

**INCORPORATED ADJUNCT
CLASSIFIERS IN ANINDILYAKWA: AN
EMPIRICAL CHALLENGE TO LFG**

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Abstract

Verbal classifiers, or incorporation into the verb of a generic nominal that is in apposition with an external specific nominal, is a common feature in northern Australian languages. The incorporated generic is typically in S or O function. Nordlinger and Sadler (this volume) analyze the classifier as a member of a SUBJ or OBJ set, the other member being the co-referential external specific nominal. In Anindilyakwa incorporated apposition is also very common. However, classifiers in this language are not always in S or O function, but they can be associated with an adjunct too. These adjunct classifiers not only defy the typological generalization of the grammatical function of verbal classifiers, but they also pose a challenge to LFG. This is because the incorporated generic can be ambiguous in its grammatical function, so it is unclear what the lexical entry of a verb with an incorporated classifier, should look like.¹

1 Introduction

Anindilyakwa is a Non-Pama-Nyungan language spoken by about 1500 people living on Groote Eylandt in the Gulf of Carpentaria, Northern Territory, Australia. It is a highly agglutinative polysynthetic head-marking language (Nichols 1986): subject and object are identified by pronominal prefixes on the verb, and free subject and object nominals are caseless. Anindilyakwa freely allows the incorporation of body part noun roots into verbs, adjectives, numerals and postpositions. These body part noun roots can have two functions: they can either denote a real body part that belongs to the subject or the object, in which case they instantiate noun incorporation (NI), or they can be used as a generic that categorizes an external noun. This is exemplified in (1a) and (1b), respectively.²

- (1) a. *ningi-lakbak-arrkwuj-ey-ina* (Julie Waddy unpublished material)
1Sg-**leg**-hurt-Pl-Npast
'my legs are aching'

¹ This paper was presented at the 'Empirical Challenges to LFG' speed talk session. It is part of my PhD project, and is still work in progress.

² Glosses used in this paper: 1: first person; 2: second person; 3: third person; Sg: singular; Pl: plural; Tri: trial; m: masculine; f: feminine; Excl: exclusive; Npast: non-past; REFL: reflexive; ERG: ergative; ABS: absolutive; REDUP: reduplication; CL: classifier; SUBJ: subject; OBJ: object; PURP: purposive; ALL: allative; CAUS: causative; EMPH: emphatic; PRO: pronoun; A, D, M, Y, WURR: noun classes; $x > y$: portmanteau form of subject x and object y .

b. *ni-lakbak-arjiyaj-uwa-ma* *yiraka*
 3mSg>Y-CL:SHORT.UPRIGHT.OBJECT-put.up-past-? Y.didjeridu
 ‘he stood up the didjeridu’
 (Julie Waddy unpublished material, Ansec1; gloss mine)

Incorporated generic nominal roots as in (1b) describe an external noun or NP in terms of shape, consistency, animacy and so on. I will refer to incorporated generics as classifiers, following Allan (1977) and Aikhenvald (2000, 2006), among others. Classifiers are typically optional (their presence depends on discourse factors), they are very productive and the meaning of the incorporation complex is semantically transparent, as can be seen in (1).³ Interestingly, in the literature, classifiers incorporated into verbs are claimed to characterize a noun that is typically in S (intransitive subject) or O (direct object) function – not in A (transitive subject) function (Aikhenvald 2000, 2006; Evans 2003, among others). In Anindilyakwa too, classifiers are never associated with a transitive subject.⁴ However, in this language classifiers are not only associated with core grammatical functions, because they can refer to adjuncts as well.

This paper is organized as follows. Section 2 provides a brief sketch of the structure of Anindilyakwa. Section 3 describes the different types of classifiers observed in Anindilyakwa, as well as NI and lexical compounds. All of these incorporation processes involve the same morphemes. The differences between the various types of incorporation are discussed as well. Section 4 introduces incorporated adjunct classifiers, which are not associated with a core grammatical function. Section 5 discusses Nordlinger and Sadler’s LFG analysis of classifiers and shows why adjunct classifiers are problematic. Section 6 concludes that this type of classifier presents an empirical challenge to LFG.

2 Anindilyakwa⁵

Like most Non-Pama-Nyungan languages, Anindilyakwa is a prefixing head-marking language, and, like most Australian Aboriginal languages, it has free word order and allows null anaphora and discontinuous NPs (cf. Hale 1983 and many others that followed). The pronominal prefixes on the verb are

³ Assuming that the Anindilyakwa speakers have both meanings of *-lakbak-*, ‘leg’ and ‘short upright object’, listed.

⁴ I think an interesting question is *why* verbal classifiers in the world’s languages display this ergative pattern of being associated with S and O, but not A (see also Baker (1988), who notes the same pattern for NI). However, I will not attempt to answer this question here.

⁵ The section is based on Stokes (1982), Waddy (1988), Leeding (1989, 1996), and unpublished material from Velma Leeding and Julie Waddy.

obligatory and index person, number and gender for humans, and one of five noun classes (NCs) for non-humans. These NCs are WURR, Y, D, M, A, named after the first letter(s) of the noun they categorize.⁶ All adjectives and numerals agree with the noun they modify. An example sentence is given in (2).⁷

- (2) *Ku-mungku-mungkad-ina y-akina yaraja biya*
2Sg-REDUP-dig-Npast Y-that Y.goanna then
ki-n-akburrang-a.
2Sg.SUBJ-Y.OBJ-find-Npast
'You keep on digging and then you find the goanna.'
(Velma Leeding unpublished story)

Since subject and object are identified by prefixes on the verb, the corresponding free nominals are optional and a sentence can consist of a verb only:

- (3) *karru-buku-ma-wurraki-rring-a-ma*
3Pl.SUBJ-Tri-M.OBJ-Pl-see-Npast-?
'the three of them might be seeing many [canoes, NC M]'
(Leeding 1989:426, orthography and gloss mine)

Incorporation of one or two nominal roots into verbs and adjectives is very common in Anindilyakwa. This will be discussed in more detail in the next section.

⁶ WURR is the plural noun class for humans. For example, the plural of *didarringka* 'woman' (NC D) is *wurridarringka* 'women' (NC WURR). However, this noun class also contains some singular items, such as *wurrajija* 'bird' and *wurruwarda* 'dog', which is why this is considered to be a distinct noun class, rather than merely the plural for humans. Non-human items cannot be pluralized by a change of noun class, so for instance *akwalya* 'fish' (NC A), *makarda* 'sea' (NC M) and *yingarna* 'snake' (NC Y) are ambiguous between a singular and a plural reading.

⁷ One as yet unresolved issue in Anindilyakwa is the orthography. There exist two different orthographies, based on different analyses of the vowels: one by Leeding (1989), and one by Julie Waddy and Judith Stokes. Without going into detail, vowels in Anindilyakwa are conditioned by the surrounding consonants (somewhat like in the Arandic languages (e.g. Breen 2001)) and as a result they are not stable but fluctuate. Leeding (1989) proposes an orthography with two vowels, /a/ and /i/, together with numerous phonological rules that generate the range of observed allophones. The Waddy-Stokes system sticks closer to the surface and assumes four vowels: /a/, /i/, /e/ and /u/. The latter two are taken to be epenthetic vowels, the distribution of which can be predicted (see also Heath 1977). I have chosen to adopt the Waddy-Stokes system here, because I think it is more practical and user-friendly than the more abstract Leeding orthography.

3 Classifiers

Allan (1977:285), the pioneering linguist on the semantics of classifiers, defines classifiers as morphemes that occur under specifiable conditions and that denote “some salient, perceived or imputed characteristic of the entity to which an associated noun refers”. In other words, classifiers characterize a noun with which they co-occur in terms of its shape, size, animacy or other inherent properties.

There are various types of classifiers, differing in the morpho-syntactic environment in which they occur. Aikhenvald (2000, 2006) distinguishes the following:

- noun classifiers: characterize the noun with which they co-occur, as in the following example from Yidiny (Pama-Nyungan).

(4) *mayi jimirr bama-al yaburu-ngu julaal*
vegetable.ABS yam.ABS CL:PERSON-ERG girl-ERG dig.past
‘The person girl dug up the vegetable yam’ (Literally)
(Aikhenvald 2006:465, ex. 3; from Dixon 1982:185)

- numeral classifiers: occur next to a numeral or quantifier, as in the following examples from Thai.

(5) a. *khru. lâj khon* (Allan 1977:286, ex. 1; from Haas 1942)
teacher three CL:PERSON
‘three teachers’
b. *mǎ sî tu* (Allan 1977:286, ex. 2; from Haas 1942)
dog four CL:BODY
‘four dogs’

- verbal (or verb-incorporated) classifiers: appear on the verb, categorizing a noun typically in S or O, but not A, function.⁸ These are called predicate classifiers by Allan (1977), classificatory noun incorporation by Mithun (1984) and generic noun incorporation by Evans (2003). An example from Bininj Gun Wok (Non-Pama-Nyungan) is given in (6).

(6) *ba-bo-yakm-inj gukku / gun-gih / an-bang* (Evans 2003:334)
3-CL:LIQUID-disappear-PP water IV-mud III-grog
‘The water/mud/grog disappeared.’

⁸ The use of the term *verbal classifier* here, referring to a nominal being classified by ‘verbal means’, should not be confused with the term *verb classifier* or *verb classification* as referring to the closed class of generic verbs that categorize events in many Northern Australian languages (cf. e.g. Schultze-Berndt 2000, McGregor 2002).

- locative classifiers: occur with locative prepositions and postpositions, as in (7) from Palikur (Arawak language, Brazil).

(7) *pi-wan min* (Aikhenvald 2006:468)
2Sg-arm CL.LOC.vertical
'on your (vertical) arm'

- classifiers in possessive constructions

- deictic classifiers

The last two types will not be discussed here because they are not relevant to this paper, as they do not occur in Anindilyakwa. Allan (1977) assumes an additional classifier type that he labels 'concordial classifiers'. These are morphemes that are "affixed (usually prefixed) to nouns, plus their modifiers, predicates, and proforms [...] Many African (Bantu and Semi-Bantu) and Australian languages are of this type" (p.286). However, Aikhenvald (2000, 2006) argues that these are not classifiers but noun class (NC) markers. NC markers differ from classifiers in that each noun in a given language belongs to only one (though occasionally more than one) NC, whereas a noun can be typically characterized by several different classifiers, focusing on different characteristics of the same object. Furthermore, some constituent outside the noun itself must agree in NC with the noun, but this is not the case for classifiers. Finally, there is always a limited, countable number of NCs in a given language, whereas the number of classifiers is usually fairly large. I will follow Aikhenvald for the purpose of this paper.

3.1 Classifiers in Anindilyakwa

Anindilyakwa has both NC markers and a number of different types of incorporated classifiers. The incorporation of nominal roots into various morpho-syntactic categories is very common in Anindilyakwa. These nominal roots are either body part noun roots or adjective roots. In a classifier construction they are used as generics that describe a more specific external nominal with which they are in apposition (e.g. 'long and flexible, snake' in (8a) below). An incorporated body part noun root can also occur in NI constructions and in lexical compounds, which will be discussed in sections 3.2 and 3.3, respectively.

I propose that Anindilyakwa has four different types of classifier: verbal classifiers⁹, noun classifiers, numeral classifiers¹⁰ and locative classifiers. Each of these is exemplified in (8)-(11), respectively.

⁹ Worsley (1954:281-3) already noted the existence of verbal classifiers in Anindilyakwa, which he described as a "cross-cutting system of noun-classification

(8) verbal classifiers:

- a. *ni-rreku-ward-anga* *yingarna*
3mSg>Y-CL:LONG+FLEXIBLE-kill-past Y.snake
'he killed the snake'
(Waddy 1988:169, gloss mine)
- b. *nga-rukwu-dak-ina* *darruwurukukwa*
2Sg>D-CL:ANIMALS.WITH.LEGS-cook-Npast D.dove
'cook the doves!'
(Waddy 1988:169, gloss mine)
- c. *na-lingku-bija-jungw-una* (Leeding 1989:375; orthography mine)
A-CL:GRASS/LEAVES-jump-REFL-past
'the grass grew'

In (8a) and (8b), the portmanteau prefixes *ni-* and *nga-* include a NC marker that represents the object and that agrees with the external noun. Both examples also involve a verbal classifier, which agrees with the external noun as well. In (8c) there is no external noun, but the NC marker *na-* tells us the subject is of NC A, and the verbal classifier tells us that it is something classified as grass or leaves.

(9) noun classifiers:¹¹

- a. *ma-mungk-ababurna* *mininga* (Waddy unpublished material)
M-CL:SOFT+ROUND-many M.burrawang
'heaps of burrawang'
- b. *embirrk-aruma* *amaduwaya*¹² (Waddy 1988:169, gloss mine)
A.CL:ROUND-big A.stingray
'a large stingray'

by means of prefixes [...] entirely unconnected with the known noun-classes". Since they follow the usual noun class prefixes, he termed them 'secondary prefixes' (see also Waddy 1988:168-71). He observed that the older men knew more about the correct secondary prefixes than the younger men, and he concluded that the secondary prefixes may be dying out (p.284). However, the use of verbal classifiers is very common in my data (texts collected in the 1970s and 80s), suggesting that they were still prolific at least 30 years ago.

¹⁰ In her (2000) Classifiers book, Aikhenvald notes that "Numeral classifiers are [...] absent from Australia." (p.124). The examples in (10), however, provide counterevidence to this claim.

¹¹ This name is potentially confusing, because all classifiers of course relate to nouns denoting entities. Following Aikhenvald (2000), what is meant here is that this type of classifier occurs in a noun phrase, as opposed to e.g. verbal classifiers which occur in a verb phrase (abstracting away from whether Anindilyakwa has NPs and VPs).

¹² The absence of a NC marker is interpreted as NC A, because there is a morpho-phonological in Anindilyakwa that deletes a morpheme-final vowel if the following morpheme starts with a vowel.

- (10) numeral classifiers:
- a. *mu-lukw-abiyakarbiya mamurukwa* (Stokes 1982:149)
 M-CL:ROAD-three M.road
 ‘three roads’
- b. *yi-lakbak-ambilyuma yikarba*
 Y-CL:SHORT.UPRIGHT.OBJECT-two Y.woomera
 ‘two woomeras (standing up)’
 (Julie Waddy unpublished material, gloss mine)

- (11) locative classifiers:
- nuw-akum-arna adalyuma-manja a-kwi-yak-bidjina*
 A>A-put-past A.river-LOC A-CL:WATER-river-beside
 ‘... it [cat] put it [kitten] down beside the river’
 (Julie Waddy unpublished story, ref y45; gloss mine)

The same morphemes can be used in all the different classifier constructions. The meaning of a classifier construction is semantically transparent, assuming that the Anindilyakwa speakers have the two different meanings of the same morpheme listed. For instance *-mungsk-* in (9a) can also be used as a body part denoting ‘cheek’, and *-lakbak-* in (10b) can also mean ‘leg’ (as in (1a) above). Importantly, the classifiers in the above examples are optional, as their presence depends on discourse factors.¹³ For instance, when a noun is mentioned for the first time it may occur without a classifier, but with further mentioning it may be represented by a classifier alone.

3.2 Noun incorporation

I assume NI to be a noun combining with a verb to form a single morphological unit, while retaining its syntactic status (e.g. Mithun 1984; Hopper and Thompson 1984; Baker 1988; Mohanan 1995; among many others). The verb can also occur with the same meaning without the incorporated nominal. NI is much rarer in Anindilyakwa than classifier constructions. It almost exclusively involves body parts (the same morphemes as those used in classifiers constructions), plus a few non-body part nominals (e.g. *-mak-* ‘camp’ and *-yak-* ‘river’, as in (18) below). An example of NI with an intransitive verb is given in (12a), and with a transitive verb in (12b).

- (12) a. *ningi-lakbak-arrkwuj-ey-ina* (= (1a) above)
 1Sg-leg-hurt-PI-Npast
 ‘my legs are aching’

¹³ This is not shown here because I lack the relevant data. However, the verbs in these examples can also occur without a classifier, or with a different classifier.

- b. *ningeni-lyang-baj-anga* (Leeding 1989:430, orthography mine)
 1Sg>3mSg-**head**-hit-past
 ‘I hit him on the head.’

These examples are analyzed as NI rather than classifiers, because the incorporated nominal roots do not describe inherent properties of the subject or object, but they are body parts that *belong* to the subject or object. Moreover, I have not found any examples in my data of a NI construction with an external noun that denotes the possessor of the incorporated body part (e.g. *I hit the man on the head*), whereas classifiers frequently occur with an external (specific) noun. This could be because NI is rare in Anindilyakwa, so the chance of finding such examples is relatively small. An alternative explanation could be that this is a difference between NI and verbal classifiers: the latter can occur with a co-referential external noun, whereas the former cannot.¹⁴

As can be seen in (12), the pronominal prefix on the verb represents the possessor of the body part, not the body part itself.¹⁵ As for the classifiers, the meaning of a NI construction is semantically transparent.

3.3 Lexical compounds

There is yet another construction with a body part noun root incorporated into a verb, which are lexical compounds. The incorporated nominal cannot be omitted in this construction, and the meaning of the N+V complex is not semantically decomposable (cf. e.g. Leeding 1996; Evans 2003).

- (13) a. *n-aburr-bij-anga* (Leeding 1989:366, orthography mine)
 3mSg-**buttocks**-jump-past
 ‘he was startled’
 b. *nginu-werriki-jir-anga ningeniki-liki-yada Darwin-uwa*
 3mSg>1Sg-**chest**-push-past 1Sg-go-PURP D.-ALL
 ‘he persuaded me to go to Darwin’
 (Julie Waddy unpublished material)

¹⁴ This would make Anindilyakwa typologically different from language like Mohawk (Baker 1988) or BGW (Evans 2003), where the incorporate in a NI construction can be externally modified.

¹⁵ The prefixing of the possessor rather than the possessed body part is sometimes referred to as ‘possessor raising’ or ‘possessor ascension’, which is related to inalienable possession (e.g. Blake 1984, Chapell and McGregor 1996). By promoting the possessor to argument status, the possessor is interpreted as intimately affected by the action of the verb, rather than the possessed BP. This construction thus represents inalienability, which may be why it only involves body parts and not other possessed items.

Omission of the incorporated nominal root in these examples will result in a change of meaning. Lexical compounds are unproductive and lexicalized.

3.4 Differences between various constructions with incorporated body parts

Aikhenvald (2000), in discussing ways to differentiate between the different kinds of incorporation in the world's languages, notes that "[i]n other cases, it may be more difficult to distinguish incorporated verbal classifiers from other cases of incorporation and compounding. In Anindilyakwa [...], about 100 'bound roots' are used as verbal classifiers and as numeral classifiers. The same morphemes are used to form compounds. There are semantic and syntactic differences which allow one to distinguish the two processes - see Leeding (1996) for details" (p.151, fn2).

Leeding (1996) only distinguishes between lexical compounding and what she terms 'syntactic incorporation' (which includes my verbal classifiers and NI). The differences are that the former is unproductive, it has a metaphorical meaning, and the incorporated nominal is obligatory. Leeding claims that lexical compounds are intransitive only. Syntactic incorporation, on the other hand, is productive, has a literal meaning and the incorporated nominal is optional. She claims that these are only transitive and REFL.

I propose that the difference between lexical compounding on the one hand and verbal classifiers and NI on the other, lies *not* in that the former is intransitive and the latter transitive or reflexive. This is because transitive and intransitive examples of both types of constructions have been found: for example, (8c) and (12a) above are instances of intransitive 'syntactic incorporation' (i.e., a verbal classifier and NI, respectively), and (13b) is an example of a transitive lexical compound. Rather, the differences involve Leeding's other observations: lexical compounds are unproductive, lexicalized and the incorporated nominal root cannot be omitted. 'Syntactic incorporation' is very productive - that is, verbal classifiers and NI can be freely created - the incorporated nominal root is optional and they are semantically decomposable.

Leeding (1996) does not distinguish between verbal classifiers and NI in Anindilyakwa. I propose that, even though the same morphemes are used in both constructions, there are differences, which are mainly semantic: a verbal classifier is a generic nominal root that categorizes an external, more specific and co-referential noun. By contrast, the incorporated morpheme in NI denotes a real body part. As discussed above, it is unclear whether an external co-referential noun can be present (but if it can, it is expected to denote the possessor of the body part). In both constructions, it is not the incorporated nominal that is prefixed to the verb. For verbal classifiers, it is the external specific noun that is prefixed to the verb, and for NI it is the possessor of the

body part. The difference may become more clear in the following two examples with the same incorporated body part noun root, where (a) is analyzed as NI and (b) as a classifier.

- (14) a. *ningeni-lyang-barr-a* (Stokes 1982:149)
 1ExclSg>3mSg-**head**-hit-Npast
 ‘I hit him on the head’
 b. *na-lyangk-arrng-a* *awarnda*
 A-CL:**HARD+ROUND**-break-past A.rock
 ‘the rock broke’
 (Julie Waddy unpublished material, Ansec1)

In (14a), the incorporate *-lyang-* ‘head’ is used as a possessed body part, and the possessor is prefixed to the verb. In (14b) the same morpheme is used as a classifier with a meaning related to ‘head’, and categorises the subject argument, the external noun *awarnda*, as ‘hard and round’.

Another difference between NI and verbal classifiers that is evident in (14) is that classifiers never seem to be associated with humans. That is, they only describe things and animals. NI, on the other hand, almost exclusively involves body parts of humans in my data (plus a few others, such as *-mak-* ‘camp’ and *-yak-* ‘river’ mentioned above).

4 Adjunct Classifiers

As discussed above, verbal classifiers in the world’s languages typically categorize a noun that is in S or O function. However, in Anindilyakwa it also seems possible for a verbal classifier to be associated with an adjunct. Consider the following example.

- (15) *y-akina* [...] *n-al-dirruw-ajungw-una-ma* *minimbaji-manja*
 Y-that Y-CL:**LONG+THIN**-bury-REFL-Npast-? M.-LOC
 ‘they [goannas, NC Y] hide themselves in the Minimbaja grass’
 (Velma Leeding unpublished story, gloss and orthography mine)

The verb in this example is reflexive, and reflexive verbs are always intransitive in Anindilyakwa. This means that the classifier *-al-* could potentially categorize the subject goannas as being long and thin. However, the generic *-al-* is always associated with inanimate things like grass or strips of bark in my data, as exemplified in (16).¹⁶

¹⁶ One could object that the incorporate in (15), *-al-*, and the one in (16), *-alku-*, are different morphemes. However, I want to argue that they are the same morpheme, because Anindilyakwa has many complex morpho-phonological rules, which often

- (16) *arrirra nuw-alku-warri-j-ina-ma* *amarda*
 A.wind A>A-CL:LONG.AND.THIN-move-CAUS-Npast-? A.grass
 ‘the wind is moving the grass’
 (Julie Waddy unpublished dictionary, gloss mine)

Since *-al-* normally only refers to inanimate things, it seems to be associated with the adjunct *minimbaji-manja* ‘in the Minimbaji grass’ in (15). One could argue that this example is an unproductive, listed lexical compound, as these more often involve unpredictable grammatical relations between the verb and the incorporate. However, the verb *dirruwajungwuna* in (15) occurs with other classifiers as well, making a lexical compound analysis less plausible:

- (17) ... *biya numi-yin-dirruw-ajungw-una-ma ngal-abakiya-ba*
 and M-back-bury-REFL-Npast-? M-by.itself-EMPH
 ‘...and they [crabs, NC M] always bury themselves’
 (Julie Waddy unpublished story, ref d21)

In (17), the verb occurs with the incorporated body part *-yin-* instead of *-al-* in (15). The classifier example in (15) is also not an exception, because I found several instances of what seems to be an incorporated adjunct classifier, such as the following.

- (18) *ngayuwa ningi-kuw-arjey-a* *a-kwi-yak-bidjina...*¹⁷
 1Sg.PRO 1Sg-CL:FLUID-stand-past1 A-CL:FLUID-river-beside
 ‘I was standing beside the river.’
 (Julie Waddy unpublished story, ref y15; gloss mine)

The verb *arjeya* in this example is intransitive but the classifier *-kuw-* cannot refer to the subject, because the subject is 1Sg. Instead, it seems to be associated with the locative adjunct *akwi yak bidjina* ‘beside the river’. (Note that the postposition *-bidjina* occurs with both an incorporated classifier *-kwi-* and an incorporated noun root *-yak-*.) This example cannot be a lexicalized compound, because the classifier is optional, as shown in (19) from the same text:¹⁸

result in deletion of morpheme-final consonants. In my data, the two morphemes are used in different phonological environments (details are beyond the scope of this paper).

¹⁷ Again, *-kuw-* and *-kwi-* represent the same morpheme, which is subject to morpho-phonological rules.

¹⁸ I analyze the past1 and past2 suffixes on the verbs in (18) and (19) as involving punctual and continuous aspect, respectively. Punctual aspect can also be used to denote the beginning of an action or event. (18) should thus be more accurately translated as something like ‘I began to stand beside the river’.

- (19) ... *akwa ning-arjiy-inga adalyuma-manja a-kwi-yak-bidjina.*
 and 1Sg-stand-past2 A.river-LOC A-CL:FLUID-river-beside
 ‘and I was standing beside the river.’
 (Julie Waddy unpublished story, ref y7; gloss is mine)

The fact that *-kuw-* is optional confirms that it is a classifier, as classifiers are optional by definition. Moreover, the fact that *adalyuma* ‘river’ has LOC case in (19) is evidence that it is indeed an adjunct, as core arguments of the verb are never case-marked in Anindilyakwa.

5 Analysis of classifiers

Incorporated generic classifiers are generally considered to be in apposition with the external specific noun they classify (Evans 1996; Nordlinger and Sadler, this volume; implicit in Leeding 1996). Nordlinger and Sadler analyze incorporated apposition as involving two members of a set: both the incorporate and the external noun contribute elements to a hybrid f-structure. In their analysis, the f-description associated with the incorporated form of (8a) above, repeated in (20), will be as in (21).

- (20) *ni-rreku-ward-anga* *yingarna*
 3mSg>Y-CL:LONG+FLEXIBLE-kill-past Y.snake
 ‘he killed the snake’

- (21) *rreku-ward* (\uparrow PRED) = ‘kill<(SUBJ)(OBJ)>’
 (\uparrow OBJ (\in)) = \downarrow
 (\downarrow PRED) = ‘long and flexible’

In (21), the incorporate is allowed to be either the OBJ or a member of an OBJ set. Nordlinger and Sadler argue that, given PRED uniqueness, when an external NP is present (such as *yingarna* ‘snake’ in (20)), then the incorporate must be a member of set (\uparrow OBJ \in). When the external NP is absent, the minimal solution will choose (\uparrow OBJ). They propose an additional semantic constraint to ensure that the nominal PREDs are compatible with appositional (in this case, generic-specific) semantics.¹⁹

It is also possible for the incorporate to be in SUBJ function in Anindilyakwa, as in (8c) above, repeated here as (22). The lexical entry of the incorporated form is given in (23).

¹⁹ Nordlinger and Sadler’s analysis also accounts for the semantics of other types of incorporated apposition that occur in Australian languages, such as the part-whole construction.

(22) *na-lingku-bija-jingw-una*
A-CL:GRASS/LEAVES-jump-REFL-past
'the grass grew'

(23) *lingku-bija* (\uparrow PRED) = 'jump<(SUBJ)>'
(\uparrow SUBJ (\in)) = \downarrow
(\downarrow PRED) = 'grass or leaves'

Again, when an external specific NP is present, the incorporate is a member of a set; when no external NP is present the minimal solution will choose (\uparrow SUBJ).

Nordlinger and Sadler base their account of incorporated apposition on their analysis of juxtaposed nominal appositional structures in Australian languages, which are treated as syntactic coordinations (Sadler and Nordlinger 2006). The standard treatment of coordination in LFG involves a hybrid f-structure that includes the f-structures of both conjuncts as well as their resolved agreement features. For instance, the resolved agreement feature of the two (singular) conjuncts of the Spanish sentence *Jose y yo hablamos* 'Jose and I are speaking' is 1Pl, as indicated on the verb. Sadler and Nordlinger argue that the difference between the f-structures of coordination and of apposition is that the latter does not involve resolution of agreement features, because the members of the set are co-referential.²⁰ Thus the agreement features on the verb of the following two nominals in apposition will be singular, not plural.

(24) *kawuka jardiyali* (Kayardild, Evans (1995: 249))
bundle fighting.stick
'a bundle of fighting sticks'

Nordlinger and Sadler argue that the f-structures of incorporated apposition are identical to those of juxtaposed apposition.

²⁰ In fact, in some Australian languages the string of juxtaposed nominals itself can be ambiguous between nominal coordination and nominal apposition, which is disambiguated by the verbal morphology only (Sadler and Nordlinger 2006). For example, the Wambaya string *garidi-ni bungmanyi-ni* 'husband-ERG old.man-ERG' (Sadler and Nordlinger 2006, ex. 14) is an instance of apposition if the prefix on the auxiliary is 3Sg (i.e. the old man husband), and an instance of coordination if the prefix is 3Du (i.e. the old man and the husband).

5.1 Adjunct classifiers

Nordlinger and Sadler's analysis seems to be able to account neatly for most verbal classifiers in Anindilyakwa. However, when the classifier is not a core argument of the verb, their analysis runs into problems. Consider the adjunct classifier example in (18) above, repeated here as (25).

- (25) *ngayuwa ningi-kuw-arjey-a a-kwi-yak-bidjina...*
1Sg.PRO 1Sg-CL:FLUID-stand-past1 A-CL:FLUID-river-beside
'I was standing beside the river.'

The problem is what does the f-description associated with the incorporated form look like. One possibility is that it is analogous to (21) and (23) above, with the only difference that the incorporate does not have a SUBJ or OBJ function but is an adjunct instead:

- (26) *kuw-arjey* (↑ PRED) = 'stand<(SUBJ)>'
(↑ ADJ (∈)) = ↓
(↓ PRED) = 'fluid'

However, this analysis runs into several problems. First of all, the head of ADJ is the postposition *-bidjina* 'besides', but what the incorporated generic is referring to is the *object* of the adjunct. In other words, what is incorporated into the verb is in fact not the adjunct, but an argument of the adjunct. Therefore, the incorporate cannot be a member of an ADJ set. Secondly, the incorporated classifier could be associated with the intransitive subject as well, if allowed by the NC prefix on the verb. Thus when there is no overt nominal present, then there are two readings allowed by the f-structure: 1) *something fluid is standing*, and 2) *something is standing by the fluid*. And finally, there could be several adjuncts in a sentence referring to a fluid, so it will be unclear which adjunct the classifier is associated with. I think the existence of incorporated adjunct classifiers constitutes an interesting empirical challenge for LFG.

6 Conclusion

Verbal classifiers occur in a variety of Australian languages, as well as in other polysynthetic languages in the world. They are interesting because they cannot be accounted for by the standard treatment of NI in LFG, as this assumes that the incorporated nominal contributes the PRED feature to the relevant argument at f-structure (cf. Nordlinger and Sadler, this volume). Given PRED uniqueness, two PRED values of the same argument cannot unify. Nordlinger and Sadler resolve this problem by assuming that the

incorporated generic classifier and the external specific noun are members of a set, so both contribute elements to a hybrid f-structure.

Besides verbal classifiers that are in S or O function, Anindilyakwa also seems to have incorporated generics that are adjuncts – or more specifically, objects of adjuncts. Incorporation of adjuncts does occur in some other languages too (e.g. Chukchi (Spencer 1995)), but there they are instances of NI, and not of a classifier construction. This is because the incorporated cannot co-occur with a co-referential external noun. The problem with the adjunct classifiers described in this paper is that they are not associated with a grammatical function. Whereas in other languages the lexical entry of a verb with an incorporated classifier includes the grammatical function that the classifier is associated with (S or O), this is not possible in Anindilyakwa, because the classifier can refer to an adjunct as well. I conclude that incorporation of adjunct classifiers presents a challenge to non-transformational frameworks like LFG, because the grammatical function of the incorporated generic nominal is ambiguous.

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