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) *-errek+bi-* 'vomit'   *-errik+bi-* 'throw, collect, spend'
     -me+bi-   'sing'   *-yeng+bi-* 'speak'
     -nyi+bi-   'grunt'   *-yi+bi-*   'swear at' (JH)
     -lyik+bi- 'go fast, blow away' *-lye+bi-*   'go to fight, make trouble'
     -merri+bi- 'swear' (JH)   *-ngeng+bi-jungwV-* (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).
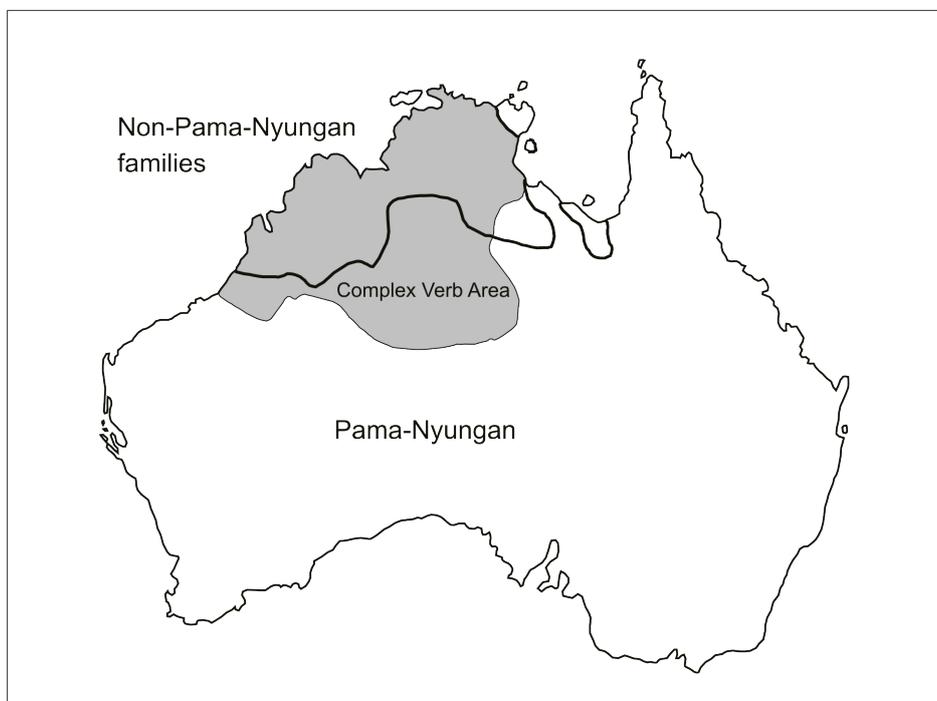
Map 5.1: Complex verb area in Northern Australia (Schultze-Berndt 2000: 1)

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[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 ('prepounds') 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; Bowern 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) <u>Phrasal complex verbs</u>: 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 'prepound' 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

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[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 'prepound'[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 prepound+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'

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[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 stem[6]). The '+' sign is used to represent the bound forms.

Fixed simple stems	Free simple stems	Bound simple stems
-lhvka- 'go'	*-ba-* 'hit, argue'	*+aya-* 'stand'
-kwa- 'give'	*-bukwa-* 'blow'	*+baja-* 'hit'
-ma- 'do, say'	*-bvrra-* 'shake'	*+barra-* 'split'
-ja- 'eat'	*-warda-* 'hit'	*+(bi)janga-* 'jump'
-ma- 'get'	*-miji-* 'search'	*+lhalhv-* 'be upright'
-jungwV- 'die'	*-arji(ya)-* 'stand'	*+wanga-* 'chew'
	-lharr- 'fall'	*+bilya-* 'attach'
	-wurra- 'throw'	*+abvrra-* '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-Gunwinyguan[7] (cf. pPN **baja-* [Alpher 2004: 117]). The verb *-warda-* 'hit' is also attested in Wubuy.

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[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)   -*arvma* 'big'   -*arvmv-dhv*- 'to become big'
       -*arrvbvdha* 'strong'   -*arrvbvdhv-dhv*- 'to become strong'
       awinyamba 'NEUT.anger'   -*awinyamba-dhv*- 'to become angry'
       angbilyuwa 'NEUT.sickness'   -*angbilyuwa-dhv*- 'to become sick'
       dh-adhiyuwangkwa '3f-old woman'   -*adhiyuwangku-dhv*- 'to become old (of women)'
       kvrrvndina 'leprosy(NEUT)' (< *quarantine*)   -*kurrvndina-dhv*- 'to quarantine'
       bungkawa 'boss, ruler' (< Mac *puŋgawa*)   -*bungkawa-dhv*- '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.

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[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   **kvm-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* **nvmv-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. *yarnungkwarba mama*   **yirru-kulyadhadha***, mama*   **yirrv-balanda**,
    1a.man   nevermind 1a-white   nevermind 1a-non.Aborigine
    yarnungkwarba *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>

    -alyadhv- 'be hanging' (< *-balya-* 'be stuck'?)   *-alyadhi-ji-* (CAUS) 'hang (tr.)'
    -lyandhv- 'be painful' (< *lyang-* 'head'?)   *-lyandhv-ka-* (FACT) 'make suffer'
    -ngwadhv- 'cry'[9] (*ngwa* '?')   *-ngwadhi-ji-* (CAUS) 'make cry'
    -wuldhv- 'go well' (*wul* '?')   *-wuldhv-ka-* (FACT) 'make go well'
    -lyvmadhv- 'disappear, become lost' (*lyuma* '?')   *-lyvmadhv-ka-* (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).

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[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'.

(9) a. *-dharrba* 'short'   *-dharrbu-kwa-* 'shorten'
   b. *-abiyakarbiya* 'three'   *-abiyakarbiya-ka-* 'divide into three'
   c. *awinyamba* 'NEUT.anger'   *-awinyamba-ka-* 'to make angry'
   d. *ayarrka* 'NEUT.hand'   *-ayarr+ka-* 'carry in hand'
   e. *e+m+ikirra* 'NEUT+INALP+name'   *-emikirra+ka-* 'name'
   f. *alhvkvra* 'NEUT.house'   *-lhvkvra-ka-* 'erect, raise, build'
   g. *ajamvrnda* 'NEUT.coolamon'   *-jamvrnda-ka-* 'make a coolamon'
   h. *kulvnga* 'rudder(NEUT) (< Mac *guliŋ*)   *-kulvnga+ka-* 'drive (vehicle)' (lit: 'make rudder')

The FACT suffix belongs to conjugation 4. The following are some textual examples of the FACT suffix.

(10) a. *Nenv-ma-ngv-ma*   *yvrda*   *biya* *nen-abiyarbuwa-ka-ma*   *y-akina.*
     3a/MASC-take-P2-*ma* MASC.supplejack and   3a/MASC-four-FACT.PST-*ma*   MASC-that
     'They took the supplejack cane and split it into four.'   (GED p.200)
   b. *a-mvrndak-akina-ma*   *amarda*   *narr-ardadv-ka-ma*
     NEUT-many-that-INSTR   NEUT.grass   3a/NEUT-hot-FACT.PST-*ma*
     'they heated them with leaves'   ('Yabungurra' l31)
   c. *Akwa kembirra narr-ikalharu-kwa-ma=dha.*   *Narr-errekba-ka-mvrra...*
     and   then   3a/NEUT-burnt.off.bush-FACT.PST-*ma*=TRM 3a/NEUT-outside-FACT.PST-*ma*
     'And so they burnt off. They cleared the ground...'   ('Ekalhara' g53-4)

Since the INCH and the FACT verbalising suffixes both attach to nominals, there are many pairs of denominal verbs built from the same nominal root. When this root is a cranberry morph, I will assume the stem is lexicalised:

Nominal	Inchoative stem (intr.)	Factitive stem (tr.)
-wurrariya 'bad'	*-wurrariya-dhv-* 'become bad'	*-wurrariya-ka-* 'make bad, spoil'
-envngaba 'good'	*-envngaba-dhv-* 'become good'	*-envngaba-ka-* 'make good'
-eniba 'alive'	*-enibv-dhv-* 'become alive'	*-enibv-ka-* 'make alive, save'
wilyarra 'middle'	*-wilyarra-dhv-* 'become middle-aged'	*-wilyarra-ka-* 'put in the middle'
ekalhara 'NEUT.burnt off bush'	*-ikalharv-dhv-* 'be burning (of bushfire)'	*-ikalharu-kwa-* 'burn off bush'
?	*-dha+dhv-* 'burn, be cooked'	*-dha+ka-* 'burn, cook'
?	*-mvrv+dhv-* 'be loaded'	*-dhvrr-mvrv+ka-* 'prevent, stop'
?	*-jerri+dhv-* 'be/become finished'	*-jerru+kwa-* 'finish, waste'
?	*-lhawurra+dhv-* 'return'	*-lhawurra+ka-* 'bring back'

Table 5.2: Pairs of INCH and FACT stems

The lexicalised FACT stems can be transitive or intransitive, and they can be followed by other derivational suffixes, as in the dictionary entries in (11) below.

   The FACT suffix has two allomorphs: *-ka-*, which appears to be the unmarked one, and *-kwa-*. Leeding (1989: 368-9) proposes that the latter occurs in lexicalised causatives, as in most of the examples in (11). The *-kwa-* allomorph can also be phonologically conditioned, Leeding claims, and is generated by a preceding rounded or bilabial peripheral consonant. Then *-kwa-* is in free

variation with *-ka-*. Examples are *-dharrbv-ka- ~ -dharrbu-kwa-* [short-CAUS] 'shorten' and
-mvramv-ka- ~ -mvramu-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)   Lexicalised factitive [class 4]   Derived verb

    -lhawurra+ka- 'bring back' (tr.)   *-lhawurra+ka-ji-* (CAUS) 'make return'
    -yangmarng+kwa- 'be happy' (intr.)   *-yangmarng+kwa-ji-* (CAUS) 'praise, thank, worship'
    -ikbvrru+kwa- 'disappear' (intr.)   *-ikbvrru+kwa-ji-* (CAUS) 'make disappear'
    -mvrndu+kwa- 'come together' (intr.)   *-mvrndu+kwa-ji-* (CAUS) 'make gather up'
    -ekberr+kwa- 'be soaking' (intr.)   *-ekberr+kwa-ji-* (CAUS) 'soak, put in water'
    -warru+kwa- 'go across, miss' (tr.)   *-warru+kwa-ji-* (CAUS) '(ex)change, turn over'
                                                -warru+kwee-yi- (RECP) 'take turns'
                                                -warru+kwa-jungwV- (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)   Verb   Factitive [class 4]

    -warr- 'move' (intr.)   *-warru+kwa-* 'go across, miss, confuse' (tr.)
    -ngunji- 'suck' (intr.)   *-ngunji-ka-* 'suckle' (tr.)
    -war-dha- 'work' (< *work*)   *-war-dhv-ka-* '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

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[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 same examples the FACT suffix is preceded by *-rr-*, as shown in Table 5.3.[12]

Nominal	Inchoative (intr.)	Factitive (tr.)
-arvma 'big'	*-arvmv-dhv-* 'become big'	*-arvmv-rr-ka-* 'make big, bring up'
-arrvbvdha 'strong'	*-arrvbvdhv-dhv-* 'become strong'	*-arrvbvdhv-rr-ka-* 'strengthen'
-ingbvdha 'strong'	*-ingbvdhv-dhv-* 'become strong'	*-ingbvdhv-rr-ka-* 'strengthen'
ariba 'NEUT.land'		*-ribe-rr-ka-* 'go ashore' (intr.)
?	*-ambvdhv-dhv-* 'be delayed'	*-ambvdhv-rr-ka-* 'stop, hesitate'
?	*-lyi-dhv-* 'be rubbed off'	*-lyv-rr-kwa-* 'rub out'
-eningma 'knowing'	*-eningmv-dhv-* 'get to know'	*-eningmv-ka-* ~ *-eningmv-rr-ka-* '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. **-arrvbvdhv-rr-* 'be/become strong' > *-arrvbvdhv-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.

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[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. *Adhvnvbawiya* **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)   <u>Frozen causatives</u>

    -mvrrka+ji-   ?'follow'   (*-mvrrka-* '?')
    -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', *-dhid**i**-jungwV-* 'be in prison').

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[13] Leeding (1989) calls this suffix 'transitiviser', whereas Waddy (n.d.-a) calls it 'causative'.

(16) Transitive verb   Derived reflexive verb

    -ikbilyaja- 'drop, throw down'   *-ikbilyaja-jungwV-* 'throw oneself down'
    -lhaba- 'test, try, taste, judge'   *-lhaba-jungwV-* 'try oneself out, practise'
    -(lyi)lya- 'take, carry'   *-lyi-jungwV-* 'take oneself'
    -rvngka- 'look after'   *-rvngka-jungwV-* 'look after oneself'
    -yangkuruwurrka- 'make crooked'   *-yangkuruwurrka-jungwV-* 'curl up'
    -ngekburaka-[14] 'make, create, fix, heal' *-ngekburaka-jungwV-* 'happen, take care'
    -ngurdhvrruwa- 'dip'   *-ngurdhvrruwa-jungwV-* 'dive, drown'
    -yukujiya-ka- 'make something small'   *-yukujiya-ka-jungwV-* 'make oneself small'
    -akurraji- 'look after'   *-akurraja-jungwV-* 'look after oneself'
    -dhida- 'imprison'   *-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 transitivising BENEfactive applicative prefix (section 4.5). The resulting verb is morphologically intransitive:

(18) a. *ngarrvbukurra-lhangwa engengkuwa ngarrv-bv-mvnv-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)

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[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 *-ngurrjumani-* '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>

    -*ardhvrra*- 'spear'   -*ardharri-yi*- 'spear each other'
    -*warda*- 'hit, kill'   -*wardi-yi*- 'fight each other'
    -*yardhi-ji*- 'marry someone'   -*yardhi-jee-yi*- 'marry each other'[15]
    -*milya*- 'put on top of, hold'   -*milyi-yi*- 'lie on top of each other'
    -*wurra*- 'throw away, discard'   -*abvrraku-wurri-yi*- 'separate from one another'
    -*kwar*- 'hook, catch fish'   -*kwari-yi*- 'be hooked together'
    -*rndvrrka*- 'grab'   -*rndvrrkee-yi*- 'commit adultery'
    -*lyungkwe*- 'paint'   -*lyungkwee-yi*- 'paint each other'

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[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-mvnv-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-angkvrree-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)

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[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) Intransitive stem   Reduplicated RECP stem

-*abvrangka*- 'look for'   -*a-bv-bvrangkee-yi*- 'keep on looking for'
-*angkvrarvkv*- 'make faces'   -*a-ngkv-ngkvrarvkee-yi*- 'keep on making faces'
-*malyangka*- 'play'   -*malyv-malyangkee-yi*- '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 (Bowern 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.

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[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 Bininj 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-*

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[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)   *-yirr+ma-*   'swim'   *-weng+ma-*   'come towards'
      -warv+ma-   'rise, fly away'   *-lharr+ma-*   'chase'
      -lyeng+ma-   'lead'   *-yerrerr+vma-* '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 'prepound' (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 prepounds 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 prepounds are not. There is typically no other way of expressing the resultant meaning, and no option of paraphrasing by omitting the prepound 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 prepound 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 prepounds 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 *dhvngadhilyenjirrka*
        '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
-*lyang+ba-* 'go across'	*lyang-* 'head'
-*lyang+baja-* 'hammer'	
-*lyang+barrkv-* 'sweep'	
-*lyangku+wamv-* 'nod'	
-*lyang+bvrrukwa-* 'fill'	
-*lharrk+baka-* 'tell the truth'	*lharr-* 'bones'
-*mam+baji-* 'rub with hands'	*mam(b)-* 'hand'
-*ngurr+baja-* 'interrupt'	*ngurr-* 'mouth'
-*mungk+wardhv-* 'scavenge'	*mung-* 'eyes, cheeks'
-*ngarrv+ma-jungwV-* (REFL) 'listen'	*ngarr-* 'ear'
-*mvrak+bi-* 'wear around neck'	*mvra-* 'throat'
-*yeng+bi-* 'speak'	*yeng-* 'voice, speech'
-*lyik+bi-* 'blow away, go fast'	?*lyi-* 'lips'
-*ngeng+bi-jungwV-* (REFL) 'sigh from sadness'	*ngeng-* 'breath'
-*werri+bi-ki-* (FACT) 'feel, remember'	*werri-* 'chest'
-*ruk+bijangv-* 'jump down, get off'	*rukwV-* '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 prepound 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 prepound in Enindhilyakwa. However, a corresponding free nominal may be attested in Wubuy:

Enindhilyakwa complex stem	Wubuy free nominal
-*lhakar+mv-* 'choke'	*lhakar* 'saliva'
-*rerr+mv-* 'dry'	*rarri* 'dry'

Table 5.5: Prepounds similar to Wubuy free nominals

Alternatively, a prepound 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
-edhvrre+mi- 'deny'	*edhvrra* 'NEUT.mouth'
-ngaruku+mv- 'fish by line'	*mv+ngarukwa* 'VEG+fishing line'
-nyirr+mv- 'blow nose'	*e+nyirra* 'NEUT+runny nose'
-lhvlhvl+mv- 'blow fire till it lights'	*a+lhvlha* 'NEUT+kindling for starting fire'
-yukwa+mv- 'ask (e.g. for food)'	*a+yakwa* 'NEUT+word'
-rak+bv- 'blow didgeridoo'	*yi+raka* 'MASC+didgeridoo'
-mvdhilyak+bv- 'cough'	*a+mvdhilya* '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 prepound 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 prepound 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 prepound may be formally similar, and sometimes also semantically related, to a verb root:

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[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
-ngadhu+wa- 'cry for' (tr.)	*-ngwadhv-* 'cry' (intr.)
-warde+mi- 'cry out'	*-arda-* 'cry out, shout'
-lhvlhvl+mv- 'blow fire till it lights'	*-lhvlhv-* 'blow on fire to get it going'
-ambilyu+wardhv- 'be anchored'	*-ambilya-* 'be in fixed location'
-marra+wa- 'wander'	*-marra-* 'push fish through billabong'
-lharr+ma- 'chase'	*-lharr-* 'fall'
-arrngarv+mv- 'sneeze'	*-arrngara-* 'burp'
-jira+ba- 'pour'	*-jira-* 'push'
-errukulhi+yama-ji- (CAUS) 'be sorry for'	*-errukulhv-* 'be sorry for'
-andhabv+me- 'wonder what you mean'	*-andhaba-* '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 prepound 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 prepound 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 prepound 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 prepound 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 prepound in frozen complex stems such as *-ngu+jalha-* 'eat while walking'.

Prepound	Complex stems
dhvrr	-dhvrru+wa- 'bury, dip' -ngur-dhvrr+wa-jungwV- 'dive' (-jungwV- 'REFL') -mvn-dhvrru+wa- 'stop (vehicle)' (mvn- 'BENE') -dhvrrv+mindha- 'thunder' -adhvrr+bvlha- 'bang, knock' -mvn-dhvrrv+mee-yi- 'put hands on each others shoulders' (mvn- 'BENE'; -yi- RECP) -dhvrr+mvru-kwa- 'prevent/stop doing something' (-kwa- FACT)
err	-err+bilya- 'spread (and stick)' -err+balhv- 'be separate' -erre+ja- yelyukwa 'walk in rain' -yerrerrv+ma- 'shake' -errv+lha- 'lean over' -erri+riji- 'shake food from tree'
(ik)bilya	-ikbilye+mv- 'spray when boat hitting waves' -ikbilya+ja- 'drop, throw down' -ikbily+arrngv- 'push over' -wabilyu+wendha- 'bend down, tip over'
mar	-mar+dha- 'covet, take over' -ang+mar+dha- 'hate' -marv+ma- 'stop, prevent fighting' -mar+dhv- 'be painful' (-dhv 'INCH')
ngu	-ngu+jalha- 'eat while walking' (cf. -yen+jalha- 'talk while walking') -ngu+nji- 'suckle'
bvrr	-bvrru+kwV- 'disappear' (intr.) -bvrru+kwa-ji- 'make disappear' (-ji 'CAUS') -bvrru+mv- '?' -arnda-bvrrv+mv 'carry under arm' -bvrru+wa- 'crawl, creep, slide' -bvrrv+dha- 'shake, tremble'
lyi	-lyik+bi- 'go fast, float away' -lyi-lyv+mv- '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
+*ma*- [2] (-*ma*- 'get, take') (cf. pGN *-*ma*- 'get')	-*yirr*+*ma*- 'swim' -*warv*+*ma*- 'rise, fly away' -*lyeng*+*ma*- 'lead' -*weng*+*ma*- 'come towards' -*lharr*+*ma*- 'chase' -*yerrerrv*+*ma*- 'shake'
+*ma*- [4] (-*ma*- 'do, say') (cf. pGN *(+)*ma*- 'thematic, do, say')[20]	-*ya*+*ma*- 'do, say'[21] -*kurarr*+*ma*- 'spit' -*rndang*+*ma*- 'make an intermittent noise (ring of bell, bang of gun, etc.)'
+*ba*- [4] (-*ba*- 'argue, hit') (cf. pGN *-*bu*- 'hit')	-*jira*+*ba*- 'pour' -*ar*+*ba*- 'pull out' -*lharrk*+*ba*-*ka*- (FACT) 'tell the truth' -*arrang*+*ba*- 'collect, gather' -*yadhak*+*ba*- 'live in waters' -*lyang*+*ba*- 'go across'
+*baja*- [2] (+*baja*- 'hit') (cf. pGN *-*badja*- 'hit')	-*ngurr*+*baja*- 'interrupt' -*lyang*+*baja*- 'hammer' -*yeng*+*baja*- 'cut smooth (when you start working on a spear)' -*adhak*+*baja*- 'smash, crush, hammer, break in pieces' -*lharrm*+*baja*- ~ -*lhan*+*baja*- 'knock, bump'
+*baji*- [1]	-*maki-lying*+*baji*- 'rain heavily' -*mam*+*baji*- 'rub with hands'
+*ba*- [3]	-*lhek*+*ba*- 'accuse, blame' -*kwiyerr*+*ba*-[22] 'miss the mark' -*lha*+*ba*- 'test, try, taste'
+*wa*- [1B(i)] (cf. pGN *-*wa*- 'follow')	-*mvndhvrru*+*wa*- 'bring to a halt' -*dhvrru*+*wa*- 'bury' -*mvrndu*+*wa*- 'count, sort'
+*wa*- [1B(ii-a)] (cf. pGN *-*wa*- 'follow')	-*yarru*+*wa* 'go past' -*marra*+*wa* 'wander' -*yu*+*wa* 'follow' -*bvrru*+*wa* ?'crawl' -*kurru*+*wa* 'get excited about' -*ngadhu*+*wa* 'cry for' -*kerru*+*wa* 'try but fail' -*jiju*+*wa* 'chop out honey, cut someone in fighting' -*erru*+*wa*- ?'check'

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[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, [kʷi] 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 [kujɛɾba] or [kijɛɾba]. If the phonetics of this word turns out to be [kʷijɛɾba], 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.

+*mv*- ~ +*bv*- [1A] (cf. pGN INCH *-*me*-)	-*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' -*bvrrv*+*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'
+*mi*- ~ +*bi*- [1A] (cf. Wubuy INCH -*wi*- ~ -*bi*-)	-*warde*+*mi*- 'cry out' -*dhvrreng*+*mi*- 'explode, thunder' -*edhvrre*+*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)
+*bvrre*- [2] (+*bvrre*- 'split, hit')	-*war*+*bvrre*- 'chop down' -*adheng*+*bvrre*- 'smash' -*ik*+*bvrru-kwa*- (FACT) 'disappear' -*lhvk*+*bvrru-kwa*- (FACT) 'look for place to lay eggs (of turtle)' -*lyang*+*bvrru-kwa*- (FACT) 'be filled' -*lyikarr*+*bvrru-kwa*- (FACT) 'slip' -*mam*+*bvrru-kwa*- (FACT) 'drop from hand'
+*arrngv*- [1] (+*arrngv*- 'break' [4B(ii)])	-*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'
+*ka*- [3] (cf. pGN *-*ka*- 'carry')[23]	-*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'

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[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- [A₂])	-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'

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[24] Wubuy FACT suffixes: -wa- ~ -ka- and -ka-. These belong to class A₁, which corresponds to Enindhilyakwa class 4 (section 9.3.4.2).

+balya- ~ +bilya- ~ +walya- ~ +wilya- [2] (+bilya- 'stick')	-err+bilya- 'spread (and stick)' -ak+bilya- 'patch, attach, stick' -yam+balyi-ka- (FACT) 'leave track on ground to show where hole is' -wek+bilya- 'give freely' -abu+walya- 'hungry for meat'

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 'prepound' 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
-kurarr+ma- 'spit' (intr.)	*-kurarr-ka-* 'spit at' (tr.)
-yerrerri+ma 'shake (intr.)'	*-yerrerri-ka-* 'shake (tr.)'
+bvrrv+dha- 'shake' (intr.)	*+bvrri-ji-* 'destroy, break up, smash' (tr.)
-mvrndu+wa- 'count' (tr.)	*-mvrndu+kwa-* 'come together, gather up'
+nyi+bi- 'grunt'	*-rraki+nyi+kee-yi-* 'scowl in anger' (FACT-RECP)
-jira+ba- 'pour, spill' (tr.)	*-jira-ka-* 'whisper' (tr.) (OBJ: *ayakwa* 'words')
-dhidv+mv- 'water rising' (intr.)	*-dhidi-ka-* '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.