ and Ngandi 2 paradigms with the verb **-badja-* ‘hit’. This verb is also reconstructed for pGN (AEH). In Enindhilyakwa and Wubuy these are bound stems. The Ngandi correspondence is *-bajja-*, with assimilation of the cluster **dj* to a geminate *jj* (AEH).³⁰

The endings of Enindhilyakwa class 2B only differ from 2A in Table 9.39 above in the presence of the P1 allomorph *-nga*. Wubuy A₂ only differs from A₃ in the NP2.

	Enindh. 2B <i>+baja-</i> ‘hit’	Wubuy A₂ <i>+wadja-</i> ~ <i>+badja-</i> ‘hit, kill’	Ngandi 2 <i>-bajja-</i> ‘hit, kill’	pEGN <i>*-bajja-</i> ‘hit, kill’	pGN <i>*-badja-</i> ‘punch’
NP1	<i>+baji-ya</i>	<i>+wadja-ng</i>	<i>-bajja-ng</i>	<i>*-badja-ng</i>	<i>*-badja-ng</i>
NP2	<i>+baje-na</i>	<i>+wadja-i</i> > <i>-wadjii</i>	<i>-bajja-ni</i>	<i>*-badja-ni</i>	
P1	<i>+bajv-Ø</i> ~ <i>+bajv-nga</i>	<i>+wadji-ny</i>	<i>-bajji</i>	<i>*-badji</i>	<i>*-badji</i>
P2	<i>+baja-ngv</i>	<i>+wadja-ngi</i>	<i>-bajja-ngi</i>	<i>*-badja-ngi</i>	<i>*-badja-ng-iny</i>

Table 9.40: Enindhilyakwa 2B, Wubuy A₂, Ngandi 2 and pGN *-badja-* ‘hit’

The Wubuy and Ngandi NP1 endings are identical, whereas Enindhilyakwa *-ya* most likely does not continue from a proto-language but is a generalisation from conjugation 2A (Table 9.39). It can be reconstructed for pEGN as **-ng*. The NP2 can be reconstructed as **-ni*, preserved in Ngandi. Heath suggests that the Wubuy suffix *-i* is historically identical to *-ni* (1984: 413). The vowel harmony that takes place in Enindhilyakwa also suggests the suffix is historically **-ni*: **-baja-ni* > **-baje-ni* > *-baje-na*. As was proposed for *-me-na* ‘get-NP2’ in (17) above, the suffix-final **i* changed to *a* analogous to other conjugations (as NP2 is typically *-na*). The P1 uses a bare stem in Ngandi and in one variant in Enindhilyakwa. The Wubuy ending *-ny* is distinct, but this is most likely an analogical intrusion, as was proposed for conjugation A₃ above. Hence I tentatively

³⁰ AEH (p.336) reconstruct **-badja-* ‘punch’ for pGN, with a word-medial cluster **dj*. In their reconstruction, the **dj* cluster assimilated to a geminate *jj* in some languages: Ngandi, BGW and Ngalakgan **-badja-* > *-bajja-*. Heath (1978b: 37) interprets this cluster as *dj* in Wubuy (i.e. *+badja-*), and as *dj* in Enindhilyakwa also (Heath n.d.). However, in the other previous works this consonant is not treated as a cluster, but as a single lamino-palatal *j*. I think this lamino-palatal may have some fortis articulation, which I will assume results from assimilation of the pGN cluster to a geminate, which in turn became singleton: **dj* > **jj* > *j*: ~ *j*.

reconstruct a bare stem for pEGN. The P2 is virtually identical in the three languages and can be reconstructed as **-ngi*. This became *-ngv* in Enindhilyakwa, as proposed above.

Comparing the pEGN and pGN paradigms, we see that the NP1, P1 and P2 forms are relatable. The anomalous NP1 *-ya* in Enindhilyakwa was proposed to be an analogical intrusion, which does not descend from a proto-language. The P1 is proposed to be represented by bare stems in both proto-languages, where the anomalous Wubuy form *-ny* presumably is due to paradigmatic levelling. The pEGN P2 **-ngi* is relatable to pGN **-ngi-ny* by loss of the final consonant, as was proposed above (the *-ngi* ending is also found in BGW). The NP2, on the other hand, is an innovation characteristic of the EGN languages.

9.3.4.2 Enindhilyakwa 4 : Wubuy A₁ : Ngandi 4a

The verbs in these classes also end in /a/ in the EGN languages. Some attested shared verbs in these classes are (see Appendix P for more correspondences):

(18)	<u>Enindhilyakwa 4</u>	<u>Wubuy A₁</u>	<u>Ngandi 4a</u>
do, say, thematic	(+)ma-	-ma- ‘INCH’	-ma-
do, say	-ya+ma-	-ya+ma-	-yi+ma-
tell	-maka-	-maka-	-makka-
sew, mend	-warrka-	-warrka- ~ -barrka-	
FACT	-ka- ~ -kwa-	-wa- ~ -ka-, -ka-	

Table 9.41 lists the corresponding paradigms for the thematic *-ma*, which also functions as an independent verb in Enindhilyakwa, meaning ‘do, say’. Notice that this root belongs to a different conjugation than *-ma-* ‘get’ in Table 9.39 above. The corresponding Wubuy form, though formally matching this thematic, actually functions as an inchoative (AEH p.333).

	Enindh. 4 (+)ma ‘do, say, thematic’	Wubuy A₁ -ma- ‘INCH’	Ngandi 4a (+)ma- ‘do, say, thematic’	pEGN *(+)ma ‘do, say, thematic’	pGN *(+)ma- ‘do, say, thematic’
NP1	(-)ma-Ø	-ma-ng	-ma-rang	*-ma-?	*-ma-r
NP2	(-)mv-na	-ma-na	-ma-na	*-ma-na	
P1	(-)ma-Ø	-ma-ny	-mu-ng	?*-ma-ny	*-ma-ny
P2	(-)ma-Ø	-ma-a > -maa	-mi-ri	?	*-ma-r-any ~ *-ma-r-iny

Table 9.41: Enindhilyakwa 4, Wubuy A₁, Ngandi 4a and pGN *(+)ma- ‘do, say, thematic’

The Wubuy and Enindhilyakwa NP1 and P1 endings involve the usual generalisations and thus do not contribute to the reconstruction of inherited forms. The NP2 endings are identical in the three languages and can be reconstructed as **-na*. The change of the stem-final vowel from /a/ to /ə/ in Enindhilyakwa is interesting, because the presence of schwa could indicate an old retroflex form

(see section 2.5.8). It is therefore possible that the NP2 suffix **-na* suffix is added to the reconstructed pGN NP stem in pEGN, as shown in (19). Using the NP as a base for other categories is a characteristic feature of GN languages (AEH).

- (19) **-ma-r-na* > **-mv-rna* (assimilation of /a/ to /ə/ due to the following retroflex) > *-mv-na* (loss of retroflexion (regular)) (Enin)
 > **ma-rna* > *-ma-na* (loss of retroflexion) (Wub, Ngan)

This vocalic shift did not occur in Wubuy and Ngandi, as these languages do not have a phoneme /ə/.

The P2 ending is *-a* in Wubuy. It is impossible to tell if the Enindhilyakwa P2 ending is *-a* or *-∅*, since /a/ vowels in this language are inherently long(ish). I presume it is *-∅*, because there is no language-internal evidence for P2 *-a*. Ngandi P2 *-ri* is unrelatable to Enindhilyakwa/Wubuy *-a*.

AEH note a number of complexities in the reconstruction of this paradigm in pGN. The NP, for example, is the only reconstructed inflection that ends in something other than a vowel or a nasal (p.334). The reconstruction of **-ma-r* is based on the Jawoyn form *-ma-r*, Warray *-ma-rl* and Ngandi *-ma-rang* (recall from Table 9.39 that Ngandi regularly adds *-Vng* to the pGN NP form). Loss of final **-r* in the remaining languages (e.g. BGW *-me-*, Mangarayi *-ma-*), AEH argue, would have had both phonological and analogical motivations, such as deletion of *r* in coda positions in BGW. This consonant is also lost in Enindhilyakwa and Wubuy, which have their usual generalisations: *-∅* and *-ng*, respectively. These are not related to the reconstructed pGN **-r* (though the Enindhilyakwa form could result from the regular deletion of suffix-final consonants).

AEH propose that the Wubuy P1 is a reflex of pGN **-ma-ny* (p.333). The Ngandi *-ng* suffix is not a regular reflex of **ny*, they suggest, and is most probably an analogical reformation on the basis of other P1 *-ng* forms (p.336). Based on AEH, the pEGN P1, then, could be reconstructed as **-ma-ny* also. This has undergone paradigmatic levelling in Enindhilyakwa and Ngandi.

The P2 shows considerably more variation than the NP in GN, but the reconstructed **r* is preserved in a number of languages (e.g. Mangarayi *-ma-ri*) (AEH p.334). AEH propose the changes in (20) for Wubuy and in (21) for Ngandi (p.335):

- (20) **-ma-r-any* > **-ma-r-ay* (loss of final nasal element (deletion of this element is regular)) > **-maay* (deletion of **r* (not regular)) > *-maa* (deletion of final vowel of highly marked trimoraic syllable)
- (21) **-ma-r-iny* > **-ma-r-i* (replacement of P2 allomorph **-iny* by predominant allomorph *-i*) > *-mi-ri* (root vowel harmonising to suffix vowel)

Since the Enindhilyakwa P2 is the same as the Wubuy ending, this could mean that Enindhilyakwa underwent the same changes as Wubuy, and that the reconstructed pEGN forms should be the

same as the pGN forms. However, the Wubuy derivation proposed by AEH includes a number of irregular changes. The pEGN p2 therefore requires more investigation.

Another monosyllabic verb root belonging to class 4 is *-ba-* ‘hit, argue’. Its correspondences in Wubuy and Ngandi appear to be (+)wu- ~ (+)bu- ‘and (+)bu- ‘hit, thematic’, respectively, as in Table 9.42.

	Enindh. 4 (+)ba- ‘hit, argue’	Wubuy MA₁ (+)wu- ~ (+)bu- ‘hit, thematic’	Ngandi (irr.) (+)bu- ‘hit, thematic’	pEGN *(+)bu- ‘hit, thematic’	pGN *-bu- ‘hit’
NP1	-bv-Ø	-bi-ny	-bu-nung	*-bV-?	*-bu-n
NP2	-bv-na	-bu-ma-na	-bu-ma-na	*-bu-ma-na	
P1	-ba-Ø (and -ba-ma?)	-ba-ng	-boo-m	?*-boo-m	*-bo-m
P2	-ba-Ø	-bi-ni	-bu-ni	*-bV-ni	*-bu-n-iny

Table 9.42: Enindhilyakwa 1A, Wubuy MA₁, Ngandi (irr.) and pGN *-bu- ‘hit’

These paradigms differ substantially. The NP1 forms and the P1 forms involve the regular generalisation -Ø in Enindhilyakwa, which is unrelated to the overt Wubuy and Ngandi endings. The Enindhilyakwa P2 does not involve an equivalent of the *-ni* suffix in Wubuy and Ngandi. And the NP2 is characterised by the augment *-ma-* in Wubuy and Ngandi, which is absent in Enindhilyakwa. Baker (2004) proposes that this augment is derived from the P1 form, preserved in Ngandi (cf. *-boo-m*). The P1 acting as a stem for the NP2 is an innovation common to Wubuy and Ngandi, he argues. The Enindhilyakwa NP2 form does not have this *ma*-augment, so this language has not undergone this innovation.

There are, however, some indications that these forms are related. Firstly, the Ngandi P1 stem *-boo-* (pGN *-bo-) corresponds to the Wubuy and Enindhilyakwa P1 stems *-ba-*. The reflex of */o/ is /a/ in Wubuy and Enindhilyakwa (section 9.2.1.3). Secondly, there are two examples in the data of a bound form +*ba-ma* ‘hit’:

- (22) a. *nvm-arrk-ba-ma*³¹
 VEG-small.and.round.and.many-hit-P1
 ‘a wave hit the boat’ (Ansec1)
- b. *Nv-mvlk-ba-ma-mvrra*
 3m-head-hit-P1-*ma*
 ‘Borneo’s name’ (Lit: ‘a shovel spear hit his head’) (Ansec1)

³¹ An alternative transcription of *-ba-ma* is ‘hit.P1-*ma*’, where *-ma* is not a P1 ending but the very common ‘first person focalisation marker’ discussed in section 6.7. This example would then imply something along the lines of ‘I tell you, the wave hit the boat’, or ‘I saw that the wave hit the boat’. However, this alternative transcription is not available for (22b), where the *-mvrra* variant of the ‘first person focalisation marker’ follows the suffix *-ma*.

These are probably old forms, as they are unattested in the current language (in addition, [22a] is song language, and [22b] is a proper name, which may be aberrant forms). Nonetheless, these forms could be the missing link to the reconstruction of pEGN P1 **-boo-m* (> **-ba-ma* in Wubuy/Enindhilyakwa > *-ba-ng* in Wubuy).

The P1 ending *-ma* then disappeared in Enindhilyakwa, as it did in Wubuy. It also disappeared as an augment in the NP2 in Enindhilyakwa, while it is preserved in Wubuy.

9.3.4.3 Enindhilyakwa 3 : Wubuy N : Ngandi 5

The verb roots in this conjugation end in /a/. The corresponding verbs in this conjugation include:

(23)	<u>Enindhilyakwa 3</u>	<u>Wubuy N</u>	<u>Ngandi 5</u>
sneak up on	<i>-walka-</i>	<i>-waalka- ~ -baalka-</i>	<i>-kalkka-</i>
taste, try, test	<i>-lhawurrka-</i>	<i>-lhawiwa-</i>	
send	<i>-lharrka-</i>	<i>-lharrka-</i>	
hunt	<i>-ngurrkwa-</i>	<i>-ngurrka-</i>	

Most correspondences in this conjugation involve the thematic *+ka-*. Heath suggests that the Wubuy thematic may historically derive from the verb **-ka-* ‘carry’, though no synchronic segmentation is viable (1984: 470). Enindhilyakwa complex stems composed of *+ka-* are also no longer segmentable, but Ngandi still has a free verb *-ka-* ‘carry’, which can also function as a thematic. Table 9.43 compares three complex stems composed of thematic *+ka-*, with pGN **-ka-* ‘carry’. The *n*-augment present in the NP2 and P2 provides the name for the Wubuy class.

	Enindh. 3 <i>-wal+ka-</i>	Wubuy N <i>-waal+ka-</i>	Ngandi 5 <i>-kal+kka-</i>	pEGN <i>*-kal+kka-</i>	pGN <i>*-ka-</i> ‘carry’
NP1	<i>-walki-ya</i>	<i>-waalka-ng</i>	<i>-kalkka-n</i>	<i>*-kalkka-n</i>	<i>*-ka-n</i>
NP2	<i>-walka-ja</i>	<i>-walka-n-jii</i>	<i>-kalkka-n-jini</i>	<i>*-kalkka-n-jini</i>	
P1	<i>-walka-Ø</i>	<i>-walka-ng</i>	<i>-kalkka-ng</i>	<i>*-kalkka-ng</i>	<i>*-ka-ng</i>
P2	<i>-walka-rnv ~ -walke-nv</i>	<i>-walka-n-di</i>	<i>-kalkka-n-di</i>	<i>*-kalkka-n-ni</i>	<i>*-ka-n-iny</i>

Table 9.43: Enindhilyakwa 3, Wubuy N, Ngandi 5 and pGN **-ka-* ‘carry’

I reconstruct the pEGN complex stem as beginning with **k*, followed by a geminate stop **kk*, both preserved in Ngandi. The stop lenites to a continuant in Wubuy and Enindhilyakwa, and the geminate to a singleton.

The Enindhilyakwa and Wubuy NP1 involve the usual generalisations and can be eliminated from the reconstruction. This leaves Ngandi NP1 *-n*, which I tentatively reconstruct for pEGN.

In the NP2, Wubuy and Ngandi add the suffix *-jii ~ -jini* to the proposed reconstructed NP1 stem (as mentioned, using the NP1 as a base for other tenses is a common feature of GN languages).

This does not happen in Enindhilyakwa, where the NP2 suffix *-ja* appears to be added directly to the root. However, Heath recorded the NP2 of the verb *-ngurrkwa-* ‘hunt’ as *-ngurrkwa-n-ja* (Wub: *-ngurrka-n-jii*), where the NP2 suffix is preceded by a *-n-* segment. Here the NP2 *is* added to the reconstructed NP1 form. Hence it is possible that the synchronic *-ja* suffix results from cluster simplification:

- (24) **-kalkka-n-jini* > **walka-n-jini* (Wub, Enin; lenition of geminate and singleton stops) > **-walka-n-ji* (Wub, Enin; deletion of final segment *-ni*) > **-walka-ji* (Enin; cluster simplification) > *-walka-ja* (**i* > *a* through analogy (all words ending in *a*))

I reconstruct the NP2 suffix as **-jini-*, preserved in Ngandi, as deletion of a segment is easier than insertion.

In the P1, Wubuy and Ngandi both have *-ng*, whereas Enindhilyakwa has generalised *-∅*. From weight of numbers the P1 is to be reconstructed as **-ng*.

The Enindhilyakwa P2 has two allomorphs: one with a retroflexed nasal and preservation of stem-final /a/, and one with an alveolar nasal and vocalic shift /a/ > [ɛ]. The corresponding Wubuy and Ngandi forms are built on the NP1 stem: the P2 suffix *-di* is a post-nasal variant of **-ni* (Heath 1984: 67). Heath notes that this denasalisation is not productive in Wubuy and only applies to this suffix; other combinations of *n-n* are reduced to *n*. Hence the P2 suffix can be reconstructed as **-ni*, which is added to the NP1 stem.

The Enindhilyakwa P2 forms are puzzling. The retroflex nasal is not found in Wubuy or Ngandi, or in any other GN language (AEH p.335).³² The vocalic change that accompanies the apical change is a common feature of Enindhilyakwa, occurring in several environments (section 2.5.8). There are two potential historic sources for the P2 suffix in Enindhilyakwa. One is that the two consecutive *n* segments do not become *nd* in Enindhilyakwa but *rn*:

- (25) **-walka-n-ni* > *-walka-n-di* (Wub, Ngan)
 > **-walka-rni* > *-walka-rnv* (Enin)

In this analysis, the retroflex nasal originates from a geminate nasal. The vocalic shift **/i/ > /ə/* is conditioned by the retroflex environment.³³

Another possible scenario is apical dissimilation. Most verb roots belonging to conjugation 3 involve an alveolar consonant. As already noted in section 9.2.2.1, Enindhilyakwa appears to have

³² With one exception: Rembarrnga P1 *-mv-rn* of thematic *+ma-*. See section 9.3.4.4.

³³ Heath (n.d.) suggests that the source of the P2 suffix *-rnv* lies in the reconstructed P2 ending **-n-di*, preserved in Wubuy and Ngandi, rather than **-n-ni*. He hypothesises that Enindhilyakwa has had a tendency to retroflex some cases of **nd*, as evidenced by correspondences such as Enindhilyakwa *-mvrnduwa-* vs. Wubuy *-munduwa-* ‘count, sort’. Perhaps, Heath suggests, forms like **-walka-n-di* became **-walka-rn-rdi* in Enindhilyakwa, with the nasal augment triggering retroflexion. This became *-walka-rni* by dropping of the final consonant. However, it is unclear how the nasal augment could trigger retroflexion of the stop, so I abandon this hypothesis.

had a tendency to avoid sequences of same-place apicals within one word. A sequence of same-place apicals in Wubuy frequently corresponds to apicals with a different place of articulation in Enindhilyakwa. Consider the correspondences in Table 9.44: where Wubuy allows sequences of two alveolars or two retroflexed consonants, this is not the case in Enindhilyakwa.

	Enindhilyakwa	Wubuy
to descend	<i>-dhvrrvrndv-</i>	<i>-dhirrida-</i>
to criticise, refuse to accept	<i>-arndvrra-</i>	<i>-aandirra-</i>
smoking pipe, pipe bush	<i>yilyarra</i>	<i>yilaarri</i>
tree sp.	<i>mardvdharra</i>	<i>mirdardarri</i>
clan name	<i>lalara</i> ³⁴	<i>rlarlarra</i>
type of fish	<i>mandarra</i> ~ <i>mandarra</i> ³⁵	<i>mandarra</i>

Table 9.44: Apical dissimilation in Enindhilyakwa

If the hypothesis of apical dissimilation is correct, it could explain the incompatibility of verb roots and suffixes both having an alveolar consonant. The Enindhilyakwa strategy to overcome this conflict is to turn the alveolar nasal in the suffixes into a retroflex.

One major problem with the apical dissimilation hypothesis is the the NP2 allomorph *-na*, as this would be expected to be incompatible with the alveolar consonant in the verb root. I suggest that the *-na* allomorph is a more recent development, due to the current unstable status of retroflexed consonants. In other words, there is no *synchronic* incompatibility of same-place apicals.

Another problem with this hypothesis is that there is no retroflexion of the nasal in other conjugations, where stems can contain an alveolar consonant. Examples are *-arrikarre-na* ‘write-NP2’ [2B]; *-lharrme-na* ‘chase-NP2’ [2A]; *-warrkv-na* ‘sew-NP2’ [4]; *-lharr-na* ‘fall-NP2’ [1A]. The synchronic lack of retroflexion could have a number of reasons. The first word is probably a Macassan loan (< *ukirriq* ‘write’), which could have entered the language after apical dissimilation had ceased being active. Apical dissimilation in *-lharrme-na-* could be blocked by the intervening bilabial. And in the verbs belonging to conjugations 4 and 1A, there are some traces of retroflexion of the nasal in the tense/aspect suffixes, as pointed out in the next two sections.

9.3.4.4 Enindhilyakwa 1 : Wubuy I₁ and I₂ (and MA₁, A₁, A₂) : Ngandi 3a (and irr.)

Conjugation 1 is the largest conjugation in Enindhilyakwa. It is also formally the messiest, with a large number of subclasses and various corresponding Wubuy and Ngandi classes. The

³⁴ The development of this word involved two stages: first, retroflexion on the lateral was lost, which has taken place everywhere in the language. Then, the alveolar tap changed into a retroflex due to apical dissimilation: **rlarlarra* > **lalarra* > *lalara*. (It is of course also possible that the proto-form had a retroflex continuant, and that this developed into a tap in Wubuy.) Note that a sequence of reduplicated apicals is permissible.

³⁵ For the *mandarra* variant, the retroflex may subsequently have been neutralised back to an alveolar, due to the current unstable status of retroflex consonants.

Enindhilyakwa class displays variation in the NP2 and P2 suffixes between an alveolar nasal and a retroflex nasal. The NP2 suffixes vary between *-na* ~ *-rna* and the P2 suffixes between *-nv* ~ *-rnv*. About nine subclasses were distinguished in Chapter 6 based on the presence of the retroflex nasal, and on the presence and quality of the stem-final vowel. The Enindhilyakwa stems in this class end in *i*, *e*, *v*, or a consonant. The majority of Wubuy correspondences belong to class I₁ and I₂, which end in *i*, and which take the NP2 suffix *-na* and P2 suffix *-ni*. However, some correspondences belong to MA₁, A₁ or A₂. Most corresponding Ngandi roots belong to class 3a, which also end in *i* and take NP2 and P2 suffixes *-na* and *-ni*, respectively.

• **Subclass 1A: NP2 *-na*, P2 *-nv* (Wubuy I)**

Enindhilyakwa subclass 1A is characterised by the absence of retroflexion in the NP2 and P2 suffixes. Several subclasses can be distinguished in Enindhilyakwa based on the quality of the root-final vowel in the NP2 and P2. Most corresponding Wubuy verb roots end in /i/, which may correspond to /i/, /ə/, /ɛ/, or Ø in Enindhilyakwa. The following are some of the correspondences.

(26)	<u>Enindhilyakwa 1A(i, ii)</u>	<u>Wubuy I₁</u>	<u>Ngandi 3a</u>
INCH	<i>-dhv-</i>	<i>-dhi -</i>	<i>-dhdhi-</i>
thematic	<i>+bi- ~ +mi-</i>	<i>-wi- ~ -bi- ‘INCH’</i>	
speak	<i>-yeng+bi-</i>	<i>-yam+bi-</i>	
deny	<i>-edhvrre+mi-</i>	<i>-wadhaari+mi- ~ -kadhaari+mi-</i>	

Table 9.45 lists the corresponding paradigms. Ngandi class 3a is included here because it is the conjugation used for stems ending in *i* and it formally matches the Enindhilyakwa and Wubuy classes to a large extent. AEH provide no relatable verb in pGN.³⁶

	Enindh. 1A(i) <i>-bi- ‘thematic’</i>	Wubuy I₁ <i>-wi- ~ -bi- ‘INCH’</i>	Ngandi 3a <i>-Xi-</i>	pEGN <i>*+bi- ‘thematic’</i>
NP1	<i>+bv-Ø</i>	<i>-bi-ny</i>	<i>-Xi-ng</i>	<i>*-bi-?</i>
NP2	<i>+bi-na</i>	<i>-bii-na</i>	<i>-Xi-na</i>	<i>*-bi-na</i>
P1	<i>+bv-Ø</i>	<i>-bi-ny</i>	<i>-Xi-ny</i>	<i>*-bi-ny</i>
P2	<i>+bi-nv</i>	<i>-bii-ni</i>	<i>-Xi-ni</i>	<i>*-bi-ni</i>

Table 9.45: Enindhilyakwa 1A, Wubuy I₁, Ngandi 3a *+bi- ‘thematic’*

Reconstruction of this subclass is fairly unproblematic, apart from the NP1 form, which differs in the three languages and thus does not warrant reconstruction. The NP2 suffixes are identical and can be reconstructed as **-na*. It is unclear whether the lengthening of the stem-final *i* that we see in

³⁶ Although the pGN INCH **-me-* is proposed to be related to Enindhilyakwa *+mv- ~ +bv-* (section 9.1.1), which also belongs to conjugation 1A(i). The pGN forms are: NP **-me-n*; PP **-me-ny ~ *-mi-ny*; PI **-me-n-iny* (AEH p.332). These are relatable to the Enindhilyakwa paradigm.

Wubuy also happens in Enindhilyakwa.³⁷ However, since high vowels tend to be short in Enindhilyakwa, I will assume no lengthening here (moreover, as shown in Table 9.46 below, a long stem-final *ii* in Wubuy corresponds to *e* in Enindhilyakwa). The P1 can be reconstructed as **-ny*, which as usual corresponds to a zero suffix in Enindhilyakwa. The P2 is to be reconstructed as **-ni*, with the regular shift **/i/ > /ə/* in Enindhilyakwa.

Subclass 1A(iii) has stem-final /*ε*/ in the Enindhilyakwa NP2 and P2. This vowel corresponds to /*i:*/ (orthographically represented as *ii*) in Wubuy class I₂. The following Wubuy correspondences are attested (no Ngandi or pGN correspondences were found), with the paradigms in Table 9.46:

- (27) Enindhilyakwa 1A(iii) Wubuy I₂
 bathe *-ngambe-* *-ngambi-*
 enter *-awiyebe-* *-yabi-*
 howl *-ngare-* *-ngara-* (A₂), similar inflection to *-ngari-* ‘fade away’ (I₁)

	Enindh. 1A(iii) <i>-ngambe-</i> ‘bathe’	Wubuy I₂ <i>-ngambi-</i> ‘bathe’
NP1	<i>-ngambv-∅</i>	<i>-ngamba-ng</i>
NP2	<i>-ngambe-na</i>	<i>-ngambii-na</i>
P1	<i>-ngambv-∅</i>	<i>-ngambi-ny</i>
P2	<i>-ngambe-nv</i>	<i>-ngambii-ni</i>

Table 9.46: Enindhilyakwa 1A(iii) and Wubuy I₂ *-ngambi-* ‘bathe’

The Enindhilyakwa and Wubuy forms correspond in the regular way: overt material in the Wubuy NP1 and P1 corresponds to zero in Enindhilyakwa. The NP2 and P2 suffixes are virtually identical. The Enindhilyakwa stem-final /*ε*/ corresponds to /*i:*/ in Wubuy. This is particularly interesting in the light that Enindhilyakwa does not have long vowels, while Wubuy does not have /*ε*/ in its inventory. Since /*ε*/ is inherently long(-ish), this may be the Enindhilyakwa strategy to cope with the long /*i:*/ present in Wubuy. The /*a*/ vowel in the Enindhilyakwa stem harmonises to the stem-final /*ε*/, as in *-awiyebe-* (cf. Wubuy *-yabi-*) ‘enter’. The ‘bathe’ verb, although represented as *-ngambe-* in Stokes/Waddy orthography, can be heard as [ŋæmpɛ] or [ŋɛmpɛ] (Heath n.d. writes *-ngämbe-*). Raising of the /*a*/ vowel supports an historic stem-final /*i*/.

A final correspondence to Wubuy class I is Enindhilyakwa class 1A(v). Here the Wubuy stem-final /*i*/ corresponds to *∅* in Enindhilyakwa. The following are the attested correspondences.

- (28) Enindhilyakwa 1A(v) Wubuy I₁
 fall *-lharr-* *-lharri-* ‘untie, release’
 come in of tide *-angkarr-* (also ‘run, blow of wind’) *-angkarri-*
 wait *-embirrar-* ‘wait’ *-ambunari-*

³⁷ It is also unclear whether it happens in Wubuy, because, as Heath notes, this lengthening is not consistent and is more common for the I₂ than the I₁ class (1984: 91).

Table 9.47 presents the paradigms.

	Enindh 1A(v) <i>-lharr-</i> ‘fall’	Wubuy I₁ <i>-lharri-</i> ‘untie, release’
NP1	<i>-lharr-∅</i>	<i>-lharri-ny</i>
NP2	<i>-lharr-na</i>	<i>-lharri-na</i>
P1	<i>-lharr-∅</i>	<i>-lharri-ny</i>
P2	<i>-lharr-nv</i>	<i>-lharri-ni</i>

Table 9.47: Enindhilyakwa *-lharr-* ‘fall’ 1A(v) and Wubuy I₂ *-lharri-* ‘release’

Stem-final /i/ present in Wubuy is not present in Enindhilyakwa, which explains the absence of vowel harmony. For the rest, the Enindhilyakwa and Wubuy forms correspond in the regular way.

To summarise, in overall Enindhilyakwa subclass 1A corresponds to Wubuy classes I₁ and I₂. The Wubuy verbs end in /i/, which corresponds to a variety of segments in Enindhilyakwa:

- /Ci/ (1A(i)) (causing i-umlaut on preceding /a/: /aCi/ > [ɛCi])
- /Cɛ/ (1A(iii)) (with vowel harmony: /aCɛ/ > [ɛCɛ]. Corresponds to Wubuy /Ci:/)
- /C/ (1A(v)) (no vowel harmony)

• **Subclass 1B: *-rna* ~ *-na*, *-rnv* ~ *-nv***

Subclass 1B is characterised by variation in the NP2 and P2 of an alveolar nasal with a retroflex nasal, as listed in the Dictionary. Another level of subdivision involves the vocalic contrast that accompanies the apical contrast: in subclass 1B(i) the retroflex nasal is preceded by *a* and the alveolar nasal by *e*, while in subclass 1B(ii) the alveolar and retroflex nasal vary without affecting the preceding vowel. There are few corresponding verbs in Wubuy, which belong to a variety of classes: I₁, A₁ or A₂. There are no attested correspondences in Ngandi.

I will only discuss subclass 1B(ii), which can be further subdivided into 1B(ii-a), comprising stems ending in /a/, and 1B(ii-b,c), which end in a consonant. The only corresponding Wubuy verb of the latter belongs to class I₁. Table 9.48 presents the paradigms.

	Enindh. 1B(ii-c) <i>-arrk-</i> ‘pull’	Wubuy I₁ <i>-arrki-</i> ‘pull’
NP1	<i>-arrk-∅</i>	<i>-arrki-ny</i>
NP2	<i>-arrk-rna</i> ~ <i>-arrk-na</i>	<i>-arrkii-na</i>
P1	<i>-arrk-∅</i>	<i>-arrki-ny</i>
P2	<i>-arrka-rnv</i>	<i>-arrkii-ni</i>

Table 9.48: Enindhilyakwa *-arrk-* 1B(ii-c) and Wubuy *-arrki-* I₁ ‘pull’

The NP1 and P1 correspond in the usual way, while the Enindhilyakwa NP2 and P2 contain a retroflex nasal not found in Wubuy. The majority of the stems in class 1B involve an apical consonant in Enindhilyakwa or Wubuy:

(29)	<u>Enindhilyakwa 1B</u>	<u>Wubuy (various classes)</u>
count	-mvrndu+wa- [1B(i)]	-mundu+wa- [A ₂]
wander, deviate	-marra+wa- [1B(ii-a)]	-marra+wa- [A ₁]
pull	-arrk- [1B(ii-c)]	-arrki- [I ₁]
look for, find	-akbvrrang- [1B(ii-b)]	-warrangka- [A ₁]

The retroflex nasal could in the NP2 and p2 be due to apical dissimilation, as was proposed for the retroflex nasal of conjugation 3 in section 9.3.4.3 above.

This leaves us with the class 1B stems that do not involve an alveolar apical, which thus could not have triggered retroflexion of the nasal in the suffixes. A possible source for these retroflex nasals is inheritance from pGN. Retroflex nasals are absent in GN languages, with one exception: in Rembarrnga, the p2 of thematic +ma is +mv-rn. AEH reconstruct p2 **+ma-r-any* ~ **+ma-r-iny* for this thematic in pGN, with the retroflex approximant preserved in a number of languages (see Table 9.42 above). Although the corresponding Enindhilyakwa thematic +ma- was argued to belong to conjugation 4, which does not involve retroflex consonants, there are two verbs in conjugation 1B(ii) with an element (+)ma-. These are -akvma- ‘put’ and -ma- ‘light a fire’. The NP2 and p2 suffixes of these verbs contain a retroflex nasal, which cannot have been triggered by the presence of an alveolar consonant in the stem, because there is none. Instead, the source of the retroflex nasal may lie in the presence of a retroflex continuant reconstructed for pGN, which AEH propose developed into a retroflex nasal in Rembarrnga. The Enindhilyakwa verb -akvma- ‘put’ corresponds to the pGN verb **-kut+ma-* ‘put down’, which conjugates like the +ma- thematic (AEH p.340). Table 9.49 presents the corresponding paradigms.

	Enindh. 1B(ii-a) <i>-akv+ma-</i> ‘put’	Rembarrnga <i>+ma-</i> ‘thematic’	pGN <i>*-kut+ma-</i> ‘put’
NP1	<i>-akv+ma-∅</i>	<i>-∅</i>	<i>*-kutma-r</i>
NP2	<i>-akv+mv-rna</i>		
P1	<i>-akv+ma-∅</i>	<i>+mi-ny</i>	<i>*-kutma-ny</i>
P2	<i>-akv+ma-rnv</i>	<i>+mv-rn</i>	<i>*-kutma-r-any</i> ~ <i>*-kutma-r-iny</i>

Table 9.49: Enindhilyakwa -akvma- ‘put’ 1B(ii-a), Rembarrnga thematic +ma- and pGN *-kutma- ‘put’

The Enindhilyakwa NP1 and P1 display the generalisations found elsewhere. The Enindhilyakwa NP2 and P2 may relate to the reconstructed **-r* in the pGN NP and P2 forms (Rembarrnga drops the thematic in the NP). In fact, this is what AEH (p. 335) suggest for the Rembarrnga P2. The changes they propose are:

- (30) **+ma-rany* > **+ma-r-ny* (deletion of final unstressed vowel) > *+mv-rn* (reduction of the complex **r+ny* cluster to the single segment *rn*, and reduction of vowel to *v*)

The Enindhilyakwa p2 -rnv may have evolved in a similar way, but without the vowel reduction:

- (31) **(+)ma-rany* > **(+)ma-r-ny* (deletion of final unstressed vowel) > **(+)ma-rn* (reduction of the complex **r+ny* cluster to *rn* > *(+)ma-rnv* (adding of final vowel to avoid codas)

Similarly, the *rn* segment in the Enindhilyakwa NP2 may have originated from the reconstructed pGN NP **-kut+ma-r*. Enindhilyakwa added the regular NP2 suffix *-na* to the NP1 (pGN NP) stem:

- (32) **+ma-r-na* > *+mv-rna* (reduction of **r+n* cluster to single segment *rn*, and reduction of vowel to schwa)

This process can account for the presence of a retroflex nasal in stems that do not involve an alveolar consonant. The retroflex nasal synchronically varies with an alveolar in some conjugations, due to the current unstable status of retroflexed consonants in Enindhilyakwa.

9.3.4.5 Enindhilyakwa 6 (stance verbs) : Wubuy NGA₁, NGA₂ : Ngandi (irregular)

These highly distinct classes are composed mainly of stance verbs. The NP1 and P1 categories are characterised by the augment *-nga-* in Enindhilyakwa and Wubuy, which is added to the stem and to which the inflectional suffixes are attached (the Wubuy conjugations are named after this augment). The Enindhilyakwa paradigms are furthermore distinguished by the $-\emptyset$ allomorph in all categories. This allomorph also appears in the Wubuy P2.

Three subclasses were identified in Chapter 6, based on the form of the suffix allomorphs. In subclass 6A the NP1 suffix varies between $-\emptyset$ and *-ya*. Subclass 6B is distinguished by intrusion of the NP2 and P2 suffixes from conjugation 1 (the largest conjugation). In subclass 6C the NP2 suffix varies between $-\emptyset$ and *-na*, and there is a vocalic change in the P2. All subclasses have the *nga-* segment in (at least one allomorph of) the NP1 and P1 categories in common. This feature is shared with Wubuy. It is less consistent in Ngandi.

The reconstruction of stance verbs is particularly complex. This is because these verbs tend to cluster together and are often the subject of analogical forces that produce language-specific innovations across the set (AEH p.318). Making cross-linguistic comparisons is especially difficult for the verb ‘to stand’, as some GN languages have more than one ‘stand’ root, which may be formally similar but have slightly different paradigms. AEH reconstruct two ‘stand’ roots for pGN, with a semantic contrast: **-dha-* ‘stand (dynamic)’ (e.g. ‘stand up’) and **-dhi-* ‘stand (stative)’ (e.g. ‘be standing’). R. Green (2003) reconstructs the same formal and semantic contrast for proto-Maningrida, and for proto-Arnhem. AEH note that some GN daughter languages have merged the two paradigms, while others have generalised one verb or the other as their free ‘stand’ verb, and one as their bound form. They note that Wubuy, Ngandi and Ngalakgan have distinct free and bound forms, with different paradigms. This is the case in Enindhilyakwa too. In fact, this language has *two* distinct bound forms and one free form, all with different paradigms. In what follows I will argue that all three are relatable to pGN **-dha-* and **-dhi-* in a complex way,

involving conjugational shift and analogical extension. We will see that Enindhilyakwa and Wubuy stance verbs have very similar paradigms, which differ quite radically from those in Ngandi and pGN.

We first turn to the reconstruction of Enindhilyakwa subclass 6A, which corresponds to Wubuy NGA₁. The attested shared verbs are listed in (33); I did not find any corresponding verbs in Ngandi or pGN. Table 9.50 presents the corresponding paradigms.

- (33) Enindhilyakwa 6A Wubuy NGA₁
- sleep *-mungskulha-* *-mungskulha-*
- lie down *-murrkulha-* *-murrkulha-*
- bend down *-abilyu+wendha-* *-bilya-* ‘be tilted’ [NGA₂]; *-wudha-* ~ *-budha-* ‘be up’

	Enindh. 6A <i>-mungskulha-</i> ‘sleep’	Wubuy NGA₁ <i>-mungskulha-</i> ‘lie down’
NP1	<i>-mungskulhv-nga-∅</i> ~ <i>-mungskulhi-ya</i>	<i>-mungskulha-nga-ng</i>
NP2	<i>-mungskulha-∅</i>	<i>-mungskulha-a</i> > <i>-mungskulhaa</i>
P1	<i>-mungskulhv-nga-∅</i>	<i>-mungskulha-nga-ny</i>
P2	<i>-mungskulha-∅</i>	<i>-mungskulhi-∅</i>

Table 9.50: Enindhilyakwa 6A and Wubuy NGA₁ *-mungskulha-* ‘sleep’

The *nga*-augment occurs in the NP1 and P1 in both languages. These categories correspond in the usual way: the Wubuy NP1 *-ng* and P1 *-ny* are the standard generalisations and relate to a zero morph in Enindhilyakwa. The NP2 and P2 suffixes are formally very similar in the two languages (again, it is impossible to tell whether the Enindhilyakwa suffix is *-a* or *∅*, as this merges with the stem-final *a*). The Enindhilyakwa NP1 has a variant *-ya*, which replaces the *nga*-augment. This supports its analysis in section 9.3.4.1 as an innovation, as it replaces an archaic segment.

Subclass 6B contains ‘stand’ verbs, which have correspondences in Wubuy and other GN languages. Some of the attested correspondences are:

- (34) Enindhilyakwa 6B Wubuy NGA₁, NGA₂ Ngandi (irr.)
- stand *+lhalhv-* *-lha-* [NGA₂] *+dhu-*³⁸
- sit *-ambarr-* *-burra-* [NGA₁]
- emit smell *-kvrru+wanji-* *-wanja-* [NGA₁] (*arrawuj* ‘odour’)

Besides the bound form *+lhalhv-* ‘be upright’, there are two more ‘stand’ verbs: *(+)arji(ya)-* ~ *(+)adhi(ya)-* (subclass 6C), and the bound form *+aya-* (subclass 2B, Table 9.40). The following are an example of each.³⁹

³⁸ This thematic appears in *-jaka+dhu-* ‘stand’, but is synchronically inseparable (Heath 1978a: 100). Its paradigm is distinct from the thematising augment *+dhu-* that belongs to conjugation 1.

- (35) a. *nuw-ang+maku+lhalha*
 3a-?chin+?place+be.upright.P2
 ‘they were all sitting’ (anin4_dl_au_003)
- b. *a-rrak-arjiyinga*
 2.IMP-forehead-stand.NP1
 ‘sit down!’ (anin4_md_au_001)
- c. *nuw-ang+mak+aya-nga*
 3a-?chin+?place+be.upright-P2
 ‘they were all sitting’ (anin4_dl_au_003)

Table 9.51 (next page) presents the corresponding paradigms of Enindhilyakwa +*lhalhv-*, Wubuy -*lha-* and Ngandi +*dhu-* ‘stand, be upright’. AEH and R. Green (2003) propose that Wubuy -*lha-* and Ngandi +*dhu-* descend from pGN *-*dhi-*. The NP1 and P1 forms in Enindhilyakwa and Wubuy both have an augment -*nga-*, to which the tense/aspect suffixes are added. In Ngandi only the P1 contains a similar augment. The Enindhilyakwa NP1 and P1 suffixes themselves involve the generalisations found elsewhere, which do not warrant reconstruction. The Wubuy NP1 is the generalised -*ng* ending found elsewhere, whereas the P1 is similar in Wubuy and Ngandi, and can be reconstructed as *-*nga-ny* or *-*ngi-ny* for pEGN. I reconstruct a *nga*-augment in the NP1 and P1 for pEGN, preserved in Enindhilyakwa and Wubuy.

	Enindh. 6B + <i>lhalhv-</i> ‘be upright’	Wubuy NGA₂ - <i>lha-</i> ‘stand’	Ngandi (irr.) + <i>dhu-</i> ‘stand (stative)’	pEGN *- <i>dha-</i> ‘stand’	pGN *-<i>dhi-</i> ‘stand (state)’
NP1	+ <i>lhalhv-nga-Ø</i>	- <i>lha-nga-ng</i>	+ <i>dhi-nyang</i>	*- <i>dha-nga-?</i>	*- <i>dhi</i>
NP2	+ <i>lhalhv-na</i>	- <i>lha-ra</i>	+ <i>dhu-rda</i>	?*- <i>dha-rda</i>	
P1	+ <i>lhalhv-nga-Ø</i> ~ + <i>lhalha-Ø</i>	- <i>lha-nga-ny</i>	+ <i>dhi-ngi-ny</i>	*- <i>dha-nga-ny</i> ~ *- <i>dhi-ng-iny</i>	*- <i>dhi-yi</i>
P2	+ <i>lhalhv-nv</i> ~ + <i>lhalha-Ø</i>	- <i>lha-y,- lhi-Ø</i>	+ <i>dh-i</i>	*- <i>dha-?</i>	*- <i>dhi-ny</i>

Table 9.51: Enindhilyakwa +*lhalhv-* : Wubuy -*lha-* : Ngandi +*dhu-* : pGN *-*dha-* ‘stand (stative)’

The NP2 and P2 suffixes appear to be unrelated. The Enindhilyakwa endings are most likely an intrusion from conjugation 1. However, the stem-final /ə/ could indicate a former retroflex consonant, which is still present in Wubuy and Ngandi NP2. I tentatively reconstruct *-*rda*, with lenition **rd* to *r* in Wubuy/Enindhilyakwa, and subsequent loss of retroflexion in Enindhilyakwa:

- (36) *-*dha-rda* > *-*lha-rda* (regular **dh* > *lh*, Enin, Wub) > *-*lha-ra* (regular lenition of **rd*, Enin, Wub) > *-*lhv-ra* (regular vowel reduction in retroflex environment, Enin) > *-*lhv-rna* (addition of regular NP2 -*na* suffix) > -*lhv-na* (regular loss of retroflexion)

³⁹ Note that the translations involve ‘sit’, and not ‘stand’. This is not as contradictory as it seems, because ‘sit’ is conveyed in Enindhilyakwa by compound stems composed of a body part plus one of the stance verbs, such as ‘forehead+stand’ = ‘sit’ in (35b).

AEH suggest that Wubuy *-lha-ra* and Ngandi *+dhur-rda* are survivors of an archaic pGN form **-dhuru*. This form appears as the NP *-duru* in Rembarnga, and also finds cognates in the Maningrida languages outside GN (see R. Green 2003). In Enindhilyakwa the only remnant of the former retroflex is the presence of *v*.

R. Green (2003) proposes that pGN **-dha-* ‘stand (dynamic)’ relates to the Wubuy ‘minor derivational suffix’ *-ja- ~ -dha-* (Heath 1984: 401)⁴⁰, and to the Ngandi thematising augment *+dha-*. The Wubuy element belongs to conjugation A₂. Heath suggests that *-ja-* could be underlying *-ya-* with hardening after a stop (1984: 401).

The Enindhilyakwa correspondence is *-aya-* ‘be upright’, which belongs to class 2B (corresponding to Wubuy A₂; section 9.3.4.1). The third Enindhilyakwa ‘stand’ verb, *-ardji(ya)-* ‘stand’, may be related to *-aya-* through hardening of *y > j* following the stop *rd* (see Appendix D for some evidence of continuants hardening to stops). The paradigms are listed in Table 9.52.

	Enindh. 6C <i>-arji(ya)-</i> ‘stand’	Enindh.2B <i>-aya-</i> ‘be upright’	Wubuy A₂ <i>-ja- ~ -dha-</i> ‘der. suffix’	Ngandi 2 <i>+dha-</i> ‘thematic’	pEGN <i>*-dha-</i>	pGN <i>*-dha-</i> ‘stand’
NP1	<i>-arji(yi)-</i> <i>(nga-)</i> ∅	<i>-ayv-∅?</i>	<i>-dha-ng ~</i> <i>-ja-ng</i>	<i>+dha-ng</i>	<i>*-dha-ng</i>	<i>*-dha-ng-en</i>
NP2	<i>-arjiya-∅</i>	<i>-aye-na</i>	<i>-dha-i ~ -ja-i ></i> <i>-dhii ~ -jii</i>	<i>+dha-ni</i>	<i>*-dha-ni</i>	
P1	<i>-arji(yi)-</i> <i>nga-∅</i>	<i>-ayv-∅ ~</i> <i>-ayi-nga</i>	<i>-dhi-ny ~</i> <i>-ji-ny</i>	<i>+dhi</i>	<i>*-dha-?</i>	<i>*-dha-ng-iny</i>
P2	<i>-arjeeyv-∅</i>	<i>-aya-nga</i>	<i>-dha-ngi ~</i> <i>-ja-ngi</i>	<i>+dha-ngi</i>	<i>*-dha-ngi</i>	<i>*-dha-ny</i>

Table 9.52: Enindhilyakwa *-arji(ya)-, -aya-* : Wubuy *-dha-* : Ngandi *+dha-* : pGN **-dha-* ‘stand’

I tentatively reconstruct **-dha-* for pEGN, where *dh* is preserved in Ngandi but varies with *j ~ y* in Wubuy, and which changes to *y* in Enindhilyakwa. The paradigm of *-arjiya-* [6C] is unrelated so it will not be considered in the reconstruction. The NP1 suffixes involve the usual generalisations, except for the P1 allomorph *-nga* in Enindhilyakwa. It could be related to pGN **-ngi-ny*. The NP2 suffixes can be reconstructed as **-ni* (Heath 1984: 413 suggests the Wubuy *-i* suffix is historically **-ni*). In Enindhilyakwa the suffix vowel triggers vowel harmony in the stem: **-aya-ni > *-aye-ni > -aye-na*). The P2 ending can be reconstructed as **-ngi*.

The proposed pEGN paradigm differs quite substantially from the pGN paradigm. The only relatable endings are in the NP1.

If the hypothesis that *-arji(ya)-* is related to *-aya-* through hardening of *y* induced by the preceding [ɹ] is correct, then one of the two verbs must have shifted conjugations. Since the *-aya-*

⁴⁰ Note that, although the Wubuy morphemes *-ja* and *-dha* belong to the same conjugation A₂ and have a similar function, Heath does not explicitly state that these are variants of the same morpheme.

paradigm is related to the Wubuy paradigm of *-ja-* ~ *-dha-* and Ngandi *+dha-*, this suggest that *-aya-* has retained the original endings. The *-arji(ya)-* verb must then have changed conjugations, perhaps by analogy to other stance verb in conjugation 6B.

In overall, I propose that the two reconstructed stance verbs for pGN, **-dhi-* ‘stand (stative)’ and **-dha-* ‘stand (dynamic)’, correspond to three different verbs in Enindhilyakwa, two bound and one free from:

- (37) pGN **-dhi-* ‘stand (stative)’ > *+lhalhv-* ‘be upright’ (Wubuy *-lha-*, Ngandi *+dhu-*)
 pGN **-dha-* ‘stand (dynamic)’ > *-aya-* ‘be upright’ (Wubuy *-dha-* ~ *-ja-*; Ngandi *+dha-*)
 > *-arji(ya)-* ‘stand’

I encountered one textual example of *-adhiya-* ‘stand’, which confirms its archaic source with an interdental stop:

- (38) *M-akina mamangwurrajija m-ibina nvm-adhiya-ma arvngka-manja me-m-ikirra*
 VEG-that VEG.feather VEG-that VEG-stand.NP2-*ma* NEUT.head-LOC VEG-INALP-name
miyamba m-akina.
 VEG.crest.feather VEG-that
 ‘The feathers that stand up on the cockatoo’s(FEM) head are called ‘crest feathers’.’
 (GED p.87)

In AEH’s reconstruction, the dynamic stand verb **-dha-* has a *ng-*augment, which is associated with a ‘standing up’ meaning. The semantic contrast of ‘be standing’ versus ‘stand up’ also exists in Enindhilyakwa, but it is encoded in the tense/aspect suffixes. As proposed in section 6.5, the NP1 and P1 suffixes in Enindhilyakwa mark instantaneous changes of state that do not have any proper subparts. For stance verbs, this translates into changes of posture such as ‘stand up’ or ‘sit down’. Stance verbs marked with the aspectually neutral NP2 or P2 suffixes, by contrast, do not have such readings and most often imply being in the posture, such as ‘be standing’. The contrast is illustrated by the following pairs of examples, where the (a) examples involve NP1 or P1 suffixes marking an instantaneous change of state, while the (b) examples marked with P2 suffixes denote being in the stance.

- (39) a. *warma-jungwa, arjiyinga*
 IMP.2.rise-REFL.NP1 IMP.2.stand.NP1
 ‘get up, stand!’ (JH ex. 113)
 b. *yingi-nyak-arjeeyv-ma*
 3f-chest-stand.P2-*ma*
 ‘she [mother cat] was sitting upright’ (‘Bujikeda’ y100-1)

- (40) a. *nvngv-ruku+lhalhv-nga-ma*
 1-body+be.upright-P1-*ma*
 ‘I squatted down’ (VL1 p.434)

b. *nanga-rrvngka ying-ang+maku+lhalha=dha*
 3m/3f-see.PST 3f-?chin+?place+be.upright.P2=TRM
 ‘he saw her sitting there’

(‘Search’ z110)

Heath (1984) does not discuss these aspectual differences in Wubuy, but he notes in his (1982) dictionary that the NP1 or P1 form (labelled ‘punctual’) of *-burra-* ‘sit’ means ‘sit down’, and the NP1 or P1 of *-lha-* ‘stand’ denotes ‘stand up’. This could mean that the Enindhilyakwa and Wubuy systems operate in the same way: the NP1 and P1 suffixes encode a change of state whereas the NP2 and P2 do not have such readings. Thus, whereas AEH attribute the semantic contrast in pGN to the augmented stems, in Enindhilyakwa and Wubuy the semantic contrast is catered for by the suffixes. The suffixes encoding a change of state meaning just happen to attach to the *nga-* augmented stems.

In Enindhilyakwa and Wubuy the distinctive *nga-*augment has systematically been extended to the NP1 and P1 of all verbs in this conjugation. The similar augment reconstructed for pGN occurs in only a few forms. The systematic use of the augment can therefore be viewed as shared innovation unique to Enindhilyakwa and Wubuy.

9.3.4.6 Incorporation of *nga-*augment into the stem

There are a number of stems in Enindhilyakwa that appear to have incorporated the *nga-*segment present in Wubuy. These are not stance verbs and they do not belong to conjugation 6. The Wubuy correspondences belong to one of the NGA classes:

(41)	<u>Enindhilyakwa</u>	<u>Wubuy</u>
bite	<i>-anga-</i> [4]	<i>-wa-</i> ~ <i>-ba-</i> [NGA ₃]
jump	<i>-(bi)janga-</i> [4]	<i>-lha-</i> ‘stand’ [NGA ₂]
singe	<i>-ye+nanga-</i> [4]	<i>-yi+wu-</i> [MA ₁], <i>-na-</i> ‘burn’ [NGA ₃]
bend	<i>-(b)arrngv-</i> [1]	<i>-barra-</i> [NGA ₁]

The Wubuy verbs take an augment in some inflectional categories. This augment has been extended throughout the paradigm in Enindhilyakwa, as illustrated in Table 9.53 for *-anga-* ‘bite’.

	Enindh. 4 <i>-anga-</i> ‘bite’	Wubuy NGA₃ <i>-wa-</i> ~ <i>-ba-</i> ‘bite’	Ngandi (irr.) <i>-ba-</i> ‘bite’
NP1	<i>-anga-Ø</i> ~ <i>-angi-ya</i>	<i>-wa-ng</i>	<i>-bi-yang</i>
NP2	<i>-angv-na</i>	<i>-wa-nga-na</i>	<i>-ba-nga-na</i>
P1	<i>-anga-Ø</i>	<i>-wa-ng</i>	<i>-ba-ng</i>
P2	<i>-anga-Ø</i>	<i>-wa-nga-a</i> > <i>-wa-ngaa</i>	<i>-ba-ri</i>

Table 9.53: Enindhilyakwa, Wubuy and Ngandi paradigms of ‘bite’

In Wubuy and Ngandi there is synchronic evidence for a *nga-*augment, which appears in only certain categories. There is no synchronic evidence for this augment in Enindhilyakwa, as it has

been extended to all categories. The paradigms match: the Wubuy NGA classes take suffixes of class A₁ (Heath 1984: 412), which corresponds to Enindhilyakwa conjugation 4 (Table 9.41). After incorporation of the *nga*-augment the paradigms are almost identical (allowing for the usual generalisations).

9.3.5 Derivational suffixes: reflexive, reciprocal, and inchoative

Most GN languages have a set of derivational suffixes, falling into two classes (AEH p.341): (i) a suffix that derives REFLEXIVE and/or RECIPROCAL verbs from transitive stems, and (ii) an INCHOATIVE suffix that derives intransitive verbs from nominal stems. AEH note that in many GN languages REFL and RECP meanings are covered by the same suffix, except in Wubuy, Ngandi and Warray (p.342). Due to the great distance between Warray on the one hand, and Wubuy and Ngandi on the other, they argue, the distinctive REFL and RECP forms cannot be an innovation (p.342-3). The contrast between the two must therefore be archaic and they reconstruct REFL **-yi-* and RECP **-nji-*.

Like Wubuy and Ngandi, Enindhilyakwa has distinct REFL and RECP suffixes: REFL *-jungwV-* and RECP *-yi-* (section 5.4.1.2). Table 9.54 lists the paradigms of the REFL suffix.

	Enindh. 1A(iv) <i>-jungwV-</i> ‘REFL’	Wubuy I₁ <i>-i-</i> ‘REFL’	Ngandi 3a <i>-(y)i-</i> ‘REFL’	pEGN <i>*-yi-</i> ‘REFL’	pGN <i>*-yi-</i> ‘REFL’
NP1	<i>-jungu-Ø ~ -jungwa-Ø</i>	<i>-i-ny</i>	<i>-(y)i-ng</i>	?	<i>*-yi-n</i>
NP2	<i>-jungu-na</i>	<i>-ii-na</i>	<i>-(y)i-na</i>	<i>*-yi-na</i>	
P1	<i>-jungwa-Ø ~ -jungu-Ø</i>	<i>-i-ny</i>	<i>-(y)i-ny</i>	<i>*-yi-ny</i>	<i>*-yi-ny</i>
P2	<i>-jungu-nv</i>	<i>-ii-ni</i>	<i>-(y)i-ni</i>	<i>*-yi-ni</i>	<i>*-yi-n-iny</i>

Table 9.54: Enindhilyakwa, Wubuy, Ngandi and pGN reflexive

Table 9.55 lists the corresponding paradigms of the RECP suffix. The Enindhilyakwa RECP has a rare variant *-(n)ji-*, which links it to the forms in the other languages.

	Enindh. 1A(i) <i>-yi- ~ -(n)ji-</i> ‘RECP’	Wubuy I₂ <i>-nji-</i> ‘RECP’	Ngandi 3a <i>-ydhi-</i> ‘RECP’	pEGN <i>*-nji- ~</i> <i>*-ydhi-</i> ‘RECP’	pGN <i>*-nji- ~</i> <i>*-ndhi</i> ‘RECP’
NP1	<i>-yv-Ø ~ -(n)jv-Ø</i>	<i>-nja-ng</i>	<i>-ydhi-ng</i>	<i>*-nji-ng ~</i> <i>*-ydhi-ng</i>	<i>*-nji-n ~</i> <i>*-ndhi-n</i>
NP2	<i>-yi-na ~ -(n)ji-na</i>	<i>-njii-na</i>	<i>-ydhi-na</i>	<i>*-nji-na ~</i> <i>*-ydhi-na</i>	
P1	<i>-yv-Ø ~ -(n)jv-Ø</i>	<i>-nji-ny</i>	<i>-ydhi-ny</i>	<i>*-nji-ny ~</i> <i>*-ydhi-ny</i>	<i>*-nji-ny ~</i> <i>*-ndhi-ny</i>
P2	<i>-yi-nv ~ -(n)ji-nv</i>	<i>-njii-ni</i>	<i>-ydhi-ni</i>	<i>*-nji-ni ~</i> <i>*-ydhi-ni</i>	<i>*-nji-n-iny ~</i> <i>*-ndhi-n-iny</i>

Table 9.55: Enindhilyakwa, Wubuy, Ngandi and pGN reciprocal

AEH propose that the distinct RECP suffixes in Wubuy and Ngandi are cognate with each other, and with the combined RECP/REFL forms in other GN languages. This suggests that in those languages with only one RECP/REFL suffix, the original RECP has extended its range to replace the original REFL, which AEH believe is a plausible development cross-linguistically. The various GN realisations of the RECP/REFL suffix are derived from pGN **-nji- ~ *-ndhi-* through a number of steps, including loss of the nasal and selection of either dental or palatal (see AEH Table 36). The Enindhilyakwa RECP form could then have derived from the pGN form in a similar way:

(42) RECP: **-nji- ~ *-ndhi-* > *-nji-* (selection of palatal) > *-ji-* (loss of nasal) > *-yi-* (lenition)

All stages in this development are synchronically attested: *-akbvrrangee-yi- ~ -akbvrranga-ji- ~ -akbvrranga-nji-* ‘find-RECP’, although the lenited version is by far the most common. It is cognate with the RECP *-yi-* in Jawoyn.

The reflexive suffix *-jungwV-* is more difficult to link to Wubuy *-i-* and Ngandi *-(y)i-*. It is possible that it is segmentable into *-ji.ngwV-*, where *-ji-* represents a hardened **-yi-*. The vowel obtains its rounding from the rounded dorsal segment *-ngwV-*, and it may be this rounding that prevents the palatal from leniting:

(43) REFL: **-yi-* > **-ji-* (hardening) > **-ji-ngwV-* (addition of *ngwV* segment) > *-jungwV-*

Note that the REFL suffix is homophonous with the verb root *-jungwV-* ‘die’ (see e.g. ex. [19] in section 5.4.1.2).

The distinct REFL and RECP suffixes are a shared retention of Enindhilyakwa, Wubuy and Ngandi.

AEH reconstruct two distinct INCH suffixes for pGN: **-me-* and **-dhi-* (p.344).⁴¹ The latter has reflexes in five languages: Wubuy, Ngandi, Mangarayi, Jawoyn and Warray - and, I propose, Enindhilyakwa, where it continues as thematic *+mv-* ~ *+bv-* (Table 9.1). The productive Enindhilyakwa INCH is *-dhv-* (section 5.4.1.1). The paradigms are presented in Table 9.56.

	Enindh. 1A(i) <i>-dhv-</i> ‘INCH’	Wubuy I₁ <i>-dhi-</i> ‘INCH’	Ngandi 3 <i>-dhi-</i> ‘INCH’	pEGN <i>*-dhi-</i> ‘INCH’	pGN <i>*-dhi-</i> ‘INCH’
NP1	<i>-dhv-Ø</i>	<i>-dhi-ny</i>	<i>-dhi-ng</i>	?	<i>*-dhi-n</i>
NP2	<i>-dhv-na</i>	<i>-dhii-na</i>	<i>-dhi-na</i>	<i>*-dhi-na</i>	
P1	<i>-dhv-Ø</i>	<i>-dhi-ny</i>	<i>-dhi-ny</i>	<i>*-dhi-ny</i>	<i>*-dhi-ny</i>
P2	<i>-dhv-nv</i>	<i>-dhii-ni</i>	<i>-dhi-ni</i>	<i>*dhi-ni</i>	<i>*-dhi-n-iny</i>

Table 9.56: Enindhilyakwa, Wubuy, Ngandi and pGN inchoative

⁴¹ Wubuy INCH *-dhi-* is very limited in productivity; *-ma-* is by far the most common INCH suffix (Heath 1984: 395).

The paradigms of Enindhilyakwa, Wubuy and Ngandi are almost identical, allowing for the usual correspondences of overt material in the Wubuy and Ngandi NP1 and P1, relating to $-\emptyset$ in Enindhilyakwa. Another difference is weakening of the root-final vowel in Enindhilyakwa, which does not happen in Wubuy or Ngandi.

The Enindhilyakwa INCH suffix is proposed to be *-dhv-*, rather than *-dhi-* attested in the other languages, because the vowel in the suffix does not trigger vowel harmony in the preceding nominal root. For example, when the INCH attaches to the nominal *awinyamba* ‘NEUT.anger’ this yields *-awinyamba-dhv-* ‘be/become angry’ (not **-awinyambe-dhv-*).

9.4 Conclusion

Although preliminary in many ways, I have shown that Enindhilyakwa is not a family-level isolate, as was its hitherto assumed genetic status, but that it constitutes a subgroup with Wubuy, nested within another subgroup including Ngandi, in turn embedded within the large Gunwinyguan family. The evidence presented comes from several sources: lexical evidence is the substantial amount of vocabulary shared between Enindhilyakwa and Wubuy, including numerous core vocabulary items (32% on a conservative count, and 45% on a more liberal count that includes bound forms and forms that have undergone semantic change). Appendix O presents the Swadesh list on which these percentages are based, and Appendix P gives the full list of cognates that this study has revealed.

The phonological evidence comes from a number of shared phonological changes that differentiate Wubuy and Enindhilyakwa from the Gunwinyguan languages, most notably: **dh > lh* and **o > a*.

The morphosyntactic evidence presented in this chapter comes from verbal inflectional paradigms (in an important study summarised in Appendix L, Heath 1997 compares the pronominal prefix paradigms of Enindhilyakwa, Wubuy and Ngandi). Although Enindhilyakwa, Wubuy and Ngandi preserve the overall characteristics of the GN paradigm, the three languages have elaborated the pGN NP category by innovating the NP2. I reconstructed the inflectional paradigms of a number of verbs belonging to different conjugational classes. This alone meets the criterion of ‘multidimensional paradigmaticity’ that is sufficient to prove a genetic relationship according to Nichols (1996). I called the immediate ancestor of Enindhilyakwa, Wubuy and Ngandi ‘proto-Eastern Gunwinyguan’ (pEGN).

Of the three EGN languages, Ngandi appears to be closest to pGN (in its phonology and suffixal paradigms - Ngandi vocabulary was not addressed in this study). In other words, Enindhilyakwa shares more similarities with Wubuy than with Ngandi. However, Baker (2004) presents evidence that Wubuy and Ngandi form a subgroup that must have undergone separate

development for a considerable amount of time (this is based on shared irregular morphology in their verb paradigms, but he examined other categories than I did here, and he ignored Enindhilyakwa). Hence more work is needed to establish the various groupings and subgroupings in greater detail.

Recognising a common ancestor for Enindhilyakwa, Wubuy and the other GN languages has important ramifications for the timing of settlement of Groote Eylandt. The archipelago is estimated to have been cut off from the mainland at around 7000 BP by post-glacial rising sea-levels (section 1.1.4). This geographic isolation is likely to have been one of the reasons for the presumed isolate status of the language. But the linguistic evidence presented in this chapter tells us that this geographic isolation cannot have meant linguistic isolation. In other words, the Groote Eylandt archipelago must have been settled after 7000 BP, by people travelling from the mainland. One question then is, when did this happen?

Fred Rose (1961) entertains the idea that Enindhilyakwa is an offshoot from Wubuy, and that it was the Nunggubuyu who populated Groote Eylandt after the introduction of the dugout canoe by the Macassans - i.e., at most 300 years ago. However, the linguistic evidence does not support such a recent divergence (which is confirmed by the fact that linguists have failed for decades to establish the relatedness of these two languages). It is more plausible that people were able to cross the 43 km stretch of sea prior to the advent of the Macassans, perhaps by hopping via Bickerton Island and Connexion Island (see Map 1.2) in their bark canoes. Perhaps the population of Groote Eylandt was sparse in the beginning (Rose estimates it at a maximum of one hundred [1961: 528]), and contact with the Macassans triggered larger-scale population of the archipelago.

A less recent time depth is supported by the archaeological evidence presented in section 1.1.4: the oldest archaeological finding is little less than 3000 years old. We can furthermore calculate the timing of linguistic divergence with the decay formula provided by Crowley & Bowern (2010: 148), taking the conservative estimate of 32% shared vocabulary:

$$(44) \quad t = \log 32 / 2 \log 0.805 = 2.626$$

where t stands for the number of thousands of years that two languages have been separated, and 0.805 is the constant rate of vocabulary change.

This time depth of 2626 years based on lexicostatistics and glottochronology is strikingly compatible with the archaeological record. Being spoken on an island, this allows us to associate archaeological dating with linguistic divergence times, and drive a time-peg into one node of the phylogeny of Australian languages (as Nicholas Evans pointed out to me): Enindhilyakwa may have split off from Wubuy around 3000 years ago.

Appendix A: *Bujikeda* ‘Mother cat’ (reference y)

1. *Yarne=dha a...rakba=wiya, yirr-ikalharu-kwa ena angura.*
1a.this=TRM already=PRG 1a/NEUT-burnt.off.bush-FACT.PST NEUT.this NEUT.fire
‘Long ago we lit a fire to burn off the bush.’
2. *Ena bujikedā nvingv-rrvngka-ma.*
NEUT.this cat(NEUT) 1/NEUT-see.PST-ma
‘I saw a cat.’
3. *Yirr-ikalharu-kwa enee=ka angura.*
1a/NEUT-burnt.off.bush-FACT.PST NEUT.this=FOC NEUT.fire
‘We lit the fire.’
4. *M-adhvrrungwarnee=ka mamarika nvm-angkarrv-na.*
VEG-big=EMPH VEG.southeast.wind VEG-run-P2
‘A big southeast wind was blowing.’
5. *Yirr-ikalharukwa ena.*
1a/NEUT-burnt.off.bush-FACT.P2 NEUT.this
‘We lit it.’
6. *Nvngu-wilyaka ebina bangkilya,*
1/NEUT-take.PST NEUT.that.same tomahawk(NEUT)
‘I was carrying a tomahawk’
7. *akwa nvng-arjiyinga adhalyvma-manja a-kiyak-bidjina.*
and 1-stand-P1 NEUT.river-LOC NEUT-river-beside
‘and I stood up beside a river.’
8. *Ngalhaje=ka angura advhrrungwarnee=ka nuw-arvmbvnadhv-na.*
NEUT.PRO=EMPH NEUT.fire NEUT.big=EMPH NEUT-spread-P2
‘The fire got really big.’
9. *Ne-kalharv-dhv-na erribaba.*
NEUT-burnt.off.bush-INCH-P2 to.here
‘It burnt towards us.’
10. *Nvng-andheeyv-ma yirukujilhangwu-wa iya yimarndakuwabu-wa nvng-akina=dha.*
1-look.P2-ma MASC.bandicoot-ALL and MASC.blue-tongued.lizard-ALL 1-that=TRM
‘I was looking for bandicoots and blue-tongued lizards.’
11. *Yirr-ababvrnee=ka yirruwa, yarnungkwarba.*
1a- many=EMPH 1a.PRO 1a.man
‘There were a lot of us men.’
12. *Bi...ya ngalh-aja akina a-rnd-arringba na-rrvngka dhukwa*
and NEUT.PRO-CofR NEUT.that NEUT-mother-3a.KIN NEUT/NEUT-see.PST maybe
angura ebina
NEUT.fire NEUT.that
‘After a while maybe the mother cat saw the fire’
13. *akwa ne-ngbaja dhukwa.*
and NEUT/NEUT-smell.P1 maybe
‘or smelt it maybe.’
14. *Nuw-angkarree=ka erriberriba-lhangwa.*
NEUT-run.P1=EMPH NEUT.bush-ABL
‘It ran from the bush.’
15. *Ngayuwa nvingv-kuw-arjeeya a-kiyak-bidjina nvng-ena=dha.*
1.PRO 1-body-stand.P2 NEUT-river-beside 1-this=TRM
‘I was standing beside by the river.’
16. *Nvng-engkirrika arakba nuw-akadha-ngv-ma amarda.*
1-hear.P1 already NEUT-make.own.sound-P2-ma NEUT.grass
‘I heard the grass crackling now.’

17. *Erribabe=ka nuw-akadha-ngee=ka envng-angk-awura.*
to.here=EMPH NEUT-make.own.sound-P2=EMPH NEUT.ALP-times-alone
'It kept on crackling towards us all the time.'
18. "*Yirukujilhangwa=bu*"
MASC.bandicoot=MIST.TH
'"It's a bandicoot"'
19. *nvngi-yama=dha.*
1-say/do.PST=TRM
'I thought [but it wasn't].'
20. *Nvng-andeeya*
1-look.P2
'I watched'
21. *akena ngalh-aja ne-ngbijangv-na,*
and NEUT.PRO-CofR NEUT-jump-P2
'and it jumped'
22. *erribaba nuw-angkarrv-na.*
to.here NEUT-run-P2
'it ran towards us.'
23. *Ena arvma bujiked,*
NEUT.this NEUT.big cat(NEUT)
'It was a big cat.'
24. *a-rukunungwenimbalhvba akina.*
NEUT-wild NEUT.that
'a wild cat.'
25. *Nuw-angkarrv-na,*
NEUT-run-P2
'It ran.'
26. *nuw-angkarrv-na.*
NEUT-run-P2
'(and) ran.'
27. *Mu-wilyaba mamarra nvmv-lhvngaku-warbarrv-nv-ma m-akina,*
VEG-one VEG.small.leaved.paperbark VEG-long.and.tall-split-P2-ma VEG-that
'There was a paperbark that had fallen down.'
28. *nvm-iki-lyangbadhv-nga-ma adhalyvma-manja.*
VEG-tree-go.across-P1-ma NEUT.river-LOC
'(and) it was lying across the river.'
29. *Dhukwa m-akina ngalha-lhangwa mamvrukwa=baba=dha.*
maybe VEG-that NEUT.PRO-POSS VEG.path=REAS=TRM
'Maybe it was the cat's path.'
30. *Nuw-angkarra,*
NEUT-run.P1
'It ran off.'
31. *m-ibina-lhangwiya mamarra ne-yaku-warrukwa ebinu...wa.*
VEG-that.same-ABL.PRG VEG.paperbark NEUT/VEG-river-cross.PST NEUT.that.same...XTD
'it crossed over the creek along the paperbark.'
32. *A-yaku-warra.*
NEUT-river-other.side.
'[It reached] the other side.'
33. *Na-lyiba eyija,*
NEUT-go.fast.P1 footsteps
'It ran fast.'

34. *nuw-angkarree=ka erribaja-bu...wa,*
NEUT-run.P1=EMPH away=EMPH...XTD
'it ran further away.'
35. *naree=ka amiyerra-bu.*
NEG=EMPH further-MIST.TH
'I thought it was going to keep on going, but no.'
36. *Jangkawu!*
swift.action.of.birds.etc./down.and.up.to.grab.something
'Pounce!'
37. *Akwa yingv-ma-mvrrk-alyvbalya memvrrma abvrra-dhikba-manja.*
and 3f-VEG-back.of.neck take.in.mouth.P1 VEG.back.of.neck NEUT.offspring-3f.kin-loc
'It grabbed a kitten by its neck.'
38. *Nuw-angkarra.*
NEUT-run.P1
'It ran off.'
39. *Nara ambaka-lhangwa kuw-angkarrv-na,*
NEG later-ABL IRR.NEUT-run-P2
'It didn't run slowly.'
40. *yeeya-mvrra=wiya nuw-angkarrv-na.*
footstep-INSTR=PRG NEUT-run-P2
'it ran fast.'
41. *Nuw-angkarra,*
NEUT-run.P1
'It ran.'
42. *nuw-angkarra,*
NEUT-run.P1
'(and) ran.'
43. *nuw-angkarra.*
NEUT-run.P1
'(and) ran.'
44. *Ne-yaku-warrukwa ebina adhalyvma m-ibina-lhangwiya*
NEUT/NEUT-river-cross.PST NEUT-that.same NEUT.river VEG-that.same-ABL.PRG
mamarra.
VEG.paperbark
'It crossed over the river along the paperbark.'
45. *Bi...ya nuw-akuma-rna adhalyvma-manja a-kiyak-bidjina mamvdhangkwa-manja.*
and...XTD NEUT/NEUT-put-P2 NEUT.river-LOC NEUT-river-beside VEG.sand-LOC
'Then it put the kitten down beside the river on the sand.'
46. *Ngarningka na-lhawurradha*
again NEUT-return.P1
'It went back again'
47. *nuw-angkarra.*
NEUT-run.P1
'it ran off.'
48. *Nuw-angkarra...wa.*
NEUT-run.P1...XTD
'It kept on running.'
49. *Engka na-rndarrka.*
NEUT.other NEUT/NEUT-take.PST
'It grabbed another.'

50. *Na-lhawurradha ebina-lhangwiya nga...wa,*
 NEUT-return.P1 NEUT-that.same-ABL.PRG cont.act...XTD
 ‘It came back along the same way,’
51. *nuw-akuma-rna ebina-manja angalya.*
 NEUT/NEUT-put-P2 NEUT-that.same-LOC NEUT.place
 ‘it put the kitten down in the same place.’
52. *Na-lhawu-lhawurradha,*
 NEUT-RDP-return.P1
 ‘It kept going back,’
53. *nuw-angkarra.*
 NEUT-run.P1
 ‘it ran off.’
54. *Nuw-angkvdhvkarrv-nu...wa.*
 NEUT-RDP.run=P2...XTD
 ‘It kept running.’
55. *Na-ma-nga.*
 NEUT/NEUT-take-P2
 ‘It took another.’
56. *Naree=ka amiyerra-bu kuw-andeeya,*
 NEG=EMPH further=EMPH IRR.NEUT-look.P2
 ‘It didn’t look around very far,’
57. *abukwaya na-rrakbv-rrakbi-yuwiyidhv-na.*
 NEUT.that.coming NEUT-RDP-forehead-RDP.straight-INCH-P2
 ‘it went straight on.’
58. *Na-ruku-lyangba-dha ebina angariya.*
 NEUT-body-cross-INCH.P1 NEUT.that.same NEUT.young
 ‘The kitten laid down sideways.’
59. *Na-lhawurradhv-na akina ngawa,*
 NEUT-return-P2 NEUT.that cont.act.
 ‘It came back’
60. *biya ebina nuw-akuma-rna.*
 and NEUT.that.same NEUT/NEUT-put-P2
 ‘and put the kitten down.’
61. *Abiyakarbiya arakba.*
 NEUT.three compl.act.
 ‘(That was) three now.’
62. *Ngarningka nuw-angkarra.*
 also NEUT-run.P1
 ‘It ran off again.’
63. *Nuw-angkarru...wa.*
 NEUT-run.P1...XTD
 ‘It kept on running.’
64. *Na-lhawurradha,*
 NEUT-return.P1
 ‘It went back,’
65. *biya na-ma-nga.*
 and NEUT/NEUT-take-P2
 ‘and took another.’
66. *Na-lhawurradhv-na ebina-lhangwiya ngawa.*
 NEUT-return-P2 NEUT.that.same-ABL.PRG cont.act.
 ‘It came back along the same way.’

67. *Nuw-akuma-rna.*
NEUT/NEUT-put-P2
'It put the kitten down.'
68. *Abiyarbuwa.*
NEUT.four
'(That was) four.'
69. *Ngalh-aja angura abukwaya nuw-akudhangu-dhv-nv=dha.*
NEUT.PRO-CofR NEUT.fire NEUT.coming NEUT-near-INCH-P2-TRM
'The fire was coming closer.'
70. *Enee=ka a-rnd-adhikba.*
NEUT.this=EMPH NEUT-mother-3f.KIN
'Here was the mother.'
71. *Bi...ya naree=ka,*
and.XTD NEG=EMPH
'And no.'
72. *ambaka-lhangwa nara kuw-angkvdhvkarrv-na akina,*
later-ABL NEG IRR.NEUT-RDP.run-P2 NEUT.that
'it didn't run slowly.'
73. *na-lyibi-nv-mvrru=wiye=ka eyija akina ngawa nuw-angkarra,*
NEUT-go.fast-P2-ma=PRG=EMPH footsteps NEUT.that cont.act. NEUT-run.P1
'it ran very quickly.'
74. *nuw-enjirrika-ja ngawa,*
NEUT-hurry-RECP.P1 cont.act.
'it kept on hurrying.'
75. *bi...ya jangkawu!*
and.XTD swift.action.of.birds.etc./down.and.up.to.grab.something
'and in one fell swoop'
76. *Na-rndarrka.*
NEUT/NEUT-take.PST
'It grabbed another.'
77. *Nvngu-ngwarndvrra-nga na-ma-ngv-ma akina,*
1-not.know-P2 NEUT/NEUT-take-P2-ma NEUT.that
'I didn't see it take that one.'
78. *biya yandha ngawa nvng-andeeyv-ma nvng-akina,*
and nothing.special cont.act 1-look.P2-ma 1-that
'I just kept watching.'
79. *nuw-ekekirrarji-na-ma warenja=ba=wiya=baba.*
NEUT-come.and.go-NP2-ma quickly!-EMPH=PRG=REAS
'because it was coming and going so quickly.'
80. *Na-lhawurradhv-nu...wa.*
NEUT-return-P2...XTD
'It came back.'
81. *Ebina ne-yaku-warrukwa mamarra.*
NEUT.that.same NEUT/NEUT-river-cross.PST VEG.paperbark
'It crossed over the creek along the same paperbark.'
82. *Akwa ngawa, nuw-akuma mamvdhangkwa-manja.*
and cont.act. NEUT/NEUT-put.P1 VEG.sand-LOC
'And that was it,' it put the kitten down on the sand.'
83. *Biya nuw-arrv-mvrndukwee=ka a-mvrndak-akina e-yukwayuwa*
and NEUT/NEUT-small.and.round-gather.PST=EMPH NEUT-many-that NEUT-small.PL
'It gathered the kittens together.'

84. *nuw-akurraju-wa a-bv-bvrra-dha=dha.*
NEUT/NEUT-look.after-P2 NEUT-RDP-offspring-3f.KIN=EMPH
'and looked after them.'
85. *Ngalh-ajee=ka angura erribaba,*
NEUT.PRO-CofR=EMPH NEUT.fire to.here
'The fire came towards us.'
86. *bi...ya naree=ka,*
and...XTD NEG=EMPH
'and it didn't (stop)'
87. *nuw-akadha-ngee=ka.*
NEUT-make.own.sound-PST=EMPH
'it crackled loudly.'
88. *Bi...ya nvngi-yama,*
and...XTD 1-say/do.PST
'And I said.'
89. *"Ena=bu ngawa amangbalha=bu a-bv-bvrra-dha"*
NEUT.this=EMPH cont.act NEUT.fire=EMPH NEUT-RDP-offspring-3f.KIN
"That's all, five babies"
90. *nvngi-yama.*
1-say/do.PST
'I said.'
91. *"Kembirra nuw-erriminja"*
so NEUT-be.still.P1
"Now it's stopped"
92. *nvngi-yama nganja.*
1-say/do.PST 1.PRO.CofR
'I said.'
93. *Ebina angura nuw-angkarrv-nee=ka,*
NEUT.that.same NEUT.fire NEUT-run-P2=EMPH
'The fire burned on.'
94. *angwarree=ka ena,*
NEUT.smoke=EMPH NEUT.this
'there was a lot of smoke.'
95. *bi...ya naree=ka.*
and...XTD NEG=EMPH
'but it didn't (get to us).'
96. *Biya ebina-manja adhalyvma ngawa nuw-erriminjv-ma akina angura=dha.*
and NEUT.that.same-LOC NEUT.river still NEUT-be.still.P1-ma NEUT.that NEUT.fire=TRM
'It stopped at the river.'
97. *Ngalh-aja ebina e-yukwayuwa akwa dhv-rnd-arringba,*
NEUT.PRO-CofR NEUT.that.same NEUT-little.PL and 3f-mother-3a.KIN
'There were the kittens and their mother.'
98. *na-mungkulhi-jee-yi-nv-ma ebina e-yukwayuwa,*
NEUT-sleep-CAUS-RECP-P2-ma NEUT.that.same NEUT-little.PL
'the kittens were sleeping together.'
99. *ngalh-aja dhv-rnd-arringba ying-ang+maku+lhalhv-ma*
3f.PRO-CofR 3f-mother-3a.KIN 3f-?chin+?place+be.upright.P2-ma
'their mother was sitting'
100. *yingv-nyak-arjeeyv-ma*
3f-chest-stand.P2-ma
'she was sitting up'

101. *yingv-rrvngka-ma angura-wa dh-akina.*
 3f/NEUT-see.PST-*ma* NEUT.fire-ALL 3f-that
 ‘watching the fire.’
102. *Ngayuwee=ka nvng-errukulhv-nv-mee=ka.*
 1.PRO=EMPH 1-be.sorry-P2-*ma*=EMPH
 ‘I felt sorry for her.’
103. *Akena dhv-rnd-arringba dhukwee=ka awilyikerra yingu-ngurkwe-nv-ma,*
 but 3f-mother-3a.KIN maybe=EMPH a.long.way.off 3f-hunt-P2-*ma*
akwalyu-wa=dha
 NEUT.meat-ALL=TRM
 ‘Maybe the mother had been hunting a long way for meat.’
104. *narrv-nga-mvn-abvrangka-ma wurr-abvbvrra-dha=dha.*
 3a.O-3f.S-BENE-look.for.PST-*ma* 3a-RDP.offspring-3f.KIN=TRM
 ‘looking for something for her babies.’
105. *Akena*
 but
 ‘But (she didn’t get any)’
106. *akina angura=baba*
 NEUT.that NEUT.fire=REAS
 ‘because of the fire’
107. *akwa dhukwa ying-eyiji-na,*
 and maybe 3f-eat-P2
 ‘maybe she had eaten,’
108. *yingu-warda-nga,*
 3f/NEUT-kill-P2
 ‘(and) killed something,’
109. *dhukwa nara=dha,*
 maybe NEG=TRM
 ‘maybe she hadn’t,’
110. *mvrvmvreeya dhukwa=dha,*
 hungry maybe=TRM
 ‘maybe she was hungry,’
111. *ying-enjirrika-jv-ma ngawa=dha.*
 3f-hurry-RECP-P1-*ma* cont.act.=TRM
 ‘she had been hurrying so much.’
112. *Enena kamba nvngarra-maka-ma wurru-kwalha warnungkwarba=dha, nara*
 NEUT.this then 1/3a-tell.PST-*ma* 3a-some 3a.man=TRM NEG
ngakurruwa=mvrta, wurrv-mvn-arvma angalya Darwin, akina bujikeda
 12a.PRO=EMPH 3a-BENE-big NEUT.place D. NEUT.that cat(NEUT)
nvngv-rrvngka-ma.
 1/NEUT-see.PST-*ma*
 ‘Then I told some other men, not our men, others in Darwin, (about) the cat I had seen.’
113. *Akina=bu ngawa=dha.*
 NEUT.that=EMPH cont.act.=TRM
 ‘That’s all.’

Appendix B: List of recordings (see accompanying CD for recordings)

Track on CD	Number in text	Example (marked with ♀ in text)	Phonetic transcription	Recording reference
1	7	<i>yibilyibilya</i> 'MASC.lightning'	[ji.piɫi'piɫa]	anin2_pw_au_002
2	11, 12	<i>dhimirrmara</i> 'FEM.sandfly'	[.ɫimiri'maɾa ~ .ɫi'mirmaɾa]	anin2_pw_au_002
3	19	<i>amvrnvrna</i> 'NEUT.stingray'	[aməŋəŋa]	anin4_dl_au_003
4	19	<i>amarnhvnha</i> 'NEUT.ashes'	[amaɫpəna]	anin4_dl_au_003
5	20	<i>ngwadhvna</i> 'cry!'	[ŋ ^w aɫəna]	anin4_mm_au_002
6	25a	<i>ningenv-rndvrrka nuwarda</i> 'I grabbed the dog'	[niŋənənrka ~ niŋənəŋɾarka nuwaɾa]	anin4_em_au_001
7	27	<i>yilyirriya</i> 'MASC.crushed coral'	[jiɫi'rija ~ iɫi'rija]	anin2_hw_au_001
8	28	<i>yina</i> 'MASC.knee'	[jina ~ ijina]	anin4_kw_tr_001
9	32	<i>wi-njawudhe-na</i> 'put it on your head!'	[wiŋcawuɫəna]	anin4_mm_au_002
10	34	<i>eminda</i> 'NEUT.nose'	[ɛ.mi.nta]	anin4_kw_au_002
11	34	<i>akambvmbarrvnga</i> 'sit down!'	[a.ka.mpə.mpa.rə.ŋa]	anin4_dl_au_003
12	34, 38	<i>yibarungkwa</i> 'MASC.mullet'	[ji.pa.ɾu.ŋk ^w a]	anin4_kw_au_002
13	38	<i>arimba</i> 'NEUT.rough-skinned stingray'	['a.ɾi.mpa]	anin4_dl_au_003
14	50	<i>alhakba</i> 'NEUT.leg'	[a.ɫa.kpa]	anin4_dl_au_003
15	50	<i>mamvngba</i> 'VEG.hair'	[ma.mo.ŋpa]	anin4_dl_au_003
16	52a,b	<i>errikbi-na</i> 'throw it!' <i>errekbi-na</i> 'vomit!'	[ɛ.ri.'kpi.na] [ɛ.'rɛi.'kpi.na]	anin2_dl_au_001
17	58b, 60b	<i>yimvrnvrna</i> 'MASC.stingray'	[jimənəna]	anin4_kw_au_002
18	59a	<i>yuwarlkurra</i> 'MASC.kneecap'	[juwa[kura]	anin4_dl_au_004
19	59b	<i>mulkwa</i> 'VEG.stomach'	[mɔ[kwa]	anin2_pw_au_001
20	60a	<i>amvrndha</i> 'NEUT.shoulder'	[amənta]	anin2_aw_au_001
21	126a	<i>dhvnhvna</i> 'FEM.mosquito'	[ɫəŋəna ~ ɫəŋəna]	anin2_pw_au_002
22	126b	<i>mvnhvnga</i> 'VEG.burrawang'	[məɫɾəŋa ~ məɾəŋa]	anin2_pw_au_002
23	127	<i>marrvngmvrnda</i> 'VEG.bush currant'	[marɔŋməɫa]	anin2_pw_au_002

Appendix C: Stop clusters and long stops

Although Enindhilyakwa (like Wubuy) does not contrast phonetically long (or fortis) and short (or lenis) stops - its stops generally being short/lenis - occasionally a long/fortis stop can be heard. The only observation regarding long stops in the previous work comes from Leeding (1989: 25), who notes that “[a] sequence of two identical stops occurs in a few words, most of which are unassimilated loanwords. The first consonant is unreleased and triggers the fortis articulation of the second”. Her examples include (original orthography and phonetic transcription):

- (1) *yilharrpa* [ji,ɽerpa ~ ji,ɽer^ppa]¹ ‘MASC.Livingstone Palm’ (VL1 p.26)
napipa [nɛpɪpa ~ nɛ^ppi^ppa] ‘3m.mother’s brother’
thakatjarrarra [ɽakatjarara ~ ɽaka^{tj}jarara] ‘FEM.nut sp.’

Leeding furthermore notes that the heterorganic cluster [kp] (section 2.5.7) can vary freely with [pp], and that some speakers are aware of this variation (1989: 26). Younger speakers may pronounce the di-cluster as a single stop [p]. The following is the only example she offers of this variation (original orthography and phonetic transcription).

- (2) *athikwalyi(k)pwa* [a,ɽukaɽikp^wa ~ a,ɽukaɽi^pp^wa]² ‘NEUT.Crinum Lily’ (VL1 p.26)

These long stops are interesting because a contrast between phonetically long and short stops is an areal feature of the Top End: most languages in Arnhem Land, including the Maningrida family, the Yolngu subgroup of Pama-Nyungan and virtually all Gunwinyguan languages, have two stop series, which otherwise is a rare feature in Australia (Dixon 1980; Evans 2003b; Harvey 2003a; see Austin 1988 for a survey of Australian languages with a stop contrast).³ This stop contrast does not exist in Wubuy (Heath 1978b, 1984), and, as I argue in sections 2.5 and 9.2.1.2, neither in Enindhilyakwa. However, Enindhilyakwa does have some long stops in addition to those mentioned by Leeding. These are represented as heterorganic stop clusters in Heath’s (n.d.) sketch grammar, and in a variety of ways in the other works. They are listed in (3) (note that Leeding’s symbol *tj* represents [c], while Heath’s *dj* stands for [tc]):

¹ I recorded this example with a singleton stop: [ji,ɽe:ɾpa] ‘Livingstone Palm’ (anin2_pw_au_002).

² In my orthography this word is *adhvkalyiba*, and I recorded it as [a,ɽəkaɽipa] (anin2_pw_au_002) (I have never heard a rounded /pw/, which Leeding argues contrasts with /p/, and I do not hear the second vowel as [u] but rather as [ə]). Thus, my informant produced this word with a single stop [p], whereas Leeding’s informants produced either a geminate stop or a heterorganic di-cluster (disregarding the rounding in Leeding’s transcription).

³ Since two stop series are an areal feature of the Top End, the untangling of genetic and areal features is particularly complex here (Evans 2003b: 15).

(3)	Leeding	Stokes/Waddy	Heath	Phonetic realisations observed in this study
	<i>kpw</i>	<i>kb</i>	<i>gb</i>	[k̠p ~ p: ~ p]
	<i>rth</i>	<i>r/d</i> or <i>r.d</i>	<i>rddh</i>	[t̠ ~ t̠: ~ t̠]
	<i>rtj</i>	<i>rj</i>	<i>rdj</i>	[t̠c ~ c: ~ c]
	<i>tj</i>	<i>j</i>	<i>dj</i>	[tc ~ c: ~ c]

Since I adopt the Stokes/Waddy orthography in this thesis (with some modifications, outlined in section 2.1.2), and since the phonetic realisation is variable and needs more research, I represent these stops as Stokes/Waddy do (with the exception of *r/d*, which is *rdh* in this thesis). However, I describe them here because they may relate to long stops in GN, and therefore may be a sign of shared retention.

• ***kb* [k̠p ~ pp ~ p]**

The *kb* cluster was described in section 2.5.7, where I argued it to be a phonemic complex segment, for the reasons outlined. The initial velar [k] is unreleased and is barely audible. Its constriction occurs very late so that it is co-articulated with the following [p] (which is one of the reasons for regarding it as a complex segment). The unreleased initial velar may trigger a labio-velar fortis articulation of [p], which is of longer duration than its normal form. See examples in section 2.5.7. The following are examples of [k̠p] varying with, or being realised as, [p:].

- (4) a. *yingvnakbvranga* [jiŋənap:ɔraŋa ~ jiŋəna k̠pɔraŋa] ‘she found one’ (anin1_dl_au_001)
 b. *mekberrkuna* [mɛ:p:ɛrkuna] ‘it(VEG) was soaking’ (anin2_pw_au_005)
 c. *Yadhikba* [jæ_t̠i k̠pa ~ jæ_t̠ip:a] ‘place name’ (LL Book 1 audio CD)

In (4a), the speaker first pronounces the word with a long bilabial stop, then repeats it slowly with a clear [k] followed by [p]. The word in (4b) is clearly pronounced with a long stop, although in the orthography it is represented as *kb*. In (4c), a silent [k] can be heard when pronounced at normal speed, but when spoken slowly only [p:], or perhaps [p], can be heard.

This variation occasionally shows up in the written data of the previous work. Some examples of the *kb* ~ *b* variation are given in Table C.1 (data from the dictionary unless indicated otherwise).

	Data involving <i>kb</i>	Data involving <i>b</i>
to hide	<i>-akbuwarrka-</i>	<i>-abuwarrka-</i>
to jump	<i>-akbijanga-</i>	<i>-abija-</i> (VL2 p.239)
to blow away	<i>-lyikbi-</i>	<i>-lyibi-</i>
to be afraid	<i>-akbardha-</i>	<i>-abadha-</i> (VL1 p.425)
flat area	<i>ekbvl-</i> ~ <i>akbal-</i>	<i>abal-</i> (Ansec2; VL2)
desert	<i>ayilkbiyilkba</i> [a ¹ jil(k)pijilkpa] (VL1 p.28)	<i>ayilbiyilba</i>
wild plum	<i>mangkarrkba</i>	<i>mangkarrba</i> (JS1 p.173)

Table C.1: Heterorganic cluster *kb* varying with *b* in written data of previous work

It should be noted that not all *kb* clusters exhibit this variation, as far as I am aware. I have for instance heard *alhakba* ‘leg’ only as [a_ɹla kpa] (with an unreleased [k]), never as [a_ɹlap:a], nor have I encountered this word as *alhaba* in the written data.

The *kb* cluster contrasts with a singleton *b*, as shown in the following near-minimal pairs.

- | | | | | | |
|-----|--------------------|-----------------|------------------|-----------------------|-------------|
| (5) | <i>alhakba</i> | ‘NEUT.leg’ | <i>awilyaba</i> | [awiɫapa] | ‘one’ |
| | <i>alyelyikba</i> | ‘NEUT.lips’ | <i>ariba</i> | [a _ɹ ipa] | ‘NEUT.land’ |
| | <i>mangkarrkba</i> | ‘VEG.wild plum’ | <i>-adharrba</i> | [a _ɹ arpa] | ‘short’ |

As in other languages with a stop contrast (e.g. BGW, Evans 2003a; Ngalakgan, Baker 2008), the stops only contrast intervocally and following continuants.

The *kb* cluster occurs intra-morphemically, as in the above examples, but also across morpheme boundaries. This can happen with noun incorporation, as in the following Dictionary examples:

- | | | | |
|-----|-----------------------|----------------|----------------------------|
| (6) | <i>-wurak-baja-</i> | [pipe-hit] | ‘to knock ashes from pipe’ |
| | <i>-mak-bvrridha-</i> | [ground-shake] | ‘ground shaking’ |

As argued in section 2.5.7, the intermorphemic *kb* cluster is syllabified in the onset, behaving as a single segment.

Taking notice of this cluster, and its variation with a long stop, is important because it corresponds to *bb* in the Gunwinyguan languages, and to Wubuy *b* (see Table 9.11 in section 9.2.1.2.1).

• *rdh* [t_ɹ ~ ɹ: ~ ɹ]

The cluster *rdh* also shows assimilation to a geminate, its phonetic realisation varying between [t_ɹ ~ ɹ: ~ ɹ]. Heath (n.d.) treats this cluster as consisting of two stops. Leeding represents it as *rth*, i.e. a retroflex glide followed by a lamino-dental stop, while Waddy/Stokes use *r/d* or *r.d*, i.e. a retroflex glide followed by *d*, which can stand for a lamino-dental stop or an apico-alveolar stop (the forward slash or full stop are used to differentiate the retroflex stop *rd*). The following examples illustrate the variation [t_ɹ ~ ɹ:], using my orthography and transcriptions.

- | | | | | |
|-----|--------------------------------|----------------------------------|------------------------|-------------------|
| (7) | a. <i>nanv-kumiyardha</i> | [nanukumija _ɹ ta] | ‘circumcised boy’ | (JH Tape 70) |
| | b. <i>nanv-kumiyardhv-kiya</i> | [nanukumija _ɹ :əkija] | ‘two circumcised boys’ | (JH Tape 70) |
| (8) | a. <i>n-ardharrvma</i> | [na _ɹ :aroma] | ‘he speared it(MASC)’ | (JH Tape 70) |
| | b. <i>n-ardharrvma</i> | [na _ɹ :aroma] | ‘he speared it(MASC)’ | (anin4_md_au_001) |
| | c. <i>n-ardharrvma</i> | [na _ɹ aroma] | ‘he speared it(MASC)’ | |
| (9) | <i>marrvngmvrdfa</i> | [maroŋmə _ɹ :a] | ‘bush currant’ | (anin2_pw_au_002) |

In (7a) we hear some r-colouring on the preceding vowel, while the stop appears to be a cluster. This r-colouring is absent in (7b), pronounced by the same speaker. The same can be said of the examples in (8): in (8a) there is some r-quality on the vowel, which is completely absent in (8b) and where the stop is long. The same word can also be realised with a regular, singleton, stop (8c). The orthographic *rdh* cluster in (9) is likewise realised as a long lamino-dental stop.

The lamino-dental stop of the following words appears to be always pronounced as long:

- (10) *engbvdha* [ɛŋpəɽɽa] ‘NEUT.strong’
ekbvdha [ɛkpəɽɽa] ‘NEUT.strong’

The previous scholars write this word as involving a simple stop (original orthographies): *engbuda* ~ *ekbuda* (Stokes/Waddy); *angpwitha* ~ *akpwitha* (Leeding 1989).⁴

The heterorganic/geminate cluster contrast with a singleton *dh* intervocalically, as shown by the following (near-)minimal pairs:

- (11) *-yardha-* [jaɽɽa ~ jaɽɽa] ‘arrive, get married’ = *yadha* [jaɽa] ‘PURP clitic’
-mvr dha- [məɽɽa ~ məɽɽa] ‘be dark’ *-mvdheeyi-* [məɽe:ji] ‘to paddle’

Leeding notes a variation in the phonetic realisation of the ‘spear’ verb in (8), but she claims the variation is between [ɽɽ] and the simple stop [ɽ], and attributes it to loss of retroflexion (1989: 128).

Otherwise this variation has not been described in the previous work. It does however occasionally show up in the textual data:

	Data with <i>rdh</i>	Data with <i>dh</i>
to go walkabout	<i>-kubardha-</i>	<i>-kubadha-</i>
to arrive, be married, claim	<i>-yardha-</i>	<i>-yadha-</i>
to put onto	<i>-jawurdha-</i> (anin4 mm 002)	<i>-jawudha-</i>
to be/get dark	<i>-mvr dhv-</i>	<i>-mvdhv-</i>

Table C.2: Enindhilyakwa *rdh* ~ *dh*

It is important to take notice of the *rdh* cluster, and its potential variation with long *dh*:, because the latter is present in the GN languages (save Wubuy) and reconstructed for pGN. I did however not find any correspondences of Enindhilyakwa *rdh* ~ *dh*: ~ *dh* in other languages.

⁴ Leeding (1989: 49) has one example in her data with a *rth* cluster which could be related *angpwitha* ‘strong’: *angpwitha* ‘White waterlily’ (polysemy involving plant names and other items is very common - see section 3.6.1).

• *rj* [ɟc ~ c: ~ c]

The heterorganic cluster *rj* also has a long stop variant, ranging from [ɟc ~ c: ~ c]. Heath treats this cluster as consisting of two stops: *rdj*. Leeding represents it as *tj* (*tj* stands for [c] in her system), and Stokes/Waddy as *rj* - i.e. a retroflex glide followed by a lamino-palatal stop.

The following examples illustrate the variation of *rj* between [ɟc ~ c: ~ c], using my orthography.

- (12) a. *yuwarjerra* [ju.wa.c:ɛ.ra] ‘MASC.skink’ (anin2_pw_au_002)
 b. *yuwarjerra* [ju.wa.ɟcɛ.ra] ‘MASC.skink’ (anin4_dl_au_002)
- (13) a. *angmakarjiya* [aŋmakaɟcija ~ aŋmakac:ija] ‘sit down!’ (anin4_dl_au_003)
 b. *rrakarjiya* [rakacija ~ rakac:ija] ‘sit down!’ (anin2_pw_au_004)

The noun in (12) is listed as *yuwarjerra* in the Dictionary, but the speaker realises the cluster as a long [c:] in (12a), but as the cluster [ɟc] in (12b). Likewise, the ‘sit’ verb in (13) is listed as *-arjiya-* in the Dictionary, but the cluster *rj* varies between [ɟc ~ c: ~ c].⁵

Although the various realisations of the *rj* cluster have not been noted before, some variations do occasionally show up in the written data of the previous work. Some examples are given below.

	Data with <i>rj</i>	Data with <i>j</i>
to be upright	<i>-arjiya-</i>	<i>-ajiya-</i>
to wash	<i>-arjirra-</i>	<i>-ajirra-</i>
to hit	<i>-barja-</i>	<i>-baja-</i>

Table C.3: Enindhilyakwa *rj* ~ *j*

The first two examples come from Leeding (1989: 128), who attributes the variation to a loss of retroflexion.

The *rj* cluster contrasts with a simple stop, but only intervocalically:

- (14) *-arji-na* [aɟcina ~ ac:ina] ‘be.upright-NP2’
-ngamba-ji-na [ŋampacina] ‘bathe-CAUS-NP2’

The Enindhilyakwa reflex of the pGN root **-badja-* receives various transcriptions in the previous work, ranging from *+barja-* (WD), to *+baja-* (WD), to *+badja-* (Heath n.d.). In this thesis I represent this word as *+baja-*, recognising that the lamino-palatal stop may have a fortis realisation.

AEH (p.336) reconstruct this root with a word-medial cluster **dj* for pGN. They propose that this cluster assimilated to a geminate *jj* in Ngandi, BGW and Ngalakgan (i.e. **-badja-* > *-bajja-*).

⁵ The meaning of the verb *-arjiya-* actually is ‘be upright’. This is not as controversial as it may seem: the meaning of ‘sit down’ is composed of *angmak+arjiya* ‘chin+be.upright’ in (13a) and *rrak+arjiya* ‘forehead+be.upright’ in (13b).

Wubuy and Rembarnga retained the heterorganic cluster.⁶ In Enindhilyakwa the cluster possibly varies with a long and with a short stop. I will leave it up to further research to find out the phonetics of this word, and the other *rj* clusters.

Conclusion on long stops

Enindhilyakwa has phonetically long realisations of the stops *b*, *dh* and *j* - though further research may bring to light long stop counterparts for other stops also. These long realisations are often represented as heterorganic consonant clusters in the previous work.

The existence of long stops in Enindhilyakwa is important in the investigation of the genetic relatedness of this language to other languages, because two contrastive series of stops occur in virtually all the Gunwinyguan languages, except Wubuy and Mangarrayi. There is some debate in the literature as to how this stop contrast is to be interpreted phonologically. Although there is general agreement that the principal phonetic parameter involved in the contrast is length, the contrast has been analysed in terms of voicing, fortis/lenis, and geminate/singleton, where the voiceless/fortis/geminate stops are considerably longer than the voiced/lenis/singleton stops (Baker 2008a; Evans 2003a: 81; Harvey 2003a; Hamilton 1996: 37. See also Gabina 2001 for a reconstruction of the contrast in proto-Maningrida). Harvey (2003a) reconstructs two stop series for proto-Gunwinyguan, interpreting the contrast as geminate versus singleton: the long stops are analysed as geminate clusters of two identical stops. Baker (2008a) comes to the same conclusion, based on the parallels between heterorganic and homorganic clusters in terms of their distribution. I have followed the geminate/singleton analysis in sections 9.2.1.1 and 9.2.2.2, recognising that the precise nature of the contrast remains controversial.

In Wubuy the long/geminate stops descend as short/singleton stops (Heath 1978b, 1984). In Chapter 9 I argued that this scenario can also account for the Enindhilyakwa short/singleton stops. However, as shown above, there may be some lingering traces of the old long/geminate stops. However marginal, they may indicate retention of the archaic long/geminate stops reconstructed for pGN.

⁶ Heath notes that his proposed lenition chain (section 9.2.1.1) is somewhat oversimplified in the case of **jj > j*. This is because the root *-wadja-* ~ *-badja-* maintains the old **jj* also preserved in Ngandi *bajja* (1978b: 37). He interprets this sound in terms of the derived Wubuy consonantal system as the cluster *dj*. However, the AEH reconstruction indicates that the original sound was a heterorganic cluster, which did not lenite to *j* in Wubuy.

- d. *-lhangwa* ‘POSS case’ *dhv+m+arnvnh+dlhangwa*⁷
 FEM+INALP+pointed+POSS
 ‘fem.spotted eagle-ray’ (VL1 p.131)

The nasals in these examples have assimilated in place to the following stop. Again, this hardening does not apply at active boundaries between affixes and stems, where an epenthetic vowel occurs between the consonants that meet across a morpheme boundary (section 9.2.1.2.2).

• **Alveolar tap**

No traces of hardening *rr > d* are not attested in the data. This hardening is also rare in Wubuy and found only with two morphemes (Heath 1978b: 39, 1984: 63).

• **Labio-velar glide**

There are some lingering traces of *w* hardening to *b* in frozen constructions:

- (4) a. *-wilyik+bilyik-* ‘to warm up on ashes’
 b. *-rrak+biyu+wiya-* [forehead+RDP+straight] ‘go straight ahead’ (‘Bujikeda’ y57)
 c. *-lhvngak+balhu+walha* ‘wide and tall’

In other cases, the alternation that is productive Wubuy appears to have developed into individual stems in Enindhilyakwa, with different but related meanings. One example is *-baja-* ‘hit’, which can be conceived of as the hardened form of *-waja-* ‘brush away’. These are listed in Table D.1. The Enindhilyakwa *w* and *b* stems belong to the same conjugation, which correspond to the conjugation of the Wubuy verbs (Chapter 9).

Wubuy <i>w-</i> ~ <i>b-</i>	Enindhilyakwa <i>w-</i>	Enindhilyakwa <i>b-</i>
<i>-warda-</i> ~ <i>-barda-</i> ‘tap, break’	<i>-warda-</i> ‘hit, kill’	<i>-mawilyak+barda-</i> ‘cut steps in tree’
<i>-warrka-</i> ~ <i>-barrka-</i> ‘sew’	<i>-warrka-</i> ‘sew’	<i>-lyang+barrka-</i> ‘sweep’
<i>-wa-nga-</i> ~ <i>-ba-nga-</i> ⁸ ‘bite’	<i>-lyelyu+wanga-</i> ‘chew’	<i>-angv+banga-</i> ‘RDP+bite’
<i>-wadja-</i> ~ <i>-badja-</i> ‘hit’	<i>-waja-</i> ‘brush away’	<i>+baja-</i> ‘hit’
?	<i>-warrukwa-</i> ‘cross over’	<i>-barrukwa-</i> ‘change ownership’

Table D.1: Stem-initial Wubuy *w ~ b* : Enindhilyakwa *w* and *b*

These data suggest that the hardening *w > b* may have occurred at some stage in the language. In addition, frozen complex stems such as those above often do not display vowel epenthesis between two consonants, i.e. rule P-2 does not apply. Instead, codas are avoided by bonding of the two consonants across the morpheme boundary, and syllabification in the onset (section 2.5.7). This would suggest the following diachronic scenario:

⁷ Wubuy: *marnindhangu* ‘eagle ray’.

⁸ The *nga-* element is an augment that only occurs in certain tense/aspect categories of this conjugation. This element has been incorporated into the verb stem in Enindhilyakwa; see section 9.3.4.6.

- (5) **-lyang-warrka-* [head-sew] > **-lyang-barrka-* (hardening of *w* to *b*) > *-lyang+barrka-* (lexicalisation > *-lya.ngbarr.ka-* [λa.ŋ̠paɾ.ka] (bonding of *ng* and *b* across the old morpheme boundary) ‘sweep’⁹)

Thus in frozen complex stems codas are circumvented not by vowel epenthesis, but by syllabifying certain consonant clusters as onsets.

As mentioned in section 9.2.1.1, Wubuy has a second distinct *w* phoneme, which hardens to *k* when following a stop/nasal. This *w* seems to have disappeared in Enindhilyakwa (see Table 9.9 in section 9.2.1.2).

• **Lamino-palatal glide**

Some traces of *y* hardening to *j* can also be observed:

- (6) a. *-yirrama-* ‘swim’ *-yirmin+jirrama-* ‘RDP+swim’
 b. *-yama-* ‘do’ *-yamvn+jama-* ‘RDP+do’
 c. *-yawudha-* ‘to carry’ *-lyan+jawudha-* [head+carry] ‘carry on head’ (VL1 p.132-3)

Again, this hardening does not synchronically occur between stems and affixes, or in productive reduplication patterns (section 9.2.1.2.5).

These archaic hardening processes are important because they are shared with Wubuy, and no other Arnhem Land language. In Wubuy, the hardening of continuants to stops is very productive. The continuants are reflexes from old stops, so in fact the synchronic continuants harden back to their historical source. Since traces of the same process are visible in Enindhilyakwa, this supports the hypothesis that the Enindhilyakwa continuants are reflexes from old stops as well. The old stops are preserved in the other Gunwinyguan languages, and their lenition to continuants is an innovation shared between Wubuy and Enindhilyakwa.

⁹ The incorporated nominal *lyang-* ‘head’ presumably refers to the head of a broom, and *-warrka-* to a repetitive linear motion.

Appendix E: Free pronouns and pronominal prefixes (based on VL1; WD; GED)

	Free pronouns	Prefixes on nominals	Subject prefixes on intransitive verbs	Second order subject prefixes on trans. verbs
1	<i>ngayu-wa</i>	<i>nvng- ~ ng-</i>	<i>nvng- ~ ng-</i>	
13 m du	<i>yi-nu-wa</i>	<i>yi-n-</i>	<i>yi-n-</i>	
13 f du	<i>yi-rrv-ngu-wa</i>	<i>yi-rrv-ng-</i>	<i>yi-rrv-ng-</i>	
13 a	<i>yi-rru-wa</i>	<i>yi-rr-</i>	<i>yi-rr-</i>	
13 tri	<i>yi-rrv-bvk-rru-wa</i>	<i>yi-rrv-bvk-</i>	<i>yi-rrv-bvk-</i>	
12 du	<i>ya-ku-wa</i>	<i>y-</i>	<i>y-</i>	
12 tri	<i>nga-rrv-bvk-rru-wa</i>	<i>nga-rru-buk-</i>	<i>nga-rrv-bvk-</i>	
12 a	<i>nga-kv-rru-wa</i>	<i>nga-rr-</i>	<i>nga-rr-</i>	
2	<i>nvngku-wa</i>	<i>nvngk-</i>	<i>nvngk-</i>	
2 m du	<i>nvngkv-rnu-wa ~ nvngkv-nu-wa</i>	<i>kv-n-</i>	<i>kv-n-</i>	
2 f du	<i>nvngkv-rrv-ngu-wa</i>	<i>kv-rrv-ng-</i>	<i>kv-rrv-ng-</i>	
2 a	<i>nvngkv-rru-wa</i>	<i>kv-rr-</i>	<i>kv-rr-</i>	
2 tri	<i>nvngkv-rrv-bvk-rru-wa</i>	<i>kv-rrv-bvk-</i>	<i>kv-rrv-bvk-</i>	
3 m	<i>enu-wa</i>	<i>n-</i>	<i>n-</i>	<i>en-</i>
MASC	<i>(yi-)ngalhu-wa</i> ¹⁰	<i>y-</i>	<i>n-</i>	<i>en-</i>
3 f	<i>{nga-}ngalhu-wa</i> ¹¹	<i>dh-</i>	<i>ying-</i>	<i>nga-</i>
FEM				
3 m du	<i>abv-rnu-wa ~ abv-nu-wa</i>	<i>wu-n-</i>	<i>ne-n-</i>	<i>b-</i>
3 f du	<i>abv-rrv-ngu-wa</i>	<i>wu-rrv-ng-</i>	<i>na-rrv-ng-</i>	<i>b-</i>
3 a	<i>abv-rrv-wa</i>	<i>wu-rr-</i>	<i>na- ~ nuw-</i>	<i>b-</i>
COLL				
3 tri	<i>abv-rrv-bvk-rru-wa</i>	<i>wu-rrv-bvk-</i>	<i>narrv-bvk-</i>	<i>b-</i>
VEG	<i>(mv-)ngalhu-wa</i>	<i>m(a)-</i>	<i>nvm-</i>	<i>m-</i>
NEUT	<i>(a-)ngalhu-wa</i>	<i>a-</i>	<i>na- ~ nuw-</i>	<i>k-</i>

The following recurrent morphemes can be identified:

<i>-wa</i>	pronoun stem formative (Leeding 1989)	<i>b- ~ w-</i>	3 augmented
<i>ng-</i>	1 minimal	<i>n- ~ en-</i>	masculine gender
<i>y-</i>	1 augmented	<i>ng-</i>	feminine gender
<i>k-</i> or <i>-k</i>	2 minimal	<i>rr-</i>	augmented
<i>y(a)-</i>	12 minimal	<i>bvk-</i>	trial
<i>nga-</i>	12 augmented	<i>dh-</i>	FEM noun class
<i>n-</i>	3 minimal	<i>y-</i>	MASC noun class

¹⁰ The prefixes in brackets in this form and in the VEG and NEUT forms are only used by the older generation of speakers and are not known by younger speakers (Leeding 1989: 328). Hence in modern Enindhilyakwa there is only a contrast in third person pronouns between 3m *enuwa*, 3a/COLL *abvrruwa* and *ngalhuwa* used for 3f and the other noun classes.

¹¹ Leeding (1989: 328): the prefix *nga-* has disappeared due to haplology.

Appendix F: Demonstrative roots (based on VL1, JW1, WD)

<i>-akina</i>	‘that there (near addressee)’
<i>-ena</i>	‘this here (near speaker)’
<i>-angaba</i>	‘that over there (distant from speaker) (sg and pl)’ ~ <i>-angakba</i> (du and trial)
<i>-bukaya</i>	‘this one approaching speaker and addressee’
<i>-ibina</i>	‘that (not visible)’
<i>-angamba</i>	‘which?, what?’

The demonstrative root *-ena* is irregular. It has a long and a short form:

1sg:	<i>nvng-ena</i>	<i>nvng-enena</i>
2sg:	<i>nvngk-ena</i>	<i>nvngk-enena</i>
3msg:	<i>n-aka</i>	<i>n-akaka</i> ~ <i>n-anaka</i>
3fsg/FEM:	<i>dh-aka</i>	<i>dh-akaka</i> ~ <i>dh-adhaka</i>
3a/COLL:	<i>warna</i>	<i>warnarna</i>
MASC:	<i>y-aka</i>	<i>y-akaka</i> ~ <i>y-eyaka</i>
NEUT:	<i>ena</i>	<i>enena</i>
VEG:	<i>mema</i>	<i>memema</i>

Appendix G: Kinship possession suffixes (based on VL1, VL2; WD; GED)

1	- <i>arrka</i> ~ - <i>irrka</i>
2	- <i>ena</i>
3m	- <i>enikba</i>
3f	- <i>adhikba</i>
1a	- <i>anyungwa</i>
2a	- <i>enungwa</i>
3a	- <i>arringba</i>

Kinship terms have a nominal prefix that represents the ‘possessed’ kin and a suffix representing the ‘possessor’. The prefixes are sometimes followed by an additional gender prefix, as in the last example (Leeding 1996: 229).

Some examples are:

nu-ngw-arrka
3m-father-1.KIN
‘my father’
etc.

*wurr-abvrr-enikba*¹²
3a-daughter-3m.KIN
‘his daughters’

wurrvng-adhadv-ngiy-enungwa
3fdu-RDP.f-spouse-2a.KIN
‘your wives’

- (1) *Ki-yamv-nee=ka nungkw-aja wubvrra ngayuwa=dha nvngv-rnd-ena=dha,*
IRR.2-do-NP2=EMPH 2.PRO-CofR like 1.PRO=TRM 1-mother-2.KIN=TRM
k-engkirra-ja=dha eningaba=wiya kajungwa nvngki-yekirrerra k-ambilyi=yadha=dha
IRR.2-hear-NP2=TRM NEUT.good=PRG so.that 2-happy IRR.2-be.NP1=PURP=TRM
‘You should do as I your mother, you should only think about good things so that you will
be happy’ (‘Mother’s advice’ j20-3)

See GED p.243-7 for lists of kinship roots.

¹² Note that the ‘3msg’ kinship possession suffix *-enikba* formally consists of the masculine inner gender prefix *en-* and DENIZ case *-kba*. Similarly, the ‘3fsg’ kinship suffix *-adhikba* consists of the feminine gender suffix *adh-* and DENIZ case *-kba*.

Appendix H: Purposive =yadha

Enindhilyakwa has an array of clitics that can follow the case suffixes on nominals and verbs. Some of these clitics only occur on the last word of the clause, whatever that is, such as the terminative clitic =*dha*. Others can be added to any word in a clause and they supply further information about the referent of that word, such as emphatic =*ika*. See Leeding (1989) for more details. The PURPOSIVE =*yadha* clitic is discussed here in more detail, because it has a case-like meaning on nominals (and has consequently been included with the other cases by both Leeding 1989 and Waddy n.d.-a), but its distribution differs from that of the case suffixes. Firstly, it can attach to any type of word, whereas the distribution of case suffixes is more restricted. Secondly, it can follow inflectional case suffixes. Thirdly, whereas case suffixes on verbs have a subordinating function, the =*yadha* clitic can also attach to verbs in a main clause.

The PURP clitic is especially common on nominalised verbs, as in (1), whereas case suffixes are not at all common in that context (section 3.4.6). But the clitic can also attach to nominals (2) and to main verbs (3) (Leeding 1989; Waddy n.d.-a). The clitic expresses purpose, goal or intent. On nominals, it is interchangeable with the ALL case.

- (1) *Neni-lyangki+yama wun-alh-akina wun-env-kv-lhvki=yadha adhalyvmu-wa*
 3mdu-head+say.p2 3mdu-du-that 3mdu-m-NSR-go=PURP NEUT.river-ALL
wun-env-kv-ngamba-ji=yadha.
 3mdu-m-NSR-get.wet-CAUS=PURP
 ‘The two of them were thinking to go to the river to swim.’ (VL1 p.488)
- (2) a. *nuw-andheeyv-ma eningaba eeka miyangi=yadha*
 3a-look.P2-*ma* NEUT.good NEUT.tree VEG.fire.stick=PURP
 ‘they were looking for the right wood for fire sticks’ (GED p.198)
- b. *nv-mvn-akarrngv-na-ma akungwa env-lhangwi=yadha*
 IMP.2/3m-BENE-get.water-NP2-*ma* NEUT.water 3m.PRO-DAT=PURP
 ‘get water for him!’ (VL1 p.306)
- (3) *kv-me-ni=yadha eeka akwa kvnv-ngaji=yadha yvrukudhvlhangwa*
 IRR.1/NEUT-take-NP2=PURP NEUT.tree and IRR.1/MASC-kill.NP1=PURP MASC.bandicoot
 ‘I plan to grab a stick and to kill bandicoot.’ (VL1 p.488)

The clitic often co-occurs with the particle *kajungwa* ‘so that’, which is always clause-initial. The PURP then occurs on the predicate.

- (4) *Kemba yakujina ngarnvngka kvnv-lhvkakbv-rna ngarnvngka kajungwa*
 then at.there again IRR.1/MASC-squeeze-NP2 again so.that
yi-mungu-kungi=yadha.
 MASC-soft.and.round-fresh.water=PURP
 ‘Then you will squeeze it [stingray(MASC)] there again so that it won’t be too salty.’ (Lit: ‘so that it will be fresh water’) (‘Yimaduwaya’ b23-4)

One of the reasons to assume that *-yadha* is a clitic rather than a suffix, is that it can follow grammatical case markers, as in (2b) and (5).

- (5) *ngv-mvn-akarrngv-na-ma akungwa nganyangwi=yadha*
 3f/1-BENE-get.water-NP2-*ma* NEUT.water 1.PRO.DAT=PURP
 ‘she is getting water for me’ (VL1 p.306)

Another argument for its clitic status is that *=yadha* can occur on verbs in the main clause, as in (3) above, which case suffixes cannot. Finally, it has a wider distribution than case suffixes. In the following examples, the clitic occurs first on the nominalised verb, then on the nominal, and then on the nominalised verb again.

- (6) *Ningi-lyengki+yema ngayuwa akina env-kv-dhaki=yadha damba. [...]*
 1-head+say-p2 1.PRO NEUT.that NEUT.m-NSR-cook=PURP damper(NEUT)
Kembirra akina angura nara dambi=yadha env-kv-dhaka, vmba
 then NEUT.that NEUT.fire NEG damper(NEUT)=PURP NEUT.m-NSR-cook but
yi-nv-kv-dhaki=yadha yimadhuwaya!
 MASC-m-NSR-cook-PURP MASC.stingray
 ‘I thought it was to cook damper. [...] So the fire was not to cook damper, but to cook stingray!’ (Fieldnotes, DL, 28/11/08)

The fact that *=yadha* is common on nominalised verbs may confirm its clitic status, because case suffixes do not appear on nominalised verbs in my data. This lack of case suffixes is remarkable, because case-marking is assumed to be a defining property of verb nominalisation in Australian languages (Nordlinger 2001 and the references therein). The reason for this may be that nominalised verbs are mainly used to express intent; other meanings that subordinate clauses may have, such as time adverbials ‘if...’, ‘after...’, ‘before...’ and so on, are expressed by case suffixes on finite verbs in Enindhilyakwa (section 8.11).

Appendix I: *rr+en* contraction

In some frozen number+gender combinations, the augmented number prefix *rr-* contracts with the masculine gender prefix *en-* to become *rn*.

- (1) *rr + en > rn* (archaic)
 where *rr-* is an augmented prefix, and *en-* is masculine gender prefix

This contraction can be observed in for instance dual number prefixes. These are composed of an augmented number prefix plus a gender morpheme. This rule is illustrated in (2) for the pronouns *nungkurrvnguwa* ‘2fdu’ in (2a) and *nungkurnuwa* ‘2mdu’ in (2b) (see Leeding 1989: 78).¹³

- (2) a. /nəŋk^w-r-ŋ-wa/ [nʉŋkurəŋuwa]
 2-a-f-SF
 ‘you two females’
 b. /nəŋk^w-r-en-wa/ [nʉŋkuŋuwa]
 2-a-m-SF
 ‘you two males’

The contraction does not take place for feminine gender in (2a). The masculine pronoun *nungkurnuwa* in (2b) varies with *nungkunuwa* due to loss of retroflexion (section 2.5.8). The examples in (3) provide more examples of this contraction.

- (3) a. *n-enungkwarba* /nənʉŋk^wa.ɪpa/ [nənʉŋk^waɪpa]
 3m-man
 ‘adult man’
 b. *yarnungkwarba* /jir-enʉŋk^wa.ɪpa/ [jaŋʉŋk^waɪpa]
 1a.man
 ‘we men’

Leeding notes some “[r]are occurrences of the full form used by the old generation in variation with the [contracted] form” (1989: 78-9), such as *yirr-enungkwarba* ‘we men’ (cf. [3b]).

The contraction also occurs with the adjective *eningaba* ‘good’:

- | | | | |
|-------------------|------------|--------------|--------------------|
| (4) /nəŋ-eniŋapa/ | [1-good] | [nəŋeniŋapa] | ‘I am good’ |
| /nar-eniŋapa/ | [12a-good] | [naŋiŋapa] | ‘we are good’ |
| /kər-eniŋapa/ | [2a-good] | [kaŋiŋapa] | ‘you(pl) are good’ |
| /wur-eniŋapa/ | [3a-good] | [waŋiŋapa] | ‘they are good’ |

The evidence that the stem-initial *en*-segment here represents the masculine gender prefix is that it may be replaced by the feminine prefix *adh-* in the feminine form, which knows two variants: *dh-eningaba* ~ *dh-adhingaba* [3f-good] ‘she is good’ (JW1 p.34).

¹³ Leeding calls this process ‘cerebralisation’ (1989: 78-80).

We saw in Chapter 4 that the ‘3mdu’ pronominal prefix on verbs and adjectives is *nen-* [nɛn]. Dual number is built from augmented number plus a gender prefix. I therefore propose that the masculine dual number prefix is the result of the contraction described above, followed by loss of retroflexion. Compare the feminine dual prefix in (5a) with masculine dual in (5b).

- (5) a. *narr-ng-* [3a-f] [narəŋ] ‘3fdu’
 b. **narrv-en-* [3a-m] > **narn-* > *nen-* [nɛn] ‘3mdu’

Loss of retroflexion in the masculine dual in (5b) is accompanied by a vocalic shift - a process that occurs in other contexts also, as outlined in section 2.5.8.

However, the rule in (1) is not a synchronically productive phonological rule. Other combinations of /t/ coming into contact with /ɛn/ do not produce [ŋ]. This is illustrated in (6) for the COLL noun class/3a marker *wurr-*, and in (7) for inverse transitive pronominal prefixes with a second order ‘3m’ object.

- (6) *wurrendhindha* ‘COLL.rat’
n-enjarrngalyilya ‘3m-boy’, *wurr-enjarrngalyilya* ‘3a-boys’

- (7) *kvrr-en-* [2a.O-3m.S]
yirr-en- [1a.O-3m.S]
yarr-en- [12.O-3m.S]
ngarr-en- [12a.O-3m.S]
narr-en- [3a-3m]

The contraction *rr(V)n* > *rn* occurs in frozen forms in other Gunwinyguan languages also. Heath (1984: 68) describes an almost identical rule in Wubuy of non-singular /t/ contracting with the masculine gender /ni/ to /ŋi/ (e.g. **nu-ku-rr-ni* > *nu-ku-rni* ‘2mdu’; compare Enindhilyakwa *nungku-rnu-wa* ‘2mdu’ in [2b]). He suggests the same etymological analysis for masculine dual -*rni* in Ngandi independent pronouns (e.g. **rnuka-rr-ni* > *rnuka-rni* ‘2mdu’ (1978a: 54). Baker (2004) describes a similar derivation for Ngalakgan pronominal prefixes, which show a retroflex nasal when preceded by *-rrV-* (e.g. **nurrurn-* > *nurn-* ‘2augO’).¹⁴ In none of these languages is this derivation a synchronically regular process and only occurs in frozen number+gender combinations.

¹⁴ In Murrinh Patha, a language genetically distant from the Gunwinyguan languages, a similar contraction **rr-nV* > *rnV* occurs in auxiliary verbs (I. Green 2003: 144).

Appendix J: Transitive REALIS argument prefixes

(between brackets are initials of authors that propose alternative forms: ~ indicates a variant; lack of ~ indicates a different form)

OBJ SUBJ	1	1a	12	12a	2	2a	3m	3f	3a / COLL	MASC	FEM	VEG	NEUT
1					yirra-	ngarra-	(nv)ngen-	((nv)ngv)nga-	(nv)ngarra-	(nv)ngen-	(nv)ngvnga-	(nv)ngvma-	(nv)ng-
1a					yirra-	(nv)ngarra- ~ yirra-	yin-	yirrvnga-	yirra-	yin-	yirrvnga-	yirrvma-	yirr-
1fdu							yirrvngvn-	yinvnga-		yirrvngvn-	yinvnga-	yirrvngvma-	yirrvng-
1mdu							yin-			yin-		yinvma-	yin-
12							yen-	yanga-	yarra-	yen-	yanga-	yima-	y-
12a							ngen-	ngarrvnga-	ngarra-	ngen-	ngarrvnga-	ngarrvma-	ngarr-
2	y-	yirr-					nvngken-	nvngkvnga-	nvngkarra-	nvngken-	nvngkvnga-	nvngkvma-	nvngk-
2a							kvn-	kvrrovnga-	kvrrov-	kvn-	kvrrovnga-	kvrrovma-	kvrrov-
2fdu							kvrrovngvn-			kvrrovngvn-	kvrrovngvn-	kvrrovngvma-	kvrrovng-
2mdu								kvn-	kvnvnga-	kvn-	kvnvnga-	kvnvma-	kvn-
3f	ng-	yirrang-	yarrang-	ngarrang-	ng-	kvrrang-	yingvn-	nanga-	narrvnga-	yingvn-	nanga-	yingvma-	ying-
3m	ngvn-	yirren-	yarren-	ngarren-	ngvn-	kvrrren-	n(en)-		n(arr)en-	n(en)- n- (JH)		narrvnga-	narrvma-
3a/COLL	b-	yirrab-	yarrab-	ngarrab-	b-	kvrrab-	n(arr)en-	narrvnga-	narr-	n(arr)en- ~ na- (JH)	narrvnga-	narrvma-	narr-
3fdu	b- bvng?				b(vng)-		na(rrvngv)n-	narrvnga-		na(rrvngv)n-	narrvngvma-	narrvng-	
3mdu	b- bvn-?				b(vn)-		nen-	nenvnga-		nen-	nenvma-	nen-	
FEM	ng-	yirrang-	yarrang-	ngarrang-	ng-	kvrrang-	nanga-	nanga-	narrvnga-	yingvn-	nanga-	yingvma- (~ na-? (JH))	ying-
MASC	ngvn- ~ k- (JH)	yirren- ~ yirrak- (JH)	yarren- ~ yarrak- (JH)	ngarren- ~ ngarrak- (JH)	ngvn- ~ k- (JH)	kvrrren- ~ kvrrak- (JH)	n(en)- nenak- (JH)	yingvn- nanga- (VL, JW) yingak- (JH)	n(arr)en- narrak- (JH)	n(en)- n- (JH)	nanga- yingak- (JH)	nvma- na- (JH)	n-
VEG	ngvm-	yirram-	yarram-	ngarram-	ngvm-	kvrram-	nenam-	yingam-	narram-	nenam-	yingam-	na- / __ C nuw- / __ V	
NEUT	k-	yirrak-	yarrak-	ngarrak-	k-	kvrrak-	nenak-	yingak-	narrak-	nenak-	yingak-		

Appendix K: Transitive IRREALIS argument prefixes

(between brackets are initials of authors that propose alternative forms: ~ indicates a variant; lack of ~ indicates a different form)

OBJ SUBJ	1	1a	12	12a	2	2a	3m	3f	3a/COLL	MASC	FEM	VEG	NEUT
1					yiba- ~ yika-	ka-	kvn-	kvnga-	ka-	kvn-	kvnga-	kvma-	k-
1a					yiba- ~ yika- ~ ka-		yikvn-	yikvnga-	yika-	yikvn-	yikvnga-	yikvma-	yik-
1fdu							yikv(rrv)ngvn-	yikvvnvnga-		yikv(rrv)ngvn-	yikvvnvnga-	yikv(rrv)ngvma-	yikvng-
1mdu							yikvn-			yikvn-		yikvvnvma-	yikvn-
12							yakvn-	yakvnga-	yaka-	yakvn-	yakvnga-	yakvma-	yak-
12a							akvn- ~ aken-	akvnga-	aka-	akvn- ~ aken-	akvnga-	akvma-	ak-
2	yik-						kvn-	kvnga-	ka-	kvn-	kvnga-	kvma-	k-
2a							yikvn-	yikvnga-	yika-	yikvn-	yikvnga-	yikvma-	yik-
2fdu							yikv(rrv)ngvn-	yikvvnvnga-		yikv(rrv)ngvn-	yikvvnvnga-	yikv(rrv)ngvma-	yikvng-
2mdu							yikvn-			yikvn-		yikvvnvma-	yikvn-
3f	kang-	yikang-	yakang-	akang-	kang-	yikang-	kvngvn-	kvnvnga- kvngvnga- (JW)	karrvnga-	kvngvn-	kvnvnga- kvngvnga- (JW)	kvngvma-	kvng-
3m	ken-	yiken-	yaken-	aken-	ken-	yiken-	kvn- ~ ken-	kvnvnga-	k(arr)en-	ken- kvn- (JH)	kvnvnga-	kvnvma-	kvn-
3a/COLL	kab-	yikab-	yakab-	akab-	kab-	yikab-	k(arr)en-	karrvnga-	karra-	k(arr)en-	karrvnga-	karrvma-	karr-
3fdu							ka(rrvngv)n-	kenvnga-		karrvngvn-	kenvnga-	karrvngvma-	karrvng-
3mdu							ken-			ken-		kenvma-	ken-
FEM	kang-	yikang-	yakang-	akang-	kang-	yikang-	kvngvn-	kvngvnga-	karrvnga-	kvngvn-	kvngvnga-	kvngvma- (~ ka-? (JH))	kvng-
MASC	ken- ~ kak- (JH)	yiken- ~ yikak- (JH)	yaken- ~ yakak- (JH)	aken- ~ akak- (JH)	ken- ~ kak- (JH)	yiken- ~ yikak- (JH)	ken- kenak- (JH)	kvngvn- ~ kvngak- (JH)	k(arr)en- karrak- (JH)	ken- kvn- (JH)	kvnvnga- kvngak- (JH)	kvnvma- ka- (JH)	kvn-
VEG	kam-	yikam-	yakam-	akam-	kam-	yikam-	kenam-	kvngam-	karram-	kenam-	kvngam-	ka- / _ C kuw- / _ V	
NEUT	kak-	yikak-	yakak-	akak-	kak-	yikak-	kenak-	kvngak-	karrak-	kenak-	kvngak-		

Appendix L: A comparative note on pronominal prefixes (Heath 1997)

Like Ngandi and Wubuy, but unlike other Gunwinyguan languages (Baker 2008: 4), Enindhilyakwa shows verb agreement for every noun class. Heath (1997) claims that the argument prefixes of these three languages are cognate¹⁵, although the Enindhilyakwa system is more opaque than the Wubuy system, while Ngandi is slightly simpler. He furthermore notes that these languages are characterised by non-zero third person minimal markers, consisting of either a masculine or feminine gender morpheme for humans, or a noun class morpheme for non-humans. Such morphemes occur in many other non-Pama-Nyungan languages, Heath claims, but only as prefixes to nouns. Table L.1 compares the 1/3m and 3m/1 combinations in Enindhilyakwa, Wubuy and Ngandi (the ‘Eastern Gunwinyguan languages’; Chapter 9), with data from BGW (Evans 2003a) and Ngalakgan (Baker 2008) for comparison.

	Direct 1/3m	Inverse 3m/1
Enindhilyakwa	<i>nvnge-n-</i> [1min-m] ~ <i>nge-n-</i>	<i>ngv-n-</i> [1min.O-m.S]
Wubuy	<i>nga-nu-</i> [1min-m]	<i>nga-[N]-ni-</i> [1min-Inv-m]
Ngandi	<i>nga-nu-</i> [1min-m]	<i>nga-ku-ni-</i> [1min-Inv-m]
BGW	<i>nga-</i> [1min.S]	<i>ngan-</i> [1sg.O]
Ngalakgan	<i>ngu-</i> [1min.S]	<i>ngun-</i> [1min.O]

Table L.1: Comparison of pronominal prefix combinations in selected GN languages

Third person masculine is represented by the masculine gender prefix *n-* in Enindhilyakwa, and *nu-* (Direct) and *ni-* (Inverse) in Wubuy and Ngandi. BGW and Ngalakgan have zero third person markers (as do the other Gunwinyguan languages). This strongly suggests, as Heath proposes, that Eastern Gunwinyguan has innovated by introducing such gender and class morphemes into the pronominal prefixes complexes to verbs, replacing an old zero ‘3’ marker.

As can also be seen from this Table, Wubuy and Ngandi have an Inverse morpheme that intervenes when the object morpheme precedes the subject morpheme. This is an underspecified nasal consonant *-N-* in Wubuy, and *-ku-* in Ngandi. BGW and Ngalakgan also have a nasal consonant that follows non-third person morphemes representing objects (*-n-* in Table L.1; in addition, Ngalakgan has *-ng-* in augmented forms). This suggests that a nasal consonant marking ‘inverse’ objects is an archaic feature.

¹⁵ An exception is the Enindhilyakwa irrealis marker *k-*, which cannot be reconciled with the Wubuy irrealis marker *wan-* ~ *ban-*. Heath proposes instead that the Enindhilyakwa irrealis marker is related to the Wubuy epenthetic morpheme *-ngu-*, which descends from proto-WuEn **-ku-*. This form came to be reanalysed as an irrealis marker in Enindhilyakwa and quickly spread and replaced the old irrealis morpheme. Such systematic renewal is characteristic of languages with very rich morphology, Heath claims (1997: 226).

There is no such Inverse morpheme in Enindhilyakwa (section 4.2.2). However, Heath proposes that there is evidence for an historic Wubuy-like Inverse morpheme in Enindhilyakwa, which comes from the NEUT noun class verbal prefix *k-*. This prefix corresponds to the Wubuy NEUT prefix *wu-* ~ *ku-*, with the hardened variant occurring after a nasal or stop. The unspecified nasal Inverse morpheme *-N-* is such a hardening environment. Compare Wubuy 1/NEUT, expressed as *nga-wu-* [1-NEUT], with the inverse NEUT/1, expressed as *nga-ng-ku-* [1-Inv-NEUT]. The Inv nasal assimilates in place to the following stop (Heath 1984: 362).

The Enindhilyakwa NEUT marker, when phonetically realised, has only the variant *k-*. There is no lenited variant *w-*. Compare the following Enindhilyakwa and Wubuy inverse NEUT/3m and NEUT/12a prefix combinations; the Enindhilyakwa NEUT prefix is *k-* as usual, while the Wubuy NEUT prefix is the hardened variant.¹⁶

	Enindhilyakwa	Wubuy	proto-WuEn
NEUT/3m	<i>ne-na-k-</i> [?-m-NEUT]	<i>ni-ng-ku-</i> [m-Inv-NEUT]	* <i>ni-ng-ku-</i>
VEG/3m	<i>ne-na-m-</i> [?-m-VEG]	<i>ni-[N-]ma-</i> [m-Inv-VEG]	* <i>ni-[N-]ma-</i>
3m/VEG	<i>nv-ma-</i> [m-VEG]	<i>ni-ma-</i> [m-VEG]	* <i>ni-ma-</i>
NEUT/12a	<i>ngarra-k-</i> [12a-NEUT]	<i>ngarra-ng-ku-</i> [12a-Inv-NEUT]	* <i>ngVrrV-N-ku</i>
VEG/12a	<i>ngarra-m-</i> [12a-VEG]	<i>ngarra-[N-]ma-</i> [12a-Inv-VEG]	* <i>ngVrrV-N-ma-</i>
12a/VEG	<i>ngarrv-ma-</i> [12a-VEG]	<i>ngirri-ma-</i> [12a-VEG]	* <i>ngVrrV-ma-</i>

Table L.2: Comparison of Enindhilyakwa and Wubuy direct and inverse prefix combination

We ignore the word-initial *ne-* elements in the first two Enindhilyakwa examples for the moment (which Heath 1997 takes to be historical accretions).

Heath proposes that in Enindhilyakwa “the suspicious unwillingness of [the NEUT prefix **ku-* in *ne-na-k-* and *ngarra-k-*] to undergo intervocalic lenition ... suggests that a stop or nasal once preceded [**ku-*] in these complexes. This immediately points to a connection with the [Wubuy] Inv morpheme *-N-*” (1997: 208-9). He thus reconstructs a proto-WuEn Inv morpheme **-N-*, well-preserved in Wubuy, but preserved only indirectly in Enindhilyakwa by blocking lenition of the following /k/. Heath’s analysis implies the following Enindhilyakwa proto-forms and stages:

1. **nV-N-k-* **nV-N-m-* **nga-rrV-N-k-*
2. **na-N-k-* **nv-N-m-* **nga-rrV-k-* (vowel preceding Inv *-N-* > *a* (see below))
3. **ne-na-N-k-* **ne-na-N-m-* **nga-rrV-N-k-* (addition of *ne-* segment)
4. *ne-na-Ø-k-* *ne-na-Ø-m-* *nga-rrV-Ø-k-* (disappearance of Inv *-N-*)

The Wubuy Inv morpheme *-N-* is phonetically unrealised when the following morpheme starts with a nasal, such as the VEG prefix *ma-* (Heath 1984, 1997). The Wubuy *ngarra-ma-* ‘VEG/12a’ prefix in

¹⁶ The first two examples are taken from Heath (1997), while the remaining examples, including the reconstructed proto-forms, are added by me. The Wubuy noun class labels have been adjusted to the Enindhilyakwa labels for ease of comparison.

Table L.2 is an example. Heath suggests that Enindhilyakwa generalised the surface absence of the nasal in some Wubuy forms, to all forms, leaving the unlenited *k-* “as a tell-tale trace of the nasal’s former presence” (1997: 209).

Another feature that the two languages have in common is the *a* vowel in some inverse complexes. Compare Enindhilyakwa inverse *ngarra-m-* [12a.O-VEG.S] with direct *ngarrv-ma-* [12a-VEG] in Table L.2: the inverse ‘12a’ object ends in /a/, which is absent in the direct order subject form. Heath argues that in Wubuy, the Inv nasal converts the vowel in certain preceding morphemes into *a* (rule P-38, Heath 1984). These morphemes include the ‘augmented’ marker *rrV-*, but not for example the ‘masculine’ prefix *ni-*. Now consider the *ngVrrV-* morpheme that occurs in several prefix complexes in Table L.2. It is composed of *ngV-* ‘12non-minimal’ plus *rrV-* ‘augmented’. The vowel of the latter is realised as *a* when followed by the nasal Inv morpheme in Wubuy, such as *ngarra-ng-ku-* [12a-Inv-NEUT]. The vowel of the preceding *ngV-* morpheme acquires its vocalism by regressive assimilation. The same happens for Wubuy *ngarra-[N-]ma-* [12a-Inv-VEG], though here the Inv morpheme is not phonetically realised, and the *a*-vocalism is the only surface manifestation of the Inv morpheme (Heath 1997: 210).

In Enindhilyakwa *all* inverse complexes with augmented number objects end in *a*, such as *ngarra-m-* [12non.minimal-augmented-VEG]. This vowel is absent in the direct complexes, such as *ngarrv-ma-* [12non.minimal-augmented-VEG] (see Appendices J and K for more examples). Heath proposes that this *a*-vocalism is a residue of the presence of the former Inv nasal morpheme. Whereas in Wubuy the Inv nasal induced *a*-vocalism on only a subset of preceding morphemes, in Enindhilyakwa this was extended to all third person number inverse complexes, as evidenced by *yinga-k-* [3f.O-NEUT.S] ‘NEUT/3f’ (cf. *yingv-ma-* [3f-VEG] ‘3f/VEG’) and *nenam-* [3m.O-VEG.S] ‘VEG/3m’ (cf. *nv-ma-* [3m-VEG] ‘3m/VEG’).

I agree with Heath that we can reconstruct a proto-WuEn Inv morpheme $*^a-N-$, the superscript indicating *a*-effect on (in Wubuy a subset of) preceding morphemes. The only traces left of the reconstructed nasal in Enindhilyakwa are preceding *a*-vocalism, and the resistance of the NEUT class marker *k-* to lenite intervocally. In Wubuy, by contrast, the Inv morpheme is well-preserved, except before nasal consonants, where it is unrealised.¹⁷

In sum, based on this brief investigation the Enindhilyakwa and Wubuy prefixes appear to be cognate, allowing for some morphological reshaping. It appears that the two languages have innovated in several respects, as proposed by Heath (1997): both have a non-zero third person marker (which is also shared with Ngandi), and a nasal inverse morpheme with concomitant *a*-vocalism can be reconstructed for both languages. These innovations suggest a close genetic

¹⁷ The Ngandi Inv morpheme *-ku-* cannot be reconciled with proto-WuEn $*^a-N-$. Heath seeks its source in the Wubuy epenthetic morpheme *-ngu-* (1997: 210-8.)

relationship between the two languages, as advocated by Heath, and as concluded in Chapter 9 of this thesis.

Appendix M: Evitative =*maka*

The term ‘evitative’ was coined based on Latin *evitare* ‘avoid’ (Heath 1984: 346), and it is used for an undesirable potential event that could or should be avoided (‘lest...’). In Enindhilyakwa it is expressed by the clitic =*maka* that attaches to the verb or other predicate, with the verb occurring in the Irrealis, as illustrated in (1a). In a negative Evitative the suffix is added to the NEGATOR particle *nara*, as in (1b).

- (1) a. *akv-ngekbvraka-jungu-na-ma ngarnv-m-awarruwalya ak-angbilyuwa-dhv-na=maka*
IRR.12a-make-REFL-NP2-ma 12a.m-INALP-shadow IRR.12a-sickness-INCH-NP2=EVIT
‘we should be careful of our shadow or we might get sick’ (GED p.142)
- b. *Nara=maka ki-yengbi-yengbi-nv-ma dh-akinu-wa nvng-ena.*
NEG=EVIT IRR.1-RDP-speak-P2-ma 3f-that-ALL 1-this
‘I wasn’t supposed to ever talk to her.’ (‘Old days’ x9)

According to Heath (n.d.), the Evitative can also be expressed in Enindhilyakwa by the Negative Non-Past construction without the Negative particle *nara*. The only example he gives is presented in (2); I have found no other instances of the Evitative expressed this way.

- (2) *a-lharrv-ma*
NEGNP-fall-NP3
‘or I might fall’ (JH tape 70 ex. 260)

The Evitative in Wubuy is expressed by the formally similar suffix *-maki*, which attaches to the predicate, or, for negative Evitatives, to the negative particle *yaki*. In addition, the verb takes a distinct Evitative inflectional suffix (this category is absent in Enindhilyakwa). However, the NP3 can also be used in combination with *-maki* to mark the Evitative in Wubuy, which is similar to the Enindhilyakwa construction in (2).

It is unusual for Gunwinyguan languages to encode TAM distinctions with suffixes or clitics such as =*maka* or *-maki*; normally they use a combination of prefixes and verb inflection. Hence, the Evitative could be an innovation unique to Wubuy and Enindhilyakwa.

Appendix N: Incorporated body part and generic nominals

Roots are arranged alphabetically. Free forms that are formally similar to incorporated forms are underlined. Data come from Ansec1 and Ansec2 unless indicated otherwise.

generic	body part meaning	generic meaning	examples of corresponding free nominals	example
<i>abvrrak-</i> ~ <i>abvrangk-?</i>	‘bottom, behind’	‘tail, backside, flat shape’	<i>akba</i> ‘NEUT.bottom’; <i>mamvdhakba</i> ‘VEG.tail’; <i>angwarnda</i> ‘NEUT.stone’	<i>narr-abvrrak-ajikv-na</i> 3a/NEUT-back-lift-NP2 ‘raise tail’ (WD)
<i>abvrrvng-</i> ~ <i>ambvrr-</i>	‘body fluid’	‘fluid’	<i>engeemina</i> ‘NEUT.breast milk’; <i>merra</i> ‘VEG.blood’; <i>akungwa</i> ‘NEUT.water’	<i>n-abvrrvngki-lyuwaka-ju-wa</i> 3m/NEUT-fluid-circle- CAUS-P2 <i>diya</i> tea(NEUT) ‘he stirred the tea’ (JS2 p.130)
<i>adheng-</i>	‘face’	‘top of something’	<i>-mukurra</i> ‘face’; <i>bajikala</i> ‘billycan(NEUT)’	<i>ying-adheng+baja-nga</i> 3f/NEUT-top-hit-P2 <i>bajikala</i> tin(NEUT) ‘she hit the top of the tin’
<i>akbal-</i> ~ <i>ekbvl-</i>	‘stomach, flat part of hands and feet’	‘plain, flat ground, sky’	<i>akbalha</i> ‘NEUT.bladder’; <i>angalya</i> ‘NEUT.place’; <i>ajvrvngka</i> ‘NEUT.ground’ <i>mamvruckwa</i> ‘veg.road’	<i>ekbvlkv-makardv-mvrra</i> NEUT.plain-sea-PROP ‘mud flats’ (JW2 p.52)
<i>akvyarrk-</i> ~ <i>(a)kiyak-</i>	‘vein, calf, rib’	‘branching things’	<i>yeyerra</i> ‘MASC.vein’; <i>memerrba</i> ‘VEG.calf’ <i>memvrrkura</i> ‘VEG.rib’; <i>amarda</i> ‘NEUT.grass’; <i>adhalyvma</i> ‘NEUT.river’	<i>a-kiyarr-berrerra</i> NEUT-branching-?forked <i>adhalyvma</i> NEUT.river ‘well-branched river’
<i>alh-</i>	-	‘strips, long and thin things’	<i>merra</i> ‘VEG.ropes’; <i>amarda</i> ‘NEUT.grass’; <i>mamvngba</i> ‘VEG.hair’; <i>ayarrka</i> ‘NEUT.lower arm’	<i>m-al-jvrrvrra</i> VEG-long.and.thin-long <i>merra</i> VEG.ropes ‘long rope’ (VL1 p.154)
<i>amba-</i> ~ <i>angba-</i> ~ <i>ngamba-</i>	‘groin, pregnant belly?’	‘hollow u-shaped object’	<i>yingamba</i> ‘MASC.groin’; <i>malhamukwa</i> ‘VEG.canoe’; <i>bajikala</i> ‘billycan(NEUT)’	<i>m-ambaki-jiba</i> VEG-hollow-small <i>malhamukwa</i> VEG.canoe ‘narrow canoe’
<i>angbvrr-</i>	(cf. <i>-mangbvrr-</i> ‘lower back’)	‘blunt shape’	<i>bankilya</i> ‘axe, hammer(NEUT)’	<i>angbvrrk-ambilyvma</i> NEUT.blunt-two ‘two axes’
<i>ang-</i>	‘chin, nose?’	‘snake, ants?’	<i>angvrnda</i> ‘NEUT.chin’; <i>eminda</i> ‘NEUT.nose’; <i>yingarna</i> ‘MASC.snake’	<i>nvm-ang-kungku-dhaka</i> MASC/VEG-snake-water-burn.P2 ‘sea snake made a sparkling pathway as it glided over the sea’
<i>angkarr-</i>	‘hip’	‘smoke’	<i>anka</i> ~ <i>arrvngka</i> ‘NEUT.hip’; <i>angwarra</i> ‘NEUT.smoke’	<i>nuw-angkarrk-ayee-na</i> NEUT-smoke-go.up-NP2 ‘smoke rises up’ (WD)

<i>anjalh-</i>	-	‘cloth, dress’	<i>dhvmbala</i> ‘cloth(VEG, FEM)’	<i>dh-anjalk-awarriya dhvmbala</i> FEM-cloth-bad FEM.dress ‘ragged dress’ (Ansec2)
<i>arndvrr- ~ arnda(k)-</i>	‘edge/side of body, e.g. elbow, chin’ (VL: ‘scrotum’)	‘edge of things, esp. wooden things (trees, canoes)’	<i>arnda</i> ‘NEUT.elbow’; <i>eeka</i> ‘NEUT.tree’; <i>malhamukwa</i> ‘VEG.canoe’	<i>nvng-arnda-mardhv-na</i> 1-elbow-hurt-NP2 ‘my elbow is sore’
<i>arng- ~ rvng-</i>	‘eye, head’	‘house, place, time’	<i>arvngka</i> ‘NEUT.head’; <i>menba</i> ‘VEG.eye’; <i>alhkvra</i> ‘NEUT.house’; <i>angalya</i> ‘NEUT.place’	<i>a-rvngk-ambilyvma</i> NEUT-house-two <i>alhkvra</i> NEUT.house ‘two houses’
<i>arr-</i>	‘teeth’	‘small, round and many (e.g. animals, fruits, waves)’	<i>akarrnga</i> ‘NEUT.teeth’; <i>bajikala</i> ‘billycan(NEUT)’; <i>yunungwalya</i> ‘MASC.oysters’; <i>wurri-yukwayuwa</i> ‘3a-children’	<i>yirrv-mvrndak-</i> 1a/NEUT-many- -arrv- -small.and.round.and.many- -mvrndukwa-ma <i>bajikala</i> -gather.P2-ma tin(NEUT) ‘we gathered our billies’ (‘Awurukwa’ w36)
<i>ebing-</i>	‘(trunk of) body’	‘solid, round, body-shaped’	<i>-m-ebinga</i> ‘INALP-body’; <i>ebinga</i> ‘NEUT.anthill’; <i>menba</i> ‘VEG.eye’; <i>dhijinungkwa</i> ‘FEM.echidna’	<i>n-ebingki-dharrba</i> 3m-body-short ‘short man’
<i>embirr-</i>	‘kidney, round body parts’	‘round and flat things, sun, moon’	<i>andhvra</i> ‘NEUT.kidney’; <i>amamuwa</i> ‘NEUT.egg’; <i>angwarnda</i> ‘NEUT.stone, coin’, <i>mamawura</i> ‘VEG.sun’	<i>m-embirr-barri-ya!</i> IMP.2/VEG-round-split-NP1 ‘cut the orange in half!’
<i>engmvrr-</i>	‘nose’?	-	<i>eminda</i> ‘NEUT.nose’	<i>engmvrrk-awarriya</i> NEUT.nose-bad ‘ugly nose’
<i>enjerr-</i>	‘spirit’	-	<i>wurr-amukwa</i> ‘3a-spirits’	<i>wurr-enjerrk-ababvrna</i> 3a-spirit-many <i>wurr-amukwa</i> 3a-spirit ‘lots of spirits’
<i>enjirr- ~ anjirr-</i>	‘bottom’ (<i>minjirr-</i> ‘skin’)	‘back/bottom side of things’	<i>akba</i> ‘NEUT.bottom’; <i>dvraka</i> ‘truck(VEG)’	<i>enjirr-k-awarriya</i> NEUT.bottom-bad <i>akba</i> NEUT.bottom ‘sore on bottom’
<i>ika-</i>	-	‘fire, light source, fire wood, Satan’	<i>eeka</i> ‘NEUT.tree’; <i>ekalhara</i> ‘NEUT.burnt off bush’, <i>angura</i> ‘NEUT.fire’	<i>narr-ika-lharrka-ja</i> 3a/NEUT-fire-send-NP2 ‘they light a fire’ (WD)
<i>ing-</i>	‘whatsit’	‘whatsit’		<i>n-ingkv-lharrv-na</i> 3m-whatsit-fall-P2 ‘he fell’ (Fieldnotes)

<i>jal-</i>	-	‘ground’	<i>ajvrvngka</i> ‘NEUT.ground’	<i>narri-jalki-yangbarrka</i> 3a/NEUT-ground-sweep ‘they were sweeping the ground’
<i>jirr-</i>	-	‘water, fluid’	<i>akungwa</i> ‘NEUT.fresh water’; <i>makarda</i> ‘VEG.salt water’; <i>awurukwa</i> ‘NEUT.billabong’	<i>a-jirr-kulyvmvdha</i> NEUT-water-big <i>awurukwa</i> NEUT.billabong ‘big billabong’
<i>kuwa- ~ kuw-</i>	‘stomach, large colon’	‘water, body of animals or things’	<i>mukukurnandha</i> ‘VEG.stomach, large colon’; <i>akwalya</i> ‘NEUT.fish’; <i>awurukwa</i> ‘NEUT.billabong’	<i>a-kuwakv-dharrba</i> NEUT-water-short ‘small swamp’ (VL1 p.156)
<i>kuly-</i>	-	‘shiny things’?	<i>-makulya</i> ‘skin’	<i>a-kuly-adhadha</i> NEUT-shiny-bright ‘bright white’
<i>kunvngb- ~ kun-</i>	‘whole body’	‘whole body of animals’	<i>-madhangkwa</i> ‘body, flesh’; <i>akwalya</i> ‘NEUT.fish’	<i>wu-kunvngb-arrnga</i> IMP.2/NEUT-body-cut.NP1 <i>akwalya</i> NEUT.fish ‘cut through the fish’
<i>lhabvrr-</i>	‘face, nose’	-	<i>-mukurra</i> ‘face’; <i>eminda</i> ‘NEUT.nose’	<i>nvngkv-lhabvrr-ngekbvrna</i> 2-face-good ‘you have a pretty face’
<i>lhakba-</i>	‘leg’	‘upright wooden objects’	<i>alhakba</i> ‘NEUT.leg’; <i>yikarba</i> ‘MASC.woomera’; <i>eeka</i> ‘NEUT.tree’; <i>yiraka</i> ‘MASC.didgeridoo’	<i>yi-lhakbak-ambilyvma</i> MASC-short.and.upright-two <i>yikarba</i> MASC.woomera ‘two woomeras standing up’
<i>lhandharr-</i>	‘leg’	?	<i>alhakba</i> ‘NEUT neut.leg’	<i>nv-lhandharrk-awarriya</i> 3m-leg-bad ‘he’s got a deformed leg’
<i>lharr-</i>	‘bones’	‘long and solid things’; ‘place’; ‘season’	<i>adhvdhvra</i> ‘NEUT.bone’; <i>angalya</i> ‘NEUT.place’; <i>eeka</i> ‘NEUT.tree’	<i>a-lharr-kulyvmvdha</i> NEUT-bones-big <i>adhvdhvra</i> NEUT.bone ‘skeleton’ (VL2 p.35)
<i>lharrngkw-</i>	-	‘inanimate things’	-	<i>a-lharrngk-ingma</i> NEUT-things-smelly ‘smelly things’ (VL1 p.154)
<i>lhvkarr- ~ lhukw-</i>	‘tracks’	‘road, canoe’	<i>alhvka</i> ‘NEUT.foot’; <i>mamvrukwa</i> ‘VEG.road’; <i>libaliba</i> ‘canoe(NEUT)’	<i>mu-lhukw-abiyarkarbiya</i> VEG-road-three <i>mamvrukwa</i> VEG.road ‘three roads’ (JS2 p.149)

<i>lhvnga- ~ lyinga- ~ lhang-</i>	‘body, torso, trunk’	‘long tall standing things, e.g. trees (bark)’	<i>eeka</i> ‘NEUT.tree’; <i>eminda</i> ‘NEUT.nose’; <i>yimendha</i> ‘MASC.turtle’	<i>nvngv-lhang-mardhv-na</i> 1-body-be.painful-NP2 ‘my body is cramping’
<i>lhung- ~ lyung-</i>	‘body hair’	‘leaves, foliage, trees, growing things’	<i>eeka</i> ‘NEUT.tree’	<i>a-lhungku-lhungku- wilyarra</i> NEUT-RDP-foliage-middle ‘middle of dense foliage’ (VL1 p.159)
<i>lhvrrng-</i>	‘heel, bottom’	‘backside’?	<i>amvlhvrrngwa</i> ‘NEUT.heel’; <i>akba</i> ‘NEUT.bottom’	<i>a-lhvrrngk-awarriya</i> NEUT-heel-bad <i>amvlhvrrngwa</i> NEUT.heel ‘heels out of shape’
<i>lya-</i>	‘ribs’	‘elongated solid’	<i>memvrrkura</i> ‘VEG.ribs’; <i>alyingba</i> ‘NEUT.clap sticks’; <i>angura</i> ‘NEUT.fire’	<i>narrv-lyaku-warde-na</i> 3a/NEUT-long.and.solid-hit-NP2 <i>alyingba</i> NEUT.clapsticks ‘they are clapping clapsticks’ (GED p.179)
<i>lyang- ~ lyeng- ~</i>	‘head (voice)’	‘hard round things’	<i>arvngka</i> ‘NEUT.head’; <i>ayakwa</i> ‘NEUT.speech’; <i>angwarnda</i> ‘NEUT.stone’; <i>mvnhvnga</i> ‘VEG.burrawang’	<i>narri-lyang-baju-wa</i> 3a/NEUT-hard.and.round-hit-P2 <i>angwarnda</i> NEUT.stone ‘they were hitting the stone’ (GED p.47)
<i>lyikarr- ~ lyingarr- ~ lhvrra-? ~ lhvkarr-?</i>	‘internal organs’	‘light and hollow things, hole- shaped’	<i>alyimbilyimbarrnga</i> ‘NEUT.lungs’; <i>arndvrnda</i> ‘NEUT.heart’; <i>awa</i> ‘NEUT.liver’; <i>angura</i> ‘NEUT.firewood’; <i>angwalha</i> ‘NEUT.mud crab’	<i>angura</i> NEUT.fire <i>a-lyikarr-barubara</i> NEUT-light+hollow-? ‘light and hollow firewood’ (JS2 p.136)
<i>lyimberr-</i>	‘group’	-	<i>warnvmamalya</i> ‘3a.people’	<i>wurri-lyimberr-kulyvmvdha</i> 3a-group-big <i>warnvmamalya</i> 3a.people ‘crowd, nation’ (WD)
<i>lyirrkvrr- ~ lyikvrr- ~ lyibvrr- ~ lyikb-</i>	‘lips’	‘thin edge’	<i>alyelyikba</i> ‘NEUT.lips’	<i>nvngv-nga-lyibvrrkv-rvbuku- na dvrija</i> P2 dress(FEM) ‘I hemmed the dress’(VL2 p.242)
<i>mangbvrr- ~ mamb- ~ man-</i>	‘hand, tailbone’	-	<i>mamangbvrra</i> ‘VEG.tailbone’; <i>ayarrka</i> ‘NEUT.hand’	<i>nv-mam-bvdha</i> 3m-hand-strong ‘he has a strong hand’
<i>mak-</i>	-	‘place, camp’	<i>angalya</i> ‘NEUT.place, camp’	<i>a-mak-eningaba angalya</i> NEUT-place-good NEUT.place ‘good place’

<i>marng-</i>	‘brain, spirit, mind’	-	<i>mangma</i> ‘VEG brain’	<i>ma-marngk-awarriya mangma</i> VEG-brain-bad VEG.brain ‘not thinking straight’
<i>marrang-</i>	‘hands’			<i>narrv-marrangbi+lyingi-na</i> 3a/NEUT-hand+hold-NP2 ‘they hold hands on hips’(WD)
<i>memvrr- ~ mvrr-</i>	‘back of neck’	-	<i>memvrrma</i> ‘VEG.back of neck’	<i>yingv-ma-mvrrk-alyvbalya</i> 3f-VEG-neck-eat.P1 <i>memvrrma</i> VEG.neck ‘mother cat grabbed a kitten by its neck’ (‘Bujikeda’ y37)
<i>merr-</i>	-	‘sun, full moon’	<i>mamawura</i> ‘VEG.sun’; <i>yimawura</i> ‘MASC.moon’	<i>nvma-merrkv-lharrv-na</i> VEG-round.celestial-fall-NP2 <i>mamawura</i> VEG.sun ‘sun is setting’ (WD)
<i>milyirr- ~ milying- ~ mvlharr- ~ milyarr-</i>	‘body fluids, taste’	‘fluids, soft and wet things, dough’	<i>enyirra</i> ‘NEUT.mucus’; <i>alyukwalya</i> ‘NEUT.spit’; <i>erra</i> ‘NEUT.vomit’; <i>damba</i> ‘damper(NEUT)’; <i>amvdhilya</i> ‘NEUT.cough’	<i>nara</i> NEG <i>a-milyirrk-wurrv-ma!</i> NEGNP-body.fluid-throw-NP3 ‘don’t spit!’
<i>minge- ~ mi-</i>	‘head, name’	‘place, night’	<i>arvngka</i> ‘NEUT.head’; <i>ekirra</i> ‘NEUT.name’; <i>angalya</i> ‘NEUT.place’	<i>narra-mingeki-ngamba-jina</i> 3a/3a-head-wet-CAUS-NP2 ‘they baptise them’ (WD)
<i>minjirr-</i>	‘skin, body’	‘bark, leaves, covers’	<i>nenungkwarba</i> ‘3m.man’	<i>wurrv-minjirr-mvrdha</i> 3a-skin-dark ‘black-skinned [people]’
<i>mungskurr- ~ mung-</i>	‘cheek, eye, fingers, toes’	‘soft and round things, heaps of small and round things’	<i>amungkurra</i> ‘NEUT.cheek’; <i>menba</i> ‘VEG.eyebrow’; <i>mvnhvnga</i> ‘VEG.burrawang’; <i>edhvrra</i> ‘NEUT.hole’	<i>ma-mungk-ababvrna</i> VEG-round.and.soft-many <i>mvnhvnga</i> VEG.burrawang ‘heaps of burrawang’
<i>mvk-</i>	-	‘source, things spreading out’	<i>mamawura</i> ‘VEG.sun’; <i>merra</i> ‘VEG.blood’ (cf. <i>amukwa</i> ‘NEUT.source’)	<i>kvrr-env-mvn-</i> 2a-3m-BENE- <i>-mvkv-lharri-ju-wa</i> -spread.out-fall-CAUS-P2 <i>merra</i> VEG.blood ‘he shed his blood for you’
<i>mvlh-</i>	‘hair, head, brains’	‘long and thin, hard and round’	<i>mvlha</i> ‘VEG.hairs in nostril’; <i>mamvngba</i> ‘VEG.hair’; <i>arvngka</i> ‘NEUT.head’; <i>amarda</i> ‘NEUT.grass’	<i>angkabvrna</i> who <i>bv-mvlk-arrngarnv-ma?</i> 3a/2-hair-cut-P2- <i>ma</i> ‘who cut your hair?’

<i>mvrarr- ~ mvra- ~</i>	‘neck, throat’	‘long and thin things’	<i>yambiya</i> ‘MASC.throat’; <i>yiraka</i> ‘MASC.didgeridoo’; <i>a-mayarrka</i> ‘NEUT-handle’	<i>narrv-mvraku-3a/NEUT-long.and.thin-warruku-na</i> -cross-NP2 ‘cross neck of land’ (WD)
<i>nga- ~ nvngka-</i>	‘thigh’	‘hill, sandbar, wavy shape’	<i>makarra</i> ‘VEG.thigh’; <i>mamvdhangkwa</i> ‘VEG.sand hill’	<i>narrv-ma-ngak-bvrrukwaji-na</i> 3a-VEG-hill-flatten-NP2 <i>mamvdhangkwa</i> VEG.sandhill ‘flatten sand hill’ (WD)
<i>ngarng-</i>	‘shoulder, collar bone’	‘hollow shape, container’	<i>amvrndha</i> ‘NEUT.shoulder’; <i>yinvngara</i> ‘MASC.collar bone’; <i>alhabvra</i> ‘NEUT.bark container’	<i>amvreba</i> NEUT.bark.sheet <i>ka-ngarm-bijangi-na</i> IRR.NEUT-hollow-jump-P2 <i>yelyukwa-manja</i> MASC.rain-LOC ‘the bark sheet sprang out in the rain’ (WD)
<i>ngarnvng-</i>	-	‘pointed things’	<i>enungkwa</i> ‘NEUT.spear’; <i>yibilyibilya</i> ‘MASC.lightning’	<i>yibilyibilya</i> MASC.lightning <i>nv-ngarnvng-mindhe-na</i> MASC-pointed-flash-NP2 ‘lightning is flashing’ (GED p.212)
<i>ngarr-</i>	‘ear, skin’	‘wrinkly-skinned animals (e.g. reptiles), bark’	<i>madha</i> ‘VEG.ear’; <i>-makulya</i> ‘skin’; <i>eeka</i> ‘NEUT.tree’	<i>mv-ngarrkv-lharrv-lharra</i> VEG-ear-RDP-?long <i>madha</i> VEG.ear ‘long ears (teasing)’
<i>ngeng- ~ ngiyang-</i>	‘breath, life, pulse, sensory side of body parts?’	‘wind, sharp-edged things’	<i>engengbilya</i> ‘NEUT.armpit’; <i>ayarrka</i> ‘NEUT.hand’; <i>arrvrra</i> ‘NEUT.wind’; <i>lyelyinga</i> ‘knife(NEUT)’	<i>arrvrra</i> NEUT.wind <i>engengk-envbuwakidha</i> NEUT.WIND-silly ‘wind blowing from all directions’
<i>ngina- ~ nginarr-</i>	‘joints’	-	<i>amvngina</i> ‘NEUT.knuckle’; <i>yina</i> ‘MASC.knee’; <i>arnda</i> ‘elbow’; <i>eminda</i> ‘NEUT.nose’	<i>aka-ngina-dhadhe-na</i> IRR.12a/3a-joints-poke-NP2 <i>yina-manja akwa</i> MASC.knee-LOC and <i>arnda-manja</i> NEUT.elbow-LOC ‘we poke their knees and elbows’ (GED p.138)
<i>ngvrndvrr- ~ ngvrndarr-</i>	‘chin, jaw’	-	<i>angvrnda</i> ‘NEUT.chin’	<i>nara a-ngvrndrrr-bajv-ma</i> NEG NEGNP-jaw-hit-NP3 ‘don’t hit him on the jaw’

<i>ngurndvrr-</i>	‘ankle’	?’ fruit’	<i>angurnda</i> ‘NEUT.ankle’	<i>nara ngu-ngurndvrrk-bajv-ma</i> NEG NEGNP-ankle-hit-NP3 <i>angurnda-manja!</i> NEUT.ankle-LOC ‘Don’t hit him on the ankle!’ (‘Children’ h17)
<i>ngurr-</i>	‘mouth’	‘hole’	<i>edhvrra</i> ‘NEUT.mouth, hole’	<i>aku-ngurrv-mungkudhe-na</i> IRR.12a/NEUT-mouth-clean-NP2 <i>edhvrra</i> NEUT.mouth (GED p.10) ‘we rinse our mouth’
<i>ngurrvng-</i>	-	‘food’	<i>damba</i> ‘damper(NEUT)’; <i>anhvnga</i> ‘NEUT.vegetable food’	<i>a-ngurrvn-dhvlhvdhvlha</i> NEUT-food-thick <i>damba</i> damper(NEUT) ‘thick damper’
<i>nya-</i>	‘chest’	‘strong, poisonous things’	<i>yukudhukudha</i> ‘MASC.chest’; <i>armbvlhvrra</i> ‘NEUT.jellyfish’	<i>ni-nyak-bvdha</i> 3m-chest-strong ‘he is brave’ (VL1 p.198)
<i>ra-</i>	‘wind pipe, nose’	‘round and hollow things’	<i>yiraka</i> ‘MASC.wind pipe, didgeridoo’; <i>bajikala</i> ‘billycan(NEUT)’; <i>jinaba</i> ‘gun(NEUT)’	<i>nv-raku-</i> 3m/NEUT-round.and.hollow- <i>wurra bajikala</i> discard.P1 tin(NEUT) ‘he threw the tin away’ (JS2 p.132)
<i>remberr-</i>	-	‘flat things’	<i>jurra</i> ‘book(NEUT)’; <i>damba</i> ‘damper(NEUT)’; <i>eeka</i> ‘NEUT.tree’	<i>yi-remberr-bvrra</i> MASC-flat-wide <i>yimangalha</i> MASC.woomera ‘wide flat woomera’
<i>rnarr- ~ narr-</i>	‘nail’	-	<i>yinhanha</i> ‘MASC.nail’	<i>yi-rnarrk-awarriya yinhanha</i> MASC-nail-bad MASC.nail ‘nails out of shape’
<i>rra-</i>	‘forehead’	‘short and fat sticking out things’	<i>arra</i> ‘NEUT.forehead’; <i>amukurra</i> ‘NEUT.point of land’; <i>yiningilya</i> ‘MASC.sand bar’	<i>nv-mv-rrakv-lharrv-na</i> VEG-sticking.out-fall-NP2 <i>malharra</i> VEG.rock ‘rock overhang’
<i>rre-</i>	‘intestines’	‘long and flexible coiled things’	<i>yingarna</i> ‘MASC.snake’; <i>merra</i> ‘VEG.ropes’	<i>mv-rrek-awarriya</i> VEG-long.and.flexible-bad <i>mvngarukwa</i> VEG.fishing.line ‘tangled up fishing line’
<i>rri-</i>	?’	‘jungle’	<i>murungwena</i> ‘VEG.jungle’	<i>mv-rriku-wilyarra</i> VEG-jungle-middle <i>murungwenu-manja</i> VEG.jungle-LOC ‘in the middle of the jungle’ (JS2 p.104)
<i>rvbvrr- ~ rvrr-</i>	‘back’	‘back/top of things’	<i>mvrirrba</i> ‘VEG.back’; <i>mvrvnga</i> ‘VEG.back bone’	<i>a-rvbvrrk-awarriya ayarrka</i> NEUT-back-bad NEUT.hand ‘scar on back of hand’

<i>rukw-</i>	‘foot, body, footprints’	‘animals with feet, road’	<i>alhvka</i> ‘NEUT.foot’; <i>wurrajija</i> ‘COLL.bird’; <i>mamurukwa</i> ‘VEG.road’	<i>nara ngv-rukw-alyadhv-ma!</i> NEG NEGNP-foot-hang-NP3 ‘don’t hang your feet over the side!’
<i>wa-</i>	-	‘web, cocoon, dillybag’	<i>muwadha</i> ‘VEG.web, cocoon’; <i>kayuwa</i> ‘dillybag(NEUT, VEG)’	<i>mu-wak-eningaba</i> VEG-dillybag-good <i>kayuwa</i> dillybag(VEG) ‘good dillybag’
<i>werri- ~ we-</i>	‘chest, emotions’	-	<i>yukudhukudha</i> ‘MASC.chest’	<i>dhu-werrik-awarriya</i> 3f-chest-bad ‘she is sad’
<i>wilye-</i>	‘skin, body’	‘bark, body’	<i>-makulya</i> ‘skin’; <i>amvreba</i> ‘NEUT.bark sheet’	<i>a-wilyek-awarriya</i> NEUT-skin-bad ‘scaly skin’
<i>wura-</i>	‘nostrils, nose’	‘pipe’	<i>emedhvrra eminda</i> ‘NEUT.nostrils’; <i>yilyarra</i> ‘MASC.pipe’	<i>na-wurakv-mvrndadhv-na-ma</i> NEUT-nose-be.cold-NP2-ma ‘nostrils are cold’
<i>yak- ~ yakurr-</i>	-	‘river’	<i>adhalyvma</i> ‘NEUT.river’; <i>midhalyvma</i> ‘VEG.mouth of river’	<i>a-yaku-warra</i> NEUT-river-other.side ‘the other side of the river’ (‘Bujikeda’ y32)
<i>yalh-</i>	‘throat’	‘tubular things’	<i>yambiya</i> ‘MASC.throat’; <i>jurra</i> ‘paper(NEUT)’; <i>amarda</i> ‘NEUT.grass’	<i>ni-yalk-abvramukwa</i> 3m/NEUT-tubular-roll.P2 <i>jurra</i> paper(NEUT) ‘he rolled up the paper’
<i>yamvrrk-</i>	‘upper arm’	‘round things’	<i>ayarrmvrra</i> ‘NEUT.upper arm’	<i>nvngi-yamvrr-mardhv-na</i> 1-upper.arm-hurt-NP2 ‘my upper arm is cramping’
<i>yarr-</i>	‘words, speech’	song’	<i>ayakwa</i> ‘NEUT.words, speech’; <i>emeba</i> ‘NEUT.song’	<i>ni-yarr-baliju-wa</i> 3m/NEUT-word-spread-P2 <i>akina ayakwa</i> NEUT.that NEUT.word ‘he spread the word’
<i>yeng- ~ yang-</i>	‘voice, speech’		<i>ayakwa</i> ‘NEUT.words, speech’	<i>nvngi-yang-bvrrvdha-ngv-ma</i> 1-voice-shake-P2-ma ‘my voice was shaking’
<i>ying-</i>	‘hump-back’	‘hill’	<i>mvrirrba</i> ‘VEG.back’; <i>yinijirra</i> ‘MASC.rocky hill’	<i>ngv-ni-yinh-dhadha</i> 1-3m-back-poke.P2 <i>amuwara-mvrra</i> NEUT.spear-INSTR ‘he poked me in the back with a spear’

Appendix O: Swadesh list Enindhilyakwa - Wubuy

Only one exponent is given per word, which is the one that has a correspondence in the other language (if available).

	ENINDHILYAKWA			WUBUY			STATISTICS		
	FREE	INCORP.	SEM.CHANGE	FREE	INCORP.	SEM. CHANGE	FREE	INCORP.	SEM. CHANGE
001 ALL	<i>-kulyvmidha</i>	<i>wurra-</i>		<i>warrawindi</i>	<i>warra-</i>			1	
002 AND	<i>akwa</i>			<i>marri</i>					
004 ASHES	<i>amvrnvrna</i>			<i>lhakaburnulk</i>					
005 AT	<i>-manja (LOC)</i>			<i>-rruj (LOC)</i>					
006 BACK	<i>mvrirrba</i>	<i>rvbvrr-</i>		<i>rulbu</i>					
007 BAD	<i>awarriya</i>			<i>alaadi</i>	<i>ari-</i>				
008 BARK	<i>alyukurra</i>			<i>lhaar</i>	<i>(w)ulhar-</i>				
009 BECAUSE	<i>=baba, mena</i>			<i>yamba</i>					
010 BELLY	<i>mulkwa</i>			<i>murlku</i>			1		
011 BIG	<i>arvma</i>			<i>rungkal</i>					
013 TO BITE	<i>-anga-</i>			<i>-wa- ~ -ba-</i>			1		
014 BLACK	<i>amvrdha</i>			<i>muda</i>			1		
015 BLOOD	<i>merra</i>	<i>mvlharr-</i>		<i>wulang</i>					
016 TO BLOW	<i>-bukwa-</i>			<i>-buya-</i>			1		
017 BONE	<i>adhvdhvra</i>	<i>lharr-</i>		<i>ngakara</i>					
018 TO BREATHE	<i>-ngengku+wanga-</i>			<i>-nganyka-</i>			1		
019 TO BURN	<i>-dhadhv-</i>			<i>rlaadha</i>					
020 CHILD	<i>yukujiya</i>			<i>wirrik</i>					
021 CLOUD	<i>angubina</i>			<i>ngubunung</i>			1		
022 COLD	<i>amvrndada</i>			<i>mawuraada</i>					
023 TO COME	<i>-lhvka-</i>			<i>-ya(a)-,</i>					
024 TO COUNT	<i>-mvrnduwa-</i>			<i>-ruma-</i>					
				<i>-munduwa-</i>			1		

ENINDHILYAKWA				WUBUY			STATISTICS		
	FREE	INCORP.	SEM.CHANGE	FREE	INCORP.	SEM. CHANGE	FREE	INCORP.	SEM. CHANGE
025 TO CUT	-arrnga-			-balhu-					
026 DAY	mamawura 'sun'		arrvrra 'wind'	arrarra					1
027 TO DIE	-jungwV-			-ngawi-			1		
028 TO DIG	-mung+kwadhv-			-kaadhi-			1		
029 DIRTY	ajvrvngka=wiya			kabarla					
030 DOG	wurruwarda			rlandhurrk					
031 TO DRINK	-beka-			-warla+ngu-					
032 DRY	ekbvrngka			rdardarrk					
033 DULL	abayawa			dhulukurnung					
034 DUST	amangwarra	akbal-		lhakaburnulk					
035 EAR	madha	ngarr-		warang					
036 EARTH/SOIL	ajvrvngka			mangarak 'sand'					
037 TO EAT	-alyvbar-	-ngu+		-ngu-				1	
038 EGG	amamuwa			kakarlang	karlang-				
039 EYE	menba	mungskurr-		bakarlang					
040 TO FALL	-lharr-			-rabi-		-lharri- 'untie'		1	
041 FAR	awilyikerra			malanga-nyanay					
042 FAT	amalya			mangaj					
043 FATHER	-ngwa-		-ba- 'uncle'	baba					1
044 TO FEAR	-akbardha-			-yama-					
045 FEATHER	amangwurrajija		alhakba 'leg'	lhabak					1
046 FEW	ambawura		adhvrra 'some'	adharra			1		
047 TO FIGHT	-ngaja-			-walwalja-					
048 FIRE	angura			ngura			1		
051 TO FLOAT	-lyikb-i			-rijbi-					
052 TO FLOW	-angkarr- 'come in of tide'			-angkarr- 'come in of tide'					1
053 FLOWER	amawalyuwa			dhangarr					

ENINDHILYAKWA				WUBUY			STATISTICS		
	FREE	INCORP.	SEM.CHANGE	FREE	INCORP.	SEM. CHANGE	FREE	INCORP.	SEM. CHANGE
054 TO FLY	-wuruma-			-wurnma-			1		
055 FOG	awija			wuuji			1		
056 FOOT	alhvka	lhvkarr-		muurn	lhaN-				
057 FOUR	abiyarbuwa			wulalwulal					
059 FRUIT	-mamuwa	mung-		kulmung				1	
060 TO GIVE	-kwa-			yi	u-			1	
061 GOOD	eningaba			ambarlaman					
062 GRASS	amarda			marda			1		
064 GUTS	mvrrekalhuwa	rrek-		daan	ngu-				
065 HAIR	mamungba			muung			1		
066 HAND	ayarrka			yarrka			1		
067 HE	enuwa			nika					
068 HEAD	arvngka	lyang-		rlang	ambuluk-			1	
069 TO HEAR	-engkirr(ik)a-			-wawangki- 'listen'			1		
070 HEART	arndvrnda		andhvra 'kidney'	andhiri			1		
071 HEAVY	-barrngwa			mundurr					
073 TO HIT	+baja-			+wadja- ~ +badja-			1		
074 HOLD	-ma-			-ma-			1		
075 HOW	miyambena-mvrra			yangi-mirri					
076 TO HUNT	-ngurrkwa-, -lharrma-			-ngurrka-, -lharrma-			1		
077 HUSBAND	neninga			kurlku					
078 I	ngayuwa			ngayawi-			1		
080 IF	-manja			-majii			1		
082 TO KILL	-ngaja-, -warda-			-wu- ~ -bu-		warda 'knock'			1
083 KNOW	akakvrvma			marrbuy					
084 LAKE	awurukwa			wuruku			1		
085 TO LAUGH	-amarngka-			-ngarrma-				1	

ENINDHILYAKWA				WUBUY			STATISTICS		
	FREE	INCORP.	SEM.CHANGE	FREE	INCORP.	SEM. CHANGE	FREE	INCORP.	SEM. CHANGE
086 LEAF	<i>amarda</i>	<i>mvnjirr-</i>		<i>manjarr</i>					
087 LEFT (HAND)	<i>ekalyarra</i>			<i>balajaku</i>					
088 LEG	<i>alhakba</i>	<i>lhandharr-</i>		<i>jangkal</i>		<i>lharrbij</i> 'thigh'		1	
089 TO LIE	<i>-murrkulha-</i>			<i>-murrkulha-</i>			1		
090 TO LIVE	<i>ambilya</i>			<i>-wiri-</i>					
091 LIVER	<i>awa</i>	<i>lyikarr-</i>		<i>amarn</i>					
092 LONG	<i>alhvngajirra</i>	<i>rrek-</i>		<i>jarmayarrmaj</i>					
093 LOUSE	<i>yimvrnda</i>			<i>bulubuluk</i>	<i>murndik</i>		1		
094 MAN (MALE)	<i>nenungkwarba</i>			<i>warlya</i>					
095 MANY	<i>ababvrna</i>	<i>wurra-</i>		<i>warrawindi</i>	<i>warra-</i>			1	
096 MEAT	<i>-ma+dhangkwa</i>			<i>lhangku</i>			1		
096b MOON	<i>yimawura</i>			<i>rlabama</i>					
097 MOTHER	<i>ngarnda</i>	<i>rnd</i>		<i>rrikang</i>		<i>yiningira</i> 'sandbar'			1
098 MOUNTAIN	<i>yinijirra</i> 'rocky hill'		<i>yiningilya</i> 'sandbar'						
099 MOUTH	<i>edhvrra</i>	<i>ngurrkw-</i>		<i>ramadhan</i>					
100 NAME	<i>ekirra</i>			<i>muwaj</i>					
101 NARROW	<i>engkilyibilya</i>			<i>rdaakarrarrak</i>					
102 NEAR	<i>akudhangwa</i>			<i>warubaj</i>					
103 NECK	<i>yinumamvra</i>	<i>-mvrak-</i>	<i>yambiya</i> 'throat'	<i>arlwak</i>		<i>yambiya</i> 'throat'			1
104 NEW	<i>eni-kadhuwa</i>			<i>kadhuwa</i>			1		
105 NIGHT	<i>marrvnga</i>			<i>minyngu</i>					
106 NOSE	<i>eminda</i>	<i>engmvrr</i>		<i>yimurrk</i>				1	
107 NOT	<i>nara</i>			<i>waari</i>	<i>-ari</i>		1		
108 OLD	<i>neni-yuwangkwa</i>			<i>yiwangku</i>			1		
109 ONE	<i>awilyaba</i>			<i>anyjaabukij</i>					
110 OTHER	<i>engka</i>			<i>anybaj</i>					
112 TO PLAY	<i>-malyangkaji-</i>			<i>-wayi(j)ki-</i>					

ENINDHILYAKWA				WUBUY			STATISTICS		
	FREE	INCORP.	SEM.CHANGE	FREE	INCORP.	SEM. CHANGE	FREE	INCORP.	CHANGE
141 TO SMELL	<i>-kirruwanja-</i>			<i>-wanyja-</i>		<i>arrawuj (N)</i>	1		
142 SMOKE	<i>angwarra</i>	<i>angkarr-</i>		<i>ban</i>					
143 SMOOTH	<i>amvrrkbalya</i>			<i>warlayida ~ barlayida</i>			1		
146 SOME	<i>adhvrra</i>			<i>adharra</i>					
147 TO SPIT	<i>-errekbi-</i>			<i>-yuda-</i>					
148 TO SPLIT	<i>-arrnga-</i>			<i>-rlarl-bu-</i>					
149 TO SQUEEZE	<i>-lhykakbv-</i>			<i>-dhurrma-</i>					
150 TO STAB	<i>-adhukwa-</i>			<i>-adhuka-</i>			1		
151 TO STAND	<i>-lhalhv-</i>			<i>-lha-</i>			1		
152 STAR	<i>dhakilyingajanga</i>		<i>bvrrvmburrnga 'seven sisters'</i>	<i>miyiri</i>		<i>burrumburrunga 'galaxy'</i>			1
153 STICK	<i>eeka</i>		<i>mabarrkwa 'fighting stick'</i>	<i>rangak</i>		<i>mabarrku 'club'</i>			1
154 STONE	<i>awarnda</i>			<i>rnuka</i>					
155 STRAIGHT	<i>dhvrrbvra</i>			<i>andhurrk</i>					
156 TO SUCK	<i>-ngunji-</i>			<i>-wunja- ~ -bunja-</i>			1		
157 SUN	<i>mamawura</i>			<i>arlirr</i>					
158 TO SWELL	<i>-bvdhv-</i>			<i>-wuda- ~</i>			1		
159 TO SWIM	<i>-ngambe-</i>			<i>-buda-</i>			1		
160 TAIL	<i>mv+dhawudhawa</i>	<i>abvrrak-</i>		<i>-ngambi-</i>					
161 THAT	<i>akina</i>			<i>dhanbarj</i>		<i>dhawal</i>			1
162 THERE	<i>yakujina</i>			<i>yaa-</i>					
163 THEY	<i>aburruwa</i>			<i>yaa-</i>					
164 THICK	<i>engmvrra</i>		<i>amalya 'fat'</i>	<i>wukurru</i>					
165 THIN	<i>ayarrmiyarrma</i>		<i>yerrerra 'forked stick'</i>	<i>akalharkalhark</i>					
166 TO THINK	<i>-lyangki+yama-</i>			<i>yarrayarra</i>					1
167 THIS	<i>enena</i>			<i>-an+jama-</i>					
168 THOU/YOU	<i>nungkuwa</i>			<i>yaa-</i>					
169 THREE	<i>abiyakarbiya</i>			<i>nakang</i>					
				<i>wulanybaj</i>					

ENINDHILYAKWA				WUBUY			STATISTICS		
	FREE	INCORP.	SEM.CHANGE	FREE	INCORP.	SEM. CHANGE	FREE	INCORP.	CHANGE
170 TO THROW	-errik+bi-			-warrka-			1		
171 TO TIE	-ararika-			-rad+bu					
173 TOOTH	akarrnga			raa					
174 TREE	eeka			rangak					
175 TO TURN	-ruku+wilyake-			-warlarlha-					
176 TWO	ambilyvma			wula-waa					
177 TO VOMIT	-errek+bi-			-nganji-		warrkard (N)	1		
178 TO WALK	-lhvka-			-lhari-					
179 WARM	ardvdarra			murmbula					
180 TO WASH	-ajarr-			-adjarra-			1		
181 WATER	akungwa	ku-		kuku	-ar-			1	
182 WE	ngakurruwa (incl)			ngakurru (incl)			1		
183 WET	eng+kalya			warlarlij ~ karlarlij			1		
184 WHAT	miyambena			yangi-					
185 WHEN	ngambi=yadha			lhal-ngarku					
186 WHERE	angamba			ajika					
187 WHITE	akulyadhadha			ngal-ngalngalu-j					
188 WHO	amiyambena			yangi-nyung					
189 WIDE	baluwala			walbalk ~ balbalk			1		
190 WIFE	dhadhvnga	iy		kurlku					
191 WIND	awiyerrvrda 'cyclone'		marrakwa 'whirlpool in sea'	wuyarrirda 'cyclone'		marraku 'twister'	1		
192 WING	miyeja			arna					
193 WIPE	-lyidhv-			-yinurr+wu- (nose)					
194 WITH	-mvrri INSTR			-mirri INSTR			1		
195 WOMAN	dhvdharrvngka			marnung					
196 WOODS	erriberriba			warrinybarriny			1		

ENINDHILYAKWA

FREE INCORP. SEM.CHANGE

197 WORM *arrkwara*
 198 YE *nungkurruwa*
 200 YELLOW *merrungwa*

TOTAL
PERCENTAGE

WUBUY

FREE INCORP. SEM. CHANGE

nguway
nukurru
arrmarnngal

STATISTICS

FREE INCORP. CHANGE

1

FREE	INCORP.	SEM.CHANGE
59	13	12
0.317	0.3871	0.452

Appendix P: Correspondences in Wubuy and other languages

(This list includes all attested correspondences, i.e. also loan words)

Sources:

Wubuy: Heath (1982, 1984)

Ngandi: Heath (1978a); Harvey 2003a

pGN: Harvey (2003a); AEH (2003)

Macassan: Evans (1992)

Noun class prefixes:

	<u>Enindhilyakwa</u> (fixed to the noun stem)	<u>Wubuy</u> (flexible, omitted in citation form)	
		Continuous	Punctual
MASC	<i>y-</i>	<i>na-</i>	<i>yii-</i>
FEM	<i>dh-</i>	<i>ngarra-</i>	<i>yii-</i>
COLL	<i>wurr-</i>	<i>warra-</i>	<i>waa- / __ C ~ warr- / __ V</i>
VEG	<i>m(a)-</i>	<i>mana-</i>	<i>ama-</i>
NEUT	<i>a- ~ e-</i>	<i>ana-</i>	<i>a-</i>

(Heath's labels)
(NA)
(NGARRA)
(WARRA)
(MANA)
(ANA)

Nominals: body parts

Enindhilyakwa	Wubuy	pGN
<i>arndvrnda</i> 'NEUT.heart' <i>andhvra</i> 'NEUT.kidney'	<i>andhiri</i> 'heart' (NEUT)	
<i>alhakba</i> 'NEUT.lower leg', <i>lhakba-</i> 'lower leg, tail'	<i>lhabak</i> 'feather' (NEUT)	
<i>lharr-</i> 'bone, long and solid things'	<i>lharrbij</i> 'leg' (VEG)	* <i>dharr</i> 'thigh, leg'
<i>-m+akulya</i> 'skin'	<i>makurlak</i> 'skin' (NEUT)	* <i>kurlak</i> 'skin'
<i>werri-</i> 'chest, emotions'	<i>kwurrij-</i> 'chest, feelings, emotions'	
<i>lyang-</i> 'head'	<i>rlaang</i> 'head' (NEUT)	* <i>L/rong</i> (Ngal <i>rong</i> 'chin, face'; Ngan <i>rlong</i> 'head')
<i>yeng-</i> 'voice'	<i>yaang</i> 'voice, sound' (NEUT)	* <i>yang</i> 'voice'
<i>amvrndha</i> 'NEUT.shoulder'	<i>muurn</i> 'shoulder' (NEUT)	* <i>mirni</i> 'shoulder' *- <i>mun/rncum</i> 'shoulder'
<i>arndak</i> 'NEUT.elbow' (- <i>arndaka-</i> 'throw spear')	<i>arnda</i> (NEUT) 'joint of front flipper (of turtle)'; <i>warndak</i> (MASC) 'woomera' <i>marnda</i> 'lower leg' (NEUT)	* <i>borndok</i> 'woomera'
<i>arndvrrk-</i> ~ - <i>arndak-</i> 'outside of sth, elbow'	<i>wurndirrik</i> 'lower arm' (NEUT)	
<i>mvrr-</i> 'face'? <i>engmvrr-</i> 'nose' <i>yamvrrk-</i> 'ball-shaped round solid'	<i>yimurrk</i> 'nose' (NEUT)	
<i>ayarrka</i> 'NEUT.hand, fin'	<i>yarrka</i> 'hand, fin' (NEUT)	?* <i>jarrkka</i> 'water goanna'

<i>mamvngba</i> ‘VEG.hair’	<i>muung</i> ‘hair’ (VEG)	
<i>yambiya</i> ‘MASC.throat’	<i>yambiya</i> ‘throat’ (MASC)	
<i>anka</i> ~ <i>arrvngka</i> ‘NEUT.hip’ <i>angkarr-</i> ‘hip’	<i>nangka</i> ‘hip’ (NEUT)	
<i>mulkwa</i> ‘VEG.stomach’	<i>murlku</i> ‘stomach’ (VEG)	
<i>akba</i> ‘NEUT.buttocks’ <i>akbvraka-</i> ‘buttocks, tail’	<i>birlaj</i> ‘buttocks’ (VEG)	
<i>abvrang-</i> ~ <i>abvram-</i> ~ <i>abvran-</i> ~ <i>abvra-</i> ‘flat-shaped’	<i>bira</i> ‘anus, rear end’ (VEG)	
<i>m-envng-ala-kura</i> ‘navel’	<i>mala</i> ‘navel’ (COLL)	
<i>minjirr-</i> ‘skin, body, bark, leaves’	<i>manjarr</i> ‘leaves’ (NEUT)	* <i>manjarr</i> ‘leaf’
<i>mv+dhawu+dhawa</i> ‘VEG+tail of flying fox, echidna, etc., tailbone’	<i>dhawal</i> ‘tailbone’ (VEG)	
<i>yina</i> ‘MASC.knee’		pPN: * <i>jina</i> ‘foot’
<i>alhvka</i> ‘NEUT.foot’ <i>alhukwanja</i> ‘NEUT.dance’	<i>-wanja-</i> ~ <i>-kanja-</i> ‘to dance’ [A ₂]	Ri: <i>rluku</i> ‘foot’
<i>ngurr-</i> ‘mouth’	<i>-ngurrda-</i> ‘to groan’	
<i>marrang-</i> ‘hands’	<i>marang</i> ‘hands’ (NEUT)	
<i>lyak-</i> ‘elongated solid’	<i>rlaka</i> ‘lower leg’ (NEUT) <i>rlaaka</i> ‘stone spear’ (NEUT)	

Nominals: fauna

Enindhilyakwa	Wubuy	pGN / Macassan
<i>dherriba</i> ‘trepan(FEM)’ <i>yungula</i> ‘MASC.trepan’	<i>dha:rriba</i> (MASC) ‘trepan’ <i>yiningulu</i> (MASC) ‘young trepan’	Mac: <i>taripan</i>
<i>mandarra</i> ‘VEG.type of fish, hammer oyster’ <i>mandarra</i> ~ <i>marndarra</i> ‘VEG.tomahawk’	<i>mandarra</i> ‘butterfly fish’ (MASC)	
<i>dhuwalja</i> ‘FEM.water python’	<i>arlja</i> ‘water python’ (FEM)	
<i>yibvrada</i> ‘MASC.wallaby’	<i>yarrurdu</i> ‘female wallaby (FEM)	
<i>dharrawurukukwa</i> ‘FEM.dove’	<i>dharrawurukukuk</i> ~ <i>dhawurukuku</i> ‘peaceful dove’ (FEM)	
<i>yimadhuwaya</i> ‘MASC.stingray’	<i>yimadhuwayu</i> ‘stingray’ (MASC)	
<i>mandha</i> ‘VEG.great-billed heron’ <i>dhvmandha</i> ‘FEM.reef heron’	<i>maanha(k)</i> ‘heron’ (NEUT)	
<i>yukurrkwa</i> ‘MASC.frogmouth owl’ Tindale <i>yokoroko</i>	<i>yikurrku</i> ‘owl’ (NEUT)	
<i>enuwa</i> ‘NEUT.flatback turtle’	<i>anuwa</i> ‘flatback turtle’ (NEUT)	
<i>yilikarriba</i> ‘MASC.pearl oyster’	<i>yimarmba</i> ‘shellfish sp.’ (MASC)	
<i>yimvrnda</i> ‘MASC.lice’	<i>murndik</i> ‘flea, tick’ (COLL)	
<i>yiminjarra</i> ‘lowly trevally’	<i>yiminyjarra</i> ~ <i>yiminyarri</i> ‘small parrotfish or tuskfish’ (?)	
<i>yembvrrkwa</i> ‘MASC.tusk fish’	<i>yambirrku</i> ‘tusk fish’ (MASC)	
<i>yimvrrarra</i> ‘MASC.milkfish’	<i>yimirdaarri</i> ‘milkfish’ (MASC)	

<i>yirvmba</i> ‘MASC.seagull’ (children say <i>yijarra</i>)	<i>jarrak</i> ‘silver gull’ (MASC); <i>kurumburra</i> ‘silver gull (esp. young)’ (MASC)	* <i>karrakkarrak</i> ‘diver duck’; Ri <i>jarra</i> pPN * <i>cyarra</i> ‘sea gull’ (Alpher App p.415)
<i>dhvmakbvlha</i> ‘FEM.pelican’	<i>maabulhu</i> ‘young pelican’ (FEM)	
<i>wurrulhiyuwa</i> ‘COLL.wading birds’	<i>lhawuya</i> ‘spoonbill’ (COLL)	
<i>dhuwalya</i> ‘FEM.curlew’	<i>wuwarlurlu</i> ‘curlew’ (FEM)	* <i>kuwarlu</i> ‘curlew’
<i>yinikarrka</i> ‘MASC.hawk, kite, falcon’	<i>nikarrka</i> ‘small brownish hawk sp.’ (MASC) <i>karrkaj</i> ‘goshawk’ (VEG)	* <i>karrkkany</i> ‘goshawk’
<i>amarrvrla</i> ~ <i>amarrvla</i> ‘NEUT.egret’	<i>marraarla(k)</i> ‘egret’ (NEUT)	
<i>kuwaka</i> ‘koel(NEUT)’	<i>kuwak</i> ‘koel’ (NEUT)	* <i>jawok</i> ‘koel’
<i>wurruweba</i> ‘COLL.parrot’	<i>wurruwajba</i> ‘red-winged parrot’ (COLL)	* <i>wel/rrej/y</i> (Ngan <i>werreywerrey</i> ; Wa <i>welejban</i>)
<i>maminya</i> ‘VEG.firefly’	<i>aamuny</i> ‘common fly’ (MASC); <i>yaminyji</i> ‘lightning, gecko lizard’ (MASC)	
<i>dhvlhanda</i> ‘FEM.rock wallaby’	<i>lhaanda</i> ‘young kangaroo’ (NEUT)	
<i>bulukwa</i> ‘bullock’ (Eng)	<i>buluki</i> ‘bullock’ (Eng) (NEUT)	
<i>bujikeda</i> ‘cat’ (Eng)	<i>bujikan</i> ‘cat’ (Eng) (NEUT)	
<i>jarrangwa</i> ‘horse(FEM)’	<i>jarrangu</i> ‘horse’ (FEM)	Mac: <i>jaran</i> ‘horse’
<i>yukulbandha</i> ‘MASC.barramundi’	<i>yingkurlbandi</i> ‘barramundi’ (MASC)	
<i>dhvrrvrta</i> ‘FEM.batfish’	<i>dhirrirri</i> ~ <i>dhurrurru</i> ‘marine fish sp.’ (FEM)	
<i>alkvrta</i> ‘NEUT.herring’	<i>warlkarra</i> ‘herring’ (NEUT)	* <i>warlkkarra</i> ‘fish sp.’
<i>adhvka</i> ‘NEUT.anchovy’	<i>adhakak</i> ‘young bony bream fish’ (NEUT)	
<i>angalbiya</i> ‘NEUT.eel-tailed catfish’	(w) <i>arnngalbiya</i> ‘eel-tailed catfish’ (NEUT)	
<i>yimvdhvrrngwa</i> ‘MASC.fork- tailed catfish’	<i>midhurrungu</i> ‘fork-tailed catfish’ (COLL)	* <i>marrnguny</i> ‘catfish sp.’
<i>merrukurra</i> ‘VEG.long-tom’	<i>marrikkurru</i> ‘long-tom’ (VEG)	
<i>yilyangbilyangbadha</i> ‘MASC.greenback mullet’	<i>rlambarlambaadhu</i> ‘mullet’ (MASC)	
<i>yibarungkwa</i> ‘MASC.mullet’	<i>yibardungku</i> ‘mullet’ (MASC)	
<i>yulkwa</i> ‘MASC.toadfish’	<i>yirlku</i> ‘toadfish’ (COLL)	
<i>amadharrnga</i> ‘NEUT.large barracuda’	<i>amadharrngka</i> ‘barracuda’ (NEUT)	
<i>yimawura</i> ‘MASC.red emperor fish’	<i>yimawuru</i> ‘red emperor fish’ (MASC)	
<i>yarruwarra</i> ‘MASC.skinny fish’	<i>yarrwarri</i> ‘dart’ (MASC)	
<i>dhamabvrna</i> ‘FEM.coral cod, coral trout’	<i>dhumaabirna</i> ‘coral cod, coral trout’ (FEM)	
<i>yakarra</i> ‘MASC.sweetlips (big ones)’	<i>yakarri</i> ‘sweetlips’ (MASC)	
<i>arranda</i> ‘NEUT.sweetlips (small ones)’	<i>yarrandi</i> ~ <i>yarrandhi</i> ‘sweetlips’ (MASC)	

<i>karawarra</i> ‘long-nosed emperor(MASC)’	<i>karawarra</i> ‘spangled emperor’ (NEUT)	
<i>amungkwa</i> ‘NEUT.spangled emperor’	<i>amungku</i> ‘sweetlip emperor’ (NEUT)	
<i>kymbamvrra</i> ‘spinefoot, lancer(FEM)’	<i>kumbaamirri</i> ‘batfish’ (FEM)	
<i>yuwunbvrna</i> ‘MASC.bream’	<i>yiwunbirna</i> ‘sea-bream’ (MASC)	
<i>wurrabarja</i> ‘COLL.surf parrot-fish’	<i>wurrabardji</i> ‘parrot-fish’ (COLL)	
<i>yilyangmvlhvmlha</i> ‘MASC.stonefish’	<i>ramurrllhumurrllhu</i> ‘stonefish’ (MASC)	
<i>manjiwarra</i> ‘VEG.mouth almighty’	<i>nyuwarr</i> ‘mouth almighty’ (VEG)	
<i>aja</i> ‘NEUT.hark’ <i>maja</i> ‘VEG.black-tip shark’	<i>aja</i> ‘shark’ (NEUT)	
<i>amarbirra</i> ‘NEUT.cowtail stingray’	<i>marbidi</i> ‘small ray sp.’ (NEUT)	
<i>arrba</i> ‘NEUT.coachwhip stingray’; <i>dharrba</i> ‘FEM.young ones’	<i>yarrba</i> ‘ray sp.’ (COLL)	
<i>amarnvndhangwa</i> ‘NEUT.eagle ray’; <i>dhvmarnvndhangwa</i> ‘FEM.young ones’	<i>marnindhangu</i> ‘eagle ray’ (NEUT) <i>dhu-marnindhangu</i> ¹⁸ ‘young ones’ (NEUT)	
<i>amvrnrna</i> ‘NEUT.stingray’ <i>yimvrnrna</i> ‘MASC.young ones’	<i>marnirnik</i> ‘ray sp.’ (NEUT)	
<i>arimba</i> ‘NEUT.rough-skinned stingray’; <i>dhvrimba</i> ‘FEM.young ones’	<i>rduumbi</i> ‘ray sp.’ (FEM)	
<i>dhvngalhuwa</i> ‘FEM.hawksbill turtle’	<i>ngalhuwa</i> ‘hawksbill’ (FEM)	
<i>yijirakamvrra</i> ‘MASC.olive Ridley turtle’	<i>jardakaamirri</i> ‘Ridley’ (NEUT)	
<i>yimbalma</i> ‘MASC.turban shell’	<i>yurnbalmi</i> ‘snail-like shellfish living in mangroves’ (NEUT)	
<i>mvngawa</i> ‘VEG.top shell’	<i>mingaawu</i> ‘cone-shaped shellfish’ (VEG)	
<i>yilharda</i> ‘MASC.mud-whelk shell’	<i>lhaardu</i> ‘mud-whelk’ (COLL)	
<i>yarndvrrena</i> ‘MASC.Venus shell’	<i>yirndirrani</i> ‘small bivalve shellfish’ (MASC)	
<i>anganjinganjirrvra</i> ‘NEUT.sunset shell’	<i>ngarnji</i> ‘baler’ (COLL)	
<i>melhuwa</i> ‘VEG.razor clam shell’	<i>malhiwu</i> ‘shellfish sp.’ (VEG)	
<i>yuwalkurra</i> ~ <i>yuwarlkurra</i> ‘VEG.kneecap, Cyrene shell’	<i>warlkurrk</i> ‘clam’ (MASC)	
<i>yimvkvmykarra</i> ‘MASC.chiton’	<i>mikimikarri</i> ‘shellfish sp.’ (MASC)	
<i>dhvnginjabena</i> ‘FEM.dolphin’	<i>nanyjabana</i> ‘porpoise’ (FEM)	

¹⁸ Heath (1982: 21): “The *dhu-* is possibly an Anindhilyakwa noun class marker etymologically.”

<i>yabungurra</i> ‘MASC.sea wasp’	<i>yabungurru</i> ‘young sea wasp’ (COLL)	
<i>wurramalkwa</i> ‘COLL.black flying fox’	<i>malk-</i> ‘night sky, darkness at night’	
<i>dhvrrvkba</i> ‘FEM.plover’	<i>birrbirrk</i> ‘masked plover’ (COLL)	* <i>berrebberreb</i> ‘plover’
<i>yikba</i> ‘MASC.pheasant’	<i>wubuk</i> ‘swamp pheasant’ (VEG) young ones: <i>bubuk</i> ~ <i>bububuk</i>	* <i>bukbuk</i> ‘pheasant’
<i>ekbarra</i> ‘NEUT.drongo’	<i>dhabarrarrak</i> ‘green tree frog’ (COLL)	* <i>dhakbarrarraq</i> ‘green tree frog’
<i>wurvmilyija</i> ‘COLL.butterfly’	<i>murla</i> ‘mosquito’ (FEM)	* <i>merlemerle</i> ‘butterfly’
<i>muwalngara</i> ‘Cooktown salmon’ (VL1 p.277)	<i>walngari</i> ‘salmon’ (NEUT)	
<i>wujilhukwa</i> ‘Barred Long-tom’ (VL1 p.277)	<i>wurrjuluku</i> ‘Barred Long-tom’ (?)	
<i>bankija</i> ‘Whale shark’ (VL1 p.277)	<i>rlankij</i> ‘Whale shark’ (?)	

Nominals: flora

Enindhilyakwa	Wubuy	pGN
<i>amarda</i> ‘NEUT.grass’	<i>marda</i> ‘grass’ (NEUT)	
<i>yilyarra</i> ‘MASC.pipe, pipe bush’	<i>yilaarri</i> ‘smoking pipe, tree whose wood is used to make pipes’ (MASC)	
<i>yiniba</i> ‘MASC.red clay stone’	<i>yinibi</i> ‘particles (e.g. bits of dirt) inside nose’ (MASC)	
<i>kvriba</i> ‘wild passion fruit(NEUT)’ < <i>creeper</i>	<i>kiriba</i> ‘wild passion fruit’ (NEUT) (Eng)	
<i>mabvrrawilya</i> ‘VEG.beach convolvulus’	<i>mabarrawuray</i> ‘crawling vine’ (VEG)	
<i>marija</i> ‘VEG.tar vine’	<i>riija</i> ‘scrambling vine’ (VEG)	
<i>mawurrvra</i> ‘VEG.seagrass’	<i>wurruri</i> ‘seagrass’ (VEG)	
<i>alha</i> ‘NEUT.sponge, seaweed’	<i>alhilhi</i> ‘sea-sponge’ (MASC)	
<i>marmbarmbvrira</i> ‘VEG.banyan fig’	<i>marnbarnburru</i> ‘fig’ (VEG)	
<i>kunyarra</i> ‘swamp fig(NEUT)’ (VL1 p.278)	<i>kurninyarra</i> ‘swamp fig’ (VEG)	
<i>jungkulvra</i> ‘Carissa shrub(NEUT)’ (VL1 p.278)	<i>jingkurlirli</i> ‘Carissa shrub’ (VEG)	
<i>jangawula</i> ‘Red Ash(NEUT)’ (VL1 p.278)	<i>jangawili</i> ‘Red Ash’ (NEUT)	
<i>kalangarnda</i> ‘Flat Swamp Potato(NEUT)’ (VL p.278)	<i>wukalangarnda</i> ‘Flat Swamp Potato’ (NEUT)	
<i>mangkarrkba</i> ‘VEG.wild plum’	<i>mangkarrabi</i> ‘sedge with edible roots’ (VEG)	
<i>mabanda</i> ‘VEG.yellow hibiscus tree’ (men made spears and woomeas from these trees)	<i>mabard</i> ‘tree whose wood is used to make spear shafts’ (VEG)	
<i>awaruwara</i> ‘NEUT.spear bush’	<i>wardawarda</i> ‘tree whose wood is used to make spear shafts’ (VEG)	

<i>mabalba</i> ‘VEG.peanut tree’	<i>barlbi</i> ‘tree similar to kurrajongs’ (VEG)	
<i>alhvmilya</i> ‘NEUT.bloodwood’	<i>lhumurluk</i> ‘bloodwood’ (NEUT)	* <i>dhumurluk</i> ‘bloodwood’
<i>mukumukwa</i> ‘VEG.deep sea’	<i>mukumuku</i> ‘open sea, far from land’ (VEG)	
<i>muwarraka</i> ‘VEG.whistling tree’	<i>arrakiny</i> ‘whistling tree’ (VEG)	
<i>mardvdharra</i> ‘VEG.ironwood’	<i>mirdardarri</i> ‘uncommon term for fruit of green plum’ (VEG)	
<i>jamba</i> ‘tamarind(NEUT)’	<i>jaamba</i> ‘tamarind’ (NEUT)	Mac: <i>jampa</i> ‘tamarind’
<i>anhvma</i> ‘NEUT.mangrove (tree)’	<i>anhuma</i> ‘seedpod of mangrove tree’ (NEUT)	
<i>amilyingkvngvramvrra</i> ~ <i>amilyingkvrara</i> ‘NEUT.sea anemone’	<i>arlinykirna</i> ‘sea anemone’ (NEUT)	
<i>mendheba</i> ‘VEG.mat rush’	<i>mandhabi</i> ~ <i>maandhabi</i> ~ <i>maandabi</i> ‘sedge sp.’ (VEG)	
<i>lhang-</i> ‘long tall standing things, e.g. trees’	<i>lhangki</i> ‘cocky apple tree’ (VEG)	* <i>dhangkiq</i> ‘tree sp.’
<i>yvrndvrnda</i> ~ <i>dhvrndvrnda</i> ‘MASC/FEM.strychnine tree’	<i>yirndi</i> ‘sandpaper-leaf fig tree’ (MASC)	
<i>yilherrkvrara</i> ‘MASC.black mangrove tree’	<i>lhalkurr</i> ‘mangrove tree’ (VEG)	
<i>erriberriba</i> ‘NEUT.bush’	<i>warrinybarriny</i> ‘dense scrub’ (NEUT)	
<i>dhilyabvrnda</i> ‘FEM.frog’		* <i>mulubbirndi</i> ‘tree sp.’
<i>dhvmakelya</i> ‘FEM.mistletoe’		* <i>makorlkorl</i> ‘plant sp.’

Nominals: environment and objects

Enindhilyakwa	Wubuy	pGN / Macassan
<i>wurrvbvrrkba</i> ~ <i>wurrvbvrrba</i> ~ <i>wurrvbvrrvmba</i> ~ <i>bvrrvmbvrrnga</i> ‘COLL.seven sisters, Orion's belt’	<i>burrumburrunga</i> ‘galaxy’ (MASC)	
<i>miyeja</i> ‘VEG.paddle’ Tindale 1926:104: <i>miaja</i>	<i>miyaja</i> ‘paddle’ (VEG); ‘young sulphur-crested cockatoo’ (COLL)	
<i>alyakwa</i> ~ <i>yilyakwa</i> ‘NEUT/MASC.honey’	<i>rlaku</i> ‘wild honey’ (NEUT)	
<i>mabarrkwa</i> ‘VEG.fighting stick’ Tindale 1925:99 <i>mabarukwu</i>	<i>mabarrku</i> ‘nulla nulla (fighting stick)’ (VEG) Tindale: <i>mabaruko</i>	
<i>mamanjirrkuya</i> ‘VEG.digging stick’	<i>makujirnkuya</i> ‘sharp fighting stick’ (VEG)	
<i>angura</i> ‘NEUT.fire’	<i>ngura</i> ‘fire’ (NEUT)	
<i>enungkwa</i> ‘NEUT.spear’	<i>anungku</i> ‘stringybark spear’ (?)	
<i>wubvrrvkila</i> ‘COLL.shovel-nosed spear’	<i>wubirrkilin</i> ‘wooden shovel spear’ (NEUT)	
<i>dhinda</i> ‘bamboo shaft spear(NEUT)’	<i>dhiindi</i> ‘cane grass spear’ (NEUT)	

<i>dhvrrabada</i> ‘FEM.spear’	<i>dhurrabada</i> ~ <i>dhudabada</i> ‘wire spear’ (NEUT)	(GP /cutapata/ [JS1 p.164])
<i>yinibirra</i> ‘frigate bird’	<i>yinibirri</i> ‘hook spear’ (MASC)	
<i>lyak-</i> ‘elongated solid’	<i>rlaka</i> ‘lower leg’ (NEUT) <i>rlaaka</i> ‘stone spear’ (NEUT)	
<i>yimangala</i> ‘MASC.woomera’	<i>mangalng</i> ‘woomera’ ¹⁹ (MASC)	
<i>awurukwa</i> ‘NEUT.billabong’	<i>wurugu</i> ‘billabong’ (NEUT)	
<i>marnja</i> ‘VEG.bee brood’	<i>marn</i> ‘brood cells’ (?)	
<i>awulmarra</i> ‘NEUT.boomerang’	<i>wulmuwarri</i> ‘boomerang’ (NEUT)	
<i>baja</i> ‘nail(NEUT)’	<i>baaju</i> ‘spike, nail’ (NEUT)	Mac: <i>paso?</i> ‘peg, wedge, nail’
<i>lama</i> ‘shovel spear(NEUT)’	<i>rlama</i> ‘shovel spear’ (NEUT)	Mac: <i>laman?</i> ‘sabre’
<i>yiningilya</i> ‘MASC.sandbar’	<i>yiningira</i> ‘sandbar’ (MASC)	
<i>mamarika</i> ‘VEG.southeast wind’	<i>marika</i> ‘cold S to SE wind’ (VEG)	
<i>yiniyerrma</i> ‘MASC.SE wind’	<i>wirdiyarr</i> ‘strong E wind’ (VEG)	
<i>barra</i> ‘northwest wind(NEUT/MASC)’	<i>baarra</i> ‘northwest wind’ (MASC)	Mac: <i>bara?</i> ‘northwest wind’
<i>dhungwarra</i> ‘east wind(NEUT)’ (VL1 p.276)	<i>rlungkurrma</i> ‘northeast wind’ (NEUT)	Mac: <i>tun̄kara</i> ‘SE wind’
<i>lungkurrma</i> ‘northeast wind(?)’	<i>rlungkurrma</i> ‘northeast wind’ (NEUT)	Mac: <i>tun̄kara</i> ‘SE wind’
<i>arrvrra</i> ‘NEUT.wind’	<i>arrarra</i> ‘day, daytime’ (NEUT)	
<i>lharruwura</i> ‘afternoon’	<i>adharrwara</i> ‘late afternoon’ (NEUT)	
<i>marrvnga</i> ‘VEG.night, sleep, dark’		* <i>morr</i> ‘to be/get dark’
<i>barnvmbvrra</i> ‘morning star(FEM)’	<i>barnumbil</i> ‘morning star’ (FEM)	
<i>dvrvmala</i> ‘northeast wind(NEUT)’ (VL1 p.276) <i>dhvrrmala</i> ‘FEM.northeast wind’	<i>rdurvmala</i> ‘northeast wind’ (NEUT)	Mac: <i>turuŋ</i> ‘downwind’ (VLp.276: <i>timoro?</i> ‘NE wind’)
<i>dhvmbvrra</i> ~ <i>dhvmburru</i> ‘northeast wind(FEM)’	<i>dhimburru</i> ‘northeast wind’ (NEUT)	Mac: <i>timoro?</i> ‘east wind’
<i>dhaladha</i> ‘south wind(FEM)’	<i>dhaladha</i> ‘northeast wind’ (NEUT)	Mac: <i>sallatan?</i> ‘south wind’
<i>awiyerrvrda</i> ‘NEUT.cyclone’	<i>wuyarrirda</i> ‘cyclone’ (NEUT)	
<i>marrakwa</i> ‘VEG.whirlpool in sea’	<i>marraku</i> ‘twister’ (VEG)	
<i>angubina</i> ‘NEUT.cloud’ Tindale 1926: <i>aubina</i>	<i>ngubunung</i> ‘cloud’ (NEUT)	
<i>ebvrra</i> ‘NEUT.raincloud’ (VL1 p.44)	<i>-abirrarraki-</i> [I ₁] ‘to get light in the morning’	
<i>awija</i> ‘NEUT.mist’	<i>wuuji</i> ‘mist’ (NEUT)	
<i>mijiyelya</i> ~ <i>midhiyelya</i> ‘VEG.beach’	<i>madharlak</i> ‘beach’ (VEG)	

¹⁹ Heath (1982: 97) notes that this word looks like a derivative of *ngalng-* ‘spike on woomera’ with VEG (Mana) class prefix *ma-*, but this analysis is incompatible synchronically with MASC (Na) class marking, which he believes is due to synonymy with MASC (Na) class *warndak* ‘woomera’. The Enindhilyakwa correspondence is also MASC.

<i>adhalyvma</i> ‘NEUT.river’	<i>-rlami</i> ‘river’ (song style)	
<i>akvlharr-</i> ‘season’	<i>akalhal-</i> ‘season’ (cpd. initial)	
<i>alhamukwa</i> ‘NEUT.bark canoe’ <i>malhamukwa</i> ‘VEG.dugout canoe’	<i>lhamuku</i> ‘canoe’ (NEUT)	GP <i>dhamukku</i> (VL1 p.59)
<i>mijiyanga</i> ‘VEG.boat, ship’	<i>mijiyanga</i> ‘type of ship’ (VEG)	Mac: <i>?bisean</i> ‘boat’
<i>dhvlhingena</i> ‘FEM.salt’	<i>lhanganik</i> ‘salt’ (MASC)	
<i>jal-</i> ‘ground’		* <i>jolkko</i> ‘ground’
<i>arnduwarra</i> ‘NEUT.walking stick’	<i>warndulu</i> ‘walking stick’ (NEUT)	
<i>mvrngkvrra</i> ‘VEG.sinker’	<i>mirnkirra</i> ‘sinker’ (VEG)	
<i>amba(k)-</i> ‘hollow things, canoes’	<i>ramba-</i> ‘boat, canoe’	
<i>baliyerra</i> ‘sail(NEUT)’ Tindal 1926:104: <i>balyara</i>	<i>bakajalyarra</i> ‘mast’ (NEUT)	Mac: <i>pallayarran</i> ‘mast’
<i>kalikwa</i> ‘calico, tent(NEUT)’	<i>kaaliku</i> ‘canvas’ (VEG)	Eng: <i>calico</i>
<i>n-abalija</i> ‘3m-male owner’	<i>napalijang</i> ?	
<i>bajirlana</i> ‘fish hook, claw(NEUT)’	<i>bajirlang</i> ‘fish hook’ (FEM)	
<i>bikanga</i> ‘fish hook(NEUT)’ Tindale 1925:80 <i>bigangi</i>	<i>bikangi</i> ‘fish hook’ (NEUT)	Mac: <i>pekan</i> ‘fish hook’
<i>kaliwanga</i> ‘machete(NEUT)’	<i>kaliwanga</i> (NEUT)	Mac: <i>kalewang</i> ‘sabre’
<i>bajikala</i> ‘billycan(NEUT)’		Mac: <i>bassi kallij</i> (VL1 p.280) or <i>bassi kaleŋ</i> ?
<i>libaliba</i> ‘canoe(NEUT)’; Tindale 1926: <i>leva-leva</i>		Mac: <i>lepa-lepa</i> ‘canoe’
<i>kulvnga</i> ‘rudder(NEUT)’	<i>kulinga</i> (VEG)	Mac: <i>gulin</i> ‘rudder’
<i>dhvmbala</i> ‘cloth, sail(FEM, VEG)’ Tindale 1926:104: <i>tumbala</i>	<i>dhumbala</i> ‘sail, cloth’ (VEG)	Mac: <i>sombala?</i> ‘sail’
<i>bangkilya</i> ‘tomahawk(NEUT)’	<i>bangkilijina</i> ‘metal axe’ (NEUT)	Mac: <i>paŋkulu?</i> ‘axe’
<i>babvlvkena</i> ‘sheet iron(NEUT)’	<i>babirlikan</i> ‘iron, steel’ (NEUT)	Mac: ?
<i>badha</i> ‘box(NEUT)’	<i>baadhi</i> ‘box’ (NEUT)	Mac: <i>patti</i> ‘box’
<i>balangwa</i> ‘anchor(VEG)’	<i>balangu</i> ‘rope for sail or anchor’ (VEG)	Mac: <i>balano</i> ‘anchor’
<i>dhvdija</i> ‘iron(NEUT)’	<i>dhuduju</i> ‘anchor, crowbar’ (NEUT)	Mac: ?
<i>lyelyinga</i> ‘knife(NEUT)’ Tindale 1926:132: <i>lalingi</i>		Mac: <i>ladiŋ</i> ‘knife’
<i>anija</i> ‘beer(NEUT)’	<i>aniji</i> ‘type of liquor associated with Macassans’ (NEUT)	Mac: <i>anisi?</i> ‘alcohol, grog’
<i>libanga</i> ‘bait(NEUT)’	<i>libangi</i> ‘bait’ (NEUT)	Mac: <i>eppan</i> ‘bait’
<i>kalukwa</i> ‘coconut(NEUT)’		Mac: <i>kaluku</i>

Nominals: others

Enindhilyakwa	Wubuy	pGN / Mac
<i>marduwala</i> ‘VEG.circumcision ceremony’	<i>marndiwala</i> ‘circumcision ritual’ (VEG)	
<i>malvrra</i> ‘VEG.open circumcision ceremony’	<i>-marlmarla-</i> ‘to dance in circumcision’	* <i>molerreny</i> ~ * <i>morlerreny</i> ‘mortuary package of bones’
<i>mardayin</i> ‘VEG.ceremony’	<i>mardayin</i> ‘ceremony’ (NEUT)	* <i>mardayin</i>
<i>a+ma+lhawudhawarra</i> ‘NEUT.Dreaming’	<i>lhawadhawarra</i> ‘Dreaming’ (NEUT)	(Ngan <i>dhowo</i>)
<i>ruk-</i> ‘body’; <i>-arukwa</i> ‘raw’	<i>rdiku</i> ‘raw’; <i>riku-</i> ~ <i>ruku-</i> ‘dead, unconscious’	
<i>-awura</i> ‘alone’	<i>wiriwiri</i> ~ <i>biriwiri</i> ‘alone’	
<i>-k-adhuwa</i> ‘new’; <i>adhuwaba</i> ‘today’	<i>kadhuwa</i> ‘young, new’	
<i>lyikarr-</i> ‘light and hollow’	<i>kakar</i> ‘light weight’	
<i>-mangkadhvrra</i> ‘introduced, Macassan, European’	<i>mangkaadhira</i> ‘Macassan’	
<i>bungkawa</i> ‘boss’	<i>bungkawa</i> ‘boss’	Mac: <i>pungawa</i> ‘boss’
<i>arakba</i> ‘completed action’	<i>bukak</i> ‘old’	
<i>ne-ni-yuwangkwa</i> ‘3m-m-old man’; <i>dha-dhi-yuwangkwa</i> ‘3f-f-old woman’	<i>yiwangku</i> ‘old (man)’	
<i>dhambakwa</i> ‘tobacco(NEUT)’	<i>dhamba(a)ku</i> ‘tobacco’ (NEUT)	Mac <i>tambako</i> pGN * <i>dhambakku</i> ~ * <i>jambakku</i>
<i>Lalara</i> ‘clan name’	<i>Rlarlarra</i> ‘clan name’	
<i>alvdha</i> ‘NEUT.paint, colour, ochre’	<i>wudhalak</i> ‘ochre’ (VEG)	(Ngan <i>budhdhalak</i> ‘ochre’)
<i>n-ebiba</i> ~ <i>n-ebbibba</i> ‘3m-mother’s brother’ (VL1 p.26)	<i>nabiba</i> ‘mother’s brother’	* <i>bibbi</i> ‘man’s child’
<i>kaku</i> ‘grandmother’	<i>kaaku</i> ‘MoMo’	* <i>ka(k)kak</i> ‘parallel grandparent (Ngan <i>kokkok</i>)
<i>mawilya</i> ‘VEG.pubic tassle’		* <i>warlbburr</i> ‘pubic tassle’
<i>-adhvrra</i> ‘some’	<i>adharra</i> ‘few’	
<i>yawa</i> ‘yes’	<i>yao</i> ‘yes’	
<i>-mvrkk+balya</i> ‘soft’	<i>warlayida</i> ~ <i>barlayida</i> ‘smooth’	
<i>malyarra</i> ‘VEG.pubic tassle’	<i>milyirr</i> (neut) ‘decoration’	
<i>narngkiyarrka</i> ‘my father-in-law’	<i>arnki</i> ‘FaMoBrCh’	
<i>amarmbarmbvna</i> ‘place name’ (VL1 p.67)	<i>amarnbarnbina</i>	

Verbs

Enindhilyakwa [I]	Wubuy [I]	pGN
- <i>angkarr</i> - ‘run, blow, coming in of tide’	- <i>angkarr</i> - ‘come in (of tide, saltwater)’	
- <i>dharrbv</i> - ‘move’	- <i>dhadharrbi</i> - ‘move’	
- <i>lyikbi</i> - ‘float’	- <i>rijbi</i> - ‘float’	
- <i>awiyabe</i> - ‘enter’	- <i>yabi</i> - ‘enter’	
- <i>mungsk(w)adhv</i> - ‘dig’	- <i>wud-i</i> ~ - <i>kudi</i> - ‘dig’ - <i>kaadhi</i> - ‘dig in ground with hands’	
- <i>mebi</i> - ‘sing’	- <i>maya</i> - ‘sing’	
- <i>nyirr(ng)mV</i> - ‘blow nose’	- <i>nyirra</i> - ‘growl’ (dog)	*- <i>ngVrr(ng)</i> - ‘growl’ *- <i>jirrng</i> - ‘sneeze’
- <i>ngambe</i> - ‘bathe’	- <i>ngambi</i> - ‘bathe’	
- <i>ngare</i> - ‘howl, cry (of curlews)’	- <i>ngara</i> - ‘howl’ [intr., A ₂], some forms confusable with - <i>ngari</i> - ‘fade away’ [intr., I ₁]	
- <i>lharr</i> - ‘fall’	- <i>lharri</i> - ‘untie, release’	
- <i>arrk</i> - ‘pull’	- <i>arrki</i> - ‘pull’	
- <i>akvma</i> - ‘put’		*- <i>kutma</i> - ‘put down’
- <i>embirrar</i> - ~ - <i>embvlarr</i> - - <i>ambvdvdhv</i> - ‘be delayed’	- <i>ambunarri</i> - ‘wait’ (<i>narra</i> (tr., A ₂) ‘wait for’)	
- <i>errikerri</i> - ‘look back, look around’	- <i>karrini</i> - ‘look back over one’s shoulder’ (<i>karri</i> + REFL of <i>na</i> ‘see’); - <i>kaarriki</i> - ‘go/come back’	
- <i>yengbi</i> - ‘speak’	- <i>yambi</i> - ‘speak’	
- <i>balhv</i> - ‘be open’	- <i>wawalha</i> - ~ - <i>bawalha</i> - [intr., A ₂] ‘be wide open’	
- <i>errikirrik+arrnga</i> - ‘be tired, stretching, yawning’	- <i>wirr-kirrkirru-j</i> - ‘skinny, in poor physical condition’	
- <i>ambalk</i> - ‘pelt with stones’	- <i>warlka</i> - ~ - <i>barlka</i> - ‘pelt with stones’	
- <i>bvdhv</i> - ‘swell’	- <i>wuda</i> - ~ - <i>buda</i> - ‘swell’ (NGA ₁)	
- <i>bvlbee-yi</i> - ‘bubble, boil (of water)’	- <i>bulbayi</i> - ‘bubble, boil (of water)’	
- <i>barrku-dhv</i> - ‘go a long way, hike, walkabout’	<i>barri</i> - ‘hike, walkabout’ (NEUT)	
- <i>yardi-ji</i> - ‘carry’ (CAUS)	- <i>yari</i> - (I ₁) ‘to take away’ (tr.)	
- <i>jungwV</i> - ‘die’	- <i>ngawi</i> - ‘die’ [I ₁ ~ I ₂]	*- <i>dho(wi)</i> - ‘die’
- <i>miji</i> - ‘search’		*- <i>mij</i> - ‘?’ (Jawoyn - <i>mij-jo(yo)</i> - ‘to not know’, Warray - <i>mij-na</i> - ‘to know’

Enindhilyakwa [2A]	Wubuy [A₃]	pGN
(+)ma- ‘get, thematic’	(+)ma- ‘get, thematic’	*-ma- ‘get’
-lharrma- ‘chase’	-lharrma- ‘chase’	
-lhawulhawa- ‘be stretched out’	-wawalha- ‘be wide open’ [A ₂]	
-waruma- ‘rise, get up (sometimes with sense of want to get up and go)’	-ruma- [A ₁] ‘go’	

Enindhilyakwa [2B]	Wubuy [A₂]	pGN
+dha- ‘thematic’	+dha- ‘thematic’	
-ridha- ‘chop’	-lha- ‘chop’ [A]	
-warda- ‘hit’	-warda- ~ -barda- ‘knock, tap’	
-kura- ‘pull in fish’	-kurda- ‘catch fish’	
-jira- ‘push’	-jura- ‘push’	
+baja- ‘hit, punch’	-wadja- ~ -badja- ‘hit, kill’	*-badja- ‘punch’
-waja- ‘brush away’	-wadja- ~ -badja- ‘hit, kill’	
-rija- ‘scrape’	-ruja- ‘scrape’	
-arrikarra- ‘write, draw’	-arrarra- ‘draw’	Mac: <i>ukirri?</i> ‘write’
-arda- ‘yell’	-arda- ‘yell’	
-yengmidhadha- ‘be silent’	-murdardba- ‘be silent’	
-dhida- ‘shut’	-dhida- ‘shut’	
-arndvrra- ‘criticize’	-aandirra- ‘refuse to accept’	
-abvrra- ‘put down’	-burra- ‘put down’	
-aka(rr)da- ‘bark, hiss, howl, roar’	-ngada- ‘bark, yelp’	
-bula- ? ‘push’ (intr.)	-bula- ‘emit smoke’	
-yardha ‘marry, emerge’	-yadha- ‘to claim (as future wife or man)’	
-jawudha ‘put into, onto’	-wudha- ~ -budha- ‘put up, suspend’	
-wurda- ‘climb’	-wirda- ~ -birda- ‘to go up’ [A ₁]	
-a(r)jirra- ‘wash’	-adjarra ‘clean shellfish’	
-kubarddha- ‘go for a walk, walkabout’	-kubadha- ‘go for a walk’	
-badha- ‘to dawn’	-badha- ‘to die down of wind’	
-a(r)dhvrra- ‘stab, spear’	-walharra- ~ -kalharra- ‘stab’ -ardharra ‘die down of wind’	
-ja- ‘eat’		*-ja(ra)- ‘eat’
-aya- ‘stand’	-lha- ‘stand’ [NGA ₂]	*-dha- ‘stand up’, *-dhi- ‘be standing’

Enindhilyakwa [3]	Wubuy [N]	pGN
+ka- ‘thematic’ -yika- ‘fetch’	+ka- ‘thematic’	*-ka- ‘carry’
-lhawurrka- ‘taste, try, test’	-lhawiwa- ‘ask, inquire’	*-ja-wa- ‘ask’
-walka- ‘sneak up on’	-waalka- ‘sneak up on’	
-lharrka- ‘send’	-lharrka- ‘send’	
-ngurrkwa- ‘hunt’	-ngurrka- ‘hunt’	
-ingkirrika- ‘hear’	-wawangki- ~ -kawangki- ‘listen’ [I ₁ ~ I ₂]	
-arndaka- ‘hunt’	warndak ‘woomera’	
-lhaba- ‘taste, try, test’	-lhawiwa- ‘enquire’	
-lhekba- ‘accuse, blame’	-lhajbu- ‘blame’ [MA ₁]	
-kwiyerr+bajja- ‘miss the mark’	-wajirr+badja- ~ -kajirr+badja- ‘miss with thrown object’ [A ₂]	

Enindhilyakwa [4]	Wubuy [A ₁]	pGN
-maka- ‘tell’	-maka- ‘tell’	(Ngan -makka- ‘tell’)
-adhukwa- ‘stab’	-adhuka- ‘stab’	
-rrvngka- ‘see’	-warrangka- ‘look’	
-wilyaka- ‘hold, take, carry’	-warnaka- ‘hold’; bilharka ‘seize, grab’	
-kwa- ‘give’	-yi- ~ -wu- ‘give’ (irregular)	*-wo- ‘give’
-(ya)ma- ‘do, say’	-yama- ‘do, say’; INCH -ma-	
-warrka- ‘sew’	-warrka- ~ barrka ‘mend’	
-mvrndukwa- ‘come together’	-murnduka- ‘be/become together’	
-yamarrka- ‘do what?’	-yamingkarri/yaminykarri- ‘do what?’ I ₂	
-beki- ‘drink’		*-bi- ‘drink’
-ba- ‘hit, argue’	(+)wu- ~ (+)bu- ‘hit, thematic’	*-bu- ‘hit’
-bukwa- ‘blow’		*-buq- ‘blow’
-anga- ~ -anga- ‘bite’ +wangv- ‘chew’ [1]	-wa- ~ -ba- ‘bite’	*-ba(ya)- ‘bite’

Enindhilyakwa [6]	Wubuy [NGA]	pGN
-mungskulha- ‘sleep’	-mungskulha- ‘lie down’ [NGA ₁]	
-murrkulha- ‘lie down’	-murrkulha- ‘lie down’ [NGA ₁]	
-arji(ya)- ‘stand’	-lha- ‘stand’ [NGA ₂]	*-dha- ‘stand up’; *-dhi- ‘be standing’
-lhalhv- ‘be upright’	-lha- ‘stand’ [NGA ₂]	*-dha- ‘stand up’; *-dhi- ‘be standing’
-ambarrv- ‘sit’	-burra- ‘sit’ [NGA ₁]	
-kirruwanji- ‘smell’	-wanyja- ‘emit smell’ (-arrawuj- ‘odour’)	
-abilyuwendha- ‘bend down’	-bilya- ‘be tilted’; -wudha-~- budha- ‘be up’	
-dhvrrvrnda- ‘descend’	-dhirrida- ‘descend’ [A ₂]	

Prepounds

Enindhilyakwa	Wubuy	pGN
-nyirr(ng)+ma- ‘blow nose’ (2)	-nyirra- (intr., A ₂) ‘emit long growl	*-NVrrngq- ‘snore’
-mungkv-dvrra-dhv- (INCH) ‘want to be with a person’	-daarra-ja ‘be anxious to get sth, yearn, lust for’ (tr., NGA ₁)	
-yerrerri+ka- ‘shake’ (tr., 4)	-jarrarra- ‘move, shift around’	
-errek+bi- ‘vomit’	warrkard ‘vomit’ (NEUT) warrkard-bu- ‘belch, burp’ (intr., MA ₁)	
-wurum+bi ‘cover’ (intr., 1)	-wurama- ~ -kurama- ‘move around person or thing’ (tr., A ₁)	
-akbi+janga ‘jump’ (4)	abi ‘jump’	
-marra- ‘shine of full moon’ (intr., 2)	-arrarraki- (intr., I ₁) ‘shine of full moon’ (arrarra ‘daytime’)	
-yarru+wa- (tr., 1) ‘go past without stopping’	-aarru- ‘leave, abandon’ [U ₂]	
-dhvrreng+mi- ‘explode, thunder’ (intr., 1)	dhirriirdak! ‘sound made by blowing into didjeridoo’	
-ngadhu+wa- ‘cry for’	-ngada- ‘bark, yelp’	(Ri: -ngaathi- ‘cry’; Ngayarda *-ngathi- ‘cry’ Alpher 2004: 110, fn23)

Suffixes

Enindhilyakwa	Wubuy	pGN
-jungwV- ‘REFL’ [1A]	-i- [I ₁] ‘REFL’	*-yi- ‘REFL’
-dhv- ‘INCH’ [1A]	-dhi- [I ₁] ‘INCH’	*-dhi- ‘INCH’
-yi- ~ -(n)ji- ‘RECP’ [1A]	-nji- ‘RECP’ [I ₂]	*-nji- ~ -ndhi- ‘RECP’
-ji- ‘CAUS’ [5]	CAUS -jka- [A ₁] ~ -jki- [I ₁]	
-ka- ~ -kwa- ‘FACT’ [4]	-wa- ~ -ka-, -ka- ‘FACT’ [A ₁]	
=wiya ‘pergressive’	wiya ‘that’s all’	
-mvrra INSTR/PROP/PRIV case	-mirri INSTR case	
-lhangwa ABL/POSS/DAT case and EMPH	-lhangu ‘emphatic pluraliser, intensifier’	
-wa ALL case (also has DAT use)	-wuy ~ -kuy ALL/DAT case	
-manja ‘LOC, if, when’ (JH: LOC -maja)	-majii ‘if, when’	
-aja ‘change of referent’	-ayung ‘contrastive’	
-lhangwiya ABL.PRG case	-walawaj ~ -kalawaj ABL.PRG	
-ambvlhangwa ‘in turn’	-abilhangu ‘sequential, in turn’	
-bidjina ‘beside’	birrina ‘on one side’	
-abakiya ‘alone, in isolation’ (VL p.332)	-wukij ~ -bukij ‘only, still, nothing but’ -waj-bukij ‘emphatic-only’	
nara ‘negator’	-ari ‘negative’	

Appendix Q: Pronominal prefixes and stem-initial *w*-

In terms of their initial segment there appear to be three different types of verb stem: (i) stems starting with a consonant; (ii) stems starting with [i]; and (iii) stems starting with [a] or [ɛ]. These stems take identical prefixes, except for the intransitive ‘3a, COLL’ and NEUT forms, and transitive forms with inanimate subjects and objects. Table Q.1 illustrates the three patterns for realis intransitive stems, with bolding of the relevant prefixes (recall that the vowel that occurs between two consonants of a prefix and a stem is epenthetic). The same pattern occurs in the irrealis (section 4.2.1).

	C-initial stems	[i]-initial stems	[a]- and [ɛ]-initial stems
1	(<i>nv</i>)ngv-lhvka	(<i>nv</i>)ng-ingkarrnga	(<i>nv</i>)ng-alyvbar
12	yv-lhvka	y-ingkarrnga	y-alyvbar
1a	yvrrv-lhvka	yvrr-ingkarrnga	yvrr-alyvbar
12a	ngarrv-lhvka	ngarr-ingkarrnga	ngarr-alyvbar
2	nvngkv-lhvka	nvngk-ingkarrnga	nvngk-alyvbar
2a	kvrrv-lhvka	kvrr-ingkarrnga	kvrr-alyvbar
3m / MASC	nv-lhvka	n-ingkarrnga	n-alyvbar
3f / FEM	yingv-lhvka	ying-ingkarrnga	ying-alyvbar
3a / COLL	na -lhvka	ne -ngkarrnga	nuw -alyvbar
VEG	nvmv-lhvka	nvm-ingkarrnga	nvm-alyvbar
NEUT	na -lhvka	ne -ngkarrnga	nuw -alyvbar

Table Q.1: Intransitive pronominal prefixes paradigms

For consonant-initial stems the ‘3a/COLL/NEUT’ prefix is *na-*, as in *na-lhvka-ja* [na_ɹɬəkaca] ‘they/it is/are going’. For *i*-initial stems the two vowels merge and become *e* (rule P-10), as in /na-ɪŋkarŋa/ [neŋkarŋa] ‘they/it broke’. For stems listed in the dictionary as starting with *a* or *e*, on the other hand, the prefix is *nuw-*, as in *nuw-alyvbarv-na* [nuwaɬəpaɹəna] ‘they/it is/are eating’, and *nuw-errekbi-na* [nuweɛ kɹpina] ‘they/it is/are vomiting’.

All previous work treats this variation as *na-* becoming *nuw-* before *a-* or *e-* initial stems, which I have followed in Chapter 4 (Leeding and Stokes/Waddy posit a simple variation, whereas Heath attempts to formulate a *w*-insertion rule). However, this is not a very satisfying solution, because no *w* appears before stems beginning with *i* (cf. **nuw-ingkarrnga* ‘they/it broke’). So we need an explanation for why a *w* is inserted before *a* and *e*, but not before *i*.

I propose that the stems that start with *a-* or *e-* and take the *nuw-* prefix historically start with *wa-* or *we-*. This *w* has disappeared word-initially and after prefixes that end in a consonant - that is, after all prefixes except ‘3a/COLL/NEUT’ *na-*. In this analysis, the stem for ‘eat’ is historically *-walyvbar-*, and we get *nu-walyvbar*, with retention of stem-initial *w* following a vowel, but *ying-alyvbarv-na* ‘she is eating’ and *alyvbara* ‘eat!’, with deletion of *w* following a consonant and

word-initially. The *a* vowel of the *na-* prefix then exceptionally assimilates to the following *w* and is realised as *u*: **na-w...* > *nu-w...*

The attested Wubuy correspondences support this hypothesis, as these have stem-initial *w*: Enindhilyakwa *-(w)arndaka-* ‘to hunt with spear’ : Wubuy *warndak* ‘woomera’; Enindhilyakwa *-(w)edhvrremi-* ‘to deny’ : Wubuy *-wadhaarimi-* ‘to say no’; Enindhilyakwa *-(w)anga-* ‘bite’ : Wubuy *-wa-nga-* ‘bite’.

Language-internal evidence for the presence of an historical stem-initial *w* comes from the nominaliser (NSR) prefix *k-* (section 3.4.6) and the alienable possession prefix *ng-* (section 3.4.5.3). Normally an epenthetic vowel is inserted between these prefixes and the stem when the stem starts with a consonant, as illustrated for the NSR *k-* (1a). But for stems that historically start with *w*, this is preserved and no vowel epenthesis occurs, as in (1b).

- (1) a. *warnv-ku-ngurrki=yadha anhvnga*
 3a.m-NSR-collect=PURP NEUT.food
 ‘for them to collect food’ (‘Ekalhara’ g56)
- b. *nen-akbvrranga yaraja warnu-k-walyubari=yadha wurr-akina*
 3a/MASC-catch.PST MASC.goanna 3a.m-NSR-eat=PURP 3a-that
 ‘they had caught goanna to eat’ (Fieldnotes DL, 12/2/2008)

The [u] quality of the vowel that precedes the NSR prefix in *warnu-k-walyubari=yadha* in (1b) points to the following consonant being labialised. Leeding (1989) and Waddy (n.d.) both assume that the NSR prefix randomly varies between *k-* ~ *kw-* for no apparent reason. I propose that the labialised variant is the result of an historical stem-initial *w*.

The derivational prefixes *ngw-* and *kw-* vary their unrounded forms in some instances:

- (2) a. *kv-me-na amarda, enung-werribirra amarda ...*
 IRR.1/NEUT-take-NP2 NEUT.grass NEUT.m.ALP-anyhow NEUT.grass
 ‘I would take some leaves...’ (JW p.70)
- b. *envng-erriberriba anhvnga*
 NEUT.m.ALP-bush NEUT.vegetable.food
 ‘bush tucker’ (Angurugu Linguistics)

The labialised ALP prefix *ngw-* in (2a) is assumed to be due to an historical initial *w* of *erriberriba* ‘NEUT.bush’ (Wubuy: *warrinybarriny* ‘dense scrub’ (NEUT), which may involve i-umlaut, cluster simplification and addition of final *-ba* in Enindhilyakwa: **warrinybarriny* > **werrinyberriny* > **werriberrri* > *erriberriba*).

Further language-internal evidence for an historical stem-initial *w* comes from related dictionary entries that vary in the presence of *w*, as listed in Table Q.2. This table also offers Wubuy correspondences, which start in *w*.

Data with stem-initial <i>w</i> -	Data without stem-initial <i>w</i> -	Wubuy <i>w</i> -
<i>na-werrik-arrngv-na</i> 'taking last breath, be at point of dying'	<i>nuw-errikirrik-arrngina</i> 'be tired, stretching, yawning'	-wirrkirrkirru- ~ -kirrkirrkirru-j- 'in poor physical condition'
<i>awurrariya</i> 'bad, wrong, evil' INCH: <i>na-wurrariya-dhv-na</i> 'become bad'	<i>awarriya</i> 'bad' INCH: <i>nuw-arriyadhv-na</i> 'become bad, become spoilt'	
<i>na-werrik+angbvradhv-na</i> 'be disappointed' <i>werri-</i> 'chest'	<i>nuw-erri+bvrandhv-na</i> 'not want, be sick and tired of something'	
<i>na-warde+mi-na</i> 'cry out'	<i>nuw-arde-na</i> 'cry out'	(-arda- 'shout, yell')
<i>a-k-werrukulha</i> 'pity, mercy'	<i>nuw-errukulhv-na</i> 'feel sorry for'	-warrngayu- 'feel sorry'
<i>na-lyelyu+wangv-na</i> 'chew'	-anga- 'bite' RDP: -angv-banga-	-wa- ~ -ba- 'bite'

Table Q.2: Dictionary entries with varying presence of stem-initial *w*, and their Wubuy correspondences

These data suggest that stem-initial *w* may have been present at some stage, as it still is in Wubuy today, but has disappeared in Enindhilyakwa, only showing up in some lexicalised forms.

There is, however, a complicating factor: some Enindhilyakwa stems start with *w* on the surface, which behaves like any other consonant and never disappears. Here, the *na-* prefix stays *na-* and does not assimilate to *nu-*. Examples are *na-wurda-nga* 'they/it were/was climbing', and *na-warda-nga* 'it was hitting it', among many others. The Wubuy correspondences also start with *w*, which has a hardened variant *b* showing up after a stop or a nasal. Wubuy examples are -*wirda-* ~ -*birda-* 'climb' and -*warda-* ~ -*barda-* 'tap, knock'. When nominalised, these stems maintain their initial *w-*, and an epenthetic vowel may or may not be inserted between the NSR prefix and the stem, as in (3a) and (3b), respectively:

- (3) a. *n-env-ku-wardv-lhangwa nu-wurrawilya*
3m-m-NSR-kill-ABL 3m-Rainbow
' [he was thinking about] killing Rainbow' (VL1 p.421)
- b. *n-enu-k-wardi=yadha nu-wurrilyi-manja*
3m-m-NSR-kill=PURP 3m-Rainbow-LOC
' [that was the best spear] for killing Rainbow' (VL1 p.487)

It thus appears that we have two morpho-phonemically distinct historical stem-initial *w-* segments: one that has disappeared but shows up in some environments - such as when following a prefix that ends in a vowel - and one that is stable. This is an important observation, because Wubuy also has two distinct *w* morpho-phonemes, discussed in section 9.2.1.2.1: one that varies with *b* and one that varies with *k*. The *w* ~ *k* phoneme is frequently deleted word-initially, or when preceded by [a] or a non-nasal sonorants (Heath 1984: 50-2).

As suggested in section 9.2.1.2.1, Wubuy stem-initial *w* ~ *b* corresponds to Enindhilyakwa stable stem-initial *w* (which becomes *b* in certain frozen patterns), whereas Wubuy *w* ~ *k*

corresponds to the Enindhilyakwa historical stem-initial *w*, which has synchronically disappeared in certain environments - as it productively does in Wubuy.

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