

# EXTREME MORPHOLOGICAL SHIFT: VERBAL CASE IN KAYARDILD

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## 1. Introduction

- Kayardild and the other Tangkic languages of Northern Australia are well known for their typologically unusual and complex case systems (Hale (1981, 1997), Dench and Evans (1988), Evans (1995a, b, 2003a, b)).
- Their extensive case stacking properties, and their use of case to mark clausal tense/aspect/mood properties (so called 'modal' case (Evans 1995a)) have received much attention in recent LFG literature (Simpson 1991, Andrews 1996, Nordlinger 1998, Nordlinger and Sadler 2004).
- In this paper we discuss the phenomenon of 'verbal case' (Evans 1995a, 2003b), as yet unaddressed in these theoretical accounts, by which nominals are inflected with an alternative set of semantic case markers causing them to inflect like verbs, while still functioning syntactically as nominals.
- We show how this phenomenon is crucially different from other types of 'mixed categories' discussed in the literature (e.g. Haspelmath 1996, Bresnan 1997, Mugane 2002 among many others) since the mismatch is between the morphology and syntax component, not in the syntax itself. This data therefore argues strongly for a theoretical model that assumes a strict separation of morphology and syntax, as in LFG.
- Building on much recent work in LFG-based morphology arguing for a distinction between morphological features (m-features) and syntactic features (s-features) (e.g. Sadler and Spencer 2001, Sells (in press)), we propose that such a distinction is required at the categorial level also: verbal case converts a nominal stem into a *morphological* verb, while maintaining its *syntactic* category of noun (see also Spencer 2003).

- We show how this approach interacts with the constructive case model of Nordlinger (1998) to provide a unified account of Kayardild case at the morphosyntactic level, despite the substantial differences in morphological structure.

## 2. The Phenomenon

- All data is taken from Evans (1995a, 2003b).
- Non-subject NPs in Kayardild generally have a relational case marker followed by a second layer of case ('modal case') encoding tense/mood information for the clause in conjunction with the verb.

(1a) *ngada warra-ju dathin-king-ku ngilirr-iring-ku.*  
1sgNOM go-POT that-ALL-MPROP cave-ALL-MPROP  
'I will go to that cave.'

(1b) *ngada warra-nangka dathin-king-ku ngilirr-iring-ku.*  
1sgNOM go-NEG.POT that-ALL-MPROP cave-ALL-MPROP  
'I will not go to that cave.'

- alongside these regular semantic cases, is a second set of cases termed 'verbal cases' by Evans (1995a). These cases have essentially equivalent functions to the regular semantic case markers, but take verbal tense/mood inflections instead of regular modal case.

(2a) *ngada warra-ju dathin-kiwa-thu ngilirr-iwa-thu.*  
1sgNOM go-POT that-V.ALL-POT cave-V.ALL-POT  
'I will go to that cave.'

(2b) *ngada warra-nangka dathin-kiwa-nangka ngilirr-iwa-nangka.*  
1sgNOM go-NEG.POT that-V.ALL-NEG.POT cave-V.ALL-NEG.POT  
'I will not go to that cave.'

- Verbal cases have more specific semantics than the equivalent regular cases – the verbal allative in (2a) implies that the subject intends to reach the specified location whereas the regular allative simply specifies the direction of motion. Otherwise the two forms are functionally equivalent, despite the difference in morphological structure.

- This range of semantic cases – around 20 in total – allows for the encoding of subtle semantic distinctions. For example the contrast between the verbal transitive in (3) and the verbal purposive in (4) encodes the distinction between 'resigned purpose' i.e. something one aims to get, but can only obtain by waiting, and 'active purpose' respectively. A sense of purpose as a mental goal is encoded by the regular preceptive case in (5):

(3) *dhi-ja nga-ku-l-da mani-marii-j*  
sit-ACT 1-INC-pl-NOM money-V.TRANSL-ACT  
'We are sitting (waiting) for our pension cheques.'

(4) *ngambura-th, ngukur-janii-j*  
dig well-ACT water.V.PURP-ACT  
'(They) dug a well, trying to get water.'

(5) *bal-umban-ju kang-ku ngaka-th*  
west-ORIG-PROP word-PROP wait-ACT  
'(They) are waiting on word from the west (before staging a corroboree).'

Array of regular semantic cases and verbal cases:

Regular cases: locative, ablative, consequential, allative, oblique, utitive, proprietive, associative, genitive, origin, privative

Verbal cases: V. ablative, V. evitative, V. allative, V. dative, V. transitive, V. purposive, V. donative, V. denizen

• While nominals inflected with verbal case are functionally equivalent to those inflected with regular semantic cases, they behave morphologically as if they were verbs. As well as requiring verbal tense/mood suffixes in place of modal case markers, they require nominalization before the addition of regular case morphology, just like verbs do:

- (6) [lɔgjin-mɪdɪ-n-da] dal-wɪdɪ-n-da<sub>1, DEN</sub> jɑdɪ-j<sub>1, NOM</sub>  
my-V.DEN-NMZR-NOM place-V.DEN-NMZR-NOM mob-NOM  
'people staying at my place'

- (7) ngada barrunha-ya kurti-ja niwan-ji  
1sgNOM yesterday-MLOC see-ACT 3sg-MLOC  
'[balangkali-twa-n-ki] ba-yi-n-ki/  
brown snake-V.ALL-NMZR-MLOC bite-M-NMZR-MLOC  
'Yesterday I saw him being bitten by a snake.'

• Apart from these aspects of morphological form, verbal cases share the same properties as other semantic cases in Kayardild, showing them to be part of the regular nominal case paradigm. These properties also show them to be inflectional rather than derivational (Evans 1995a, 2003b).

Properties shared by both regular semantic and verbal cases:

- (i) They are completely productive, applying to all (semantically appropriate) members of the nominal word class

- (ii) They are subcategorised for by verbs:

E.g. wuuja 'give' has a number of case frames including wuuja OBJ to NP-V.DAT (see 8), wuuja NP-PROP to OBJ (see 8). The differences in meaning between these constructions are extremely subtle – see Evans (1995a:334-336) for discussion.

- (8) ngada ngumban-ji wumburung-kuru kiyarrng-kuru wuu-ja  
1sgNOM 2sg-MLOC spear-PROP two-PROP give-ACT  
'I gave you two spears.'

- (9) ngada ngumban-ji wumburung-ja kiyarr-wu-ja wuu-ja  
1sgNOM 2sg-MLOC spear-V.DON-ACT two-V.DON-ACT give-ACT  
'I gave you two spears.'

- (iii) They interact with regular semantic cases, participating in 'case stacking' structures:

In (10), the ablative case is used to denote a meaning of 'belonging' on the embedded adnominal NP. In accordance with the principle of complete concord, each member of this NP is then inflected with the verbal allative case in agreement with the head noun mala 'sea' which it modifies.

- (10) [jathɪ-naba-yiwa-tha] dangka-naba-yiwa-tha<sub>ABL</sub> mala-yiwa-tha<sub>V.ALL</sub>  
other-ABL.V.ALL-ACT man-ABL.V.ALL-ACT sea-V.ALL-ACT

warra-j  
go-ACT  
'(The dugong) went onto another man's sea (territory).'

• These facts demonstrate that the verbal cases are truly nominal morphology, forming a part of the nominal paradigm along with the regular semantic cases.

• Furthermore, despite the fact that the nominals inflected with verbal case require verbal tense/mood morphology, it is clear that they remain NPs in the syntax:

Evidence that nominals inflected with the verbal cases form regular NPs in the syntax  
(iv) Phrasal concord is required, as with all other NPs in Kayardild (see also 2, 6, 9, 10, etc.):

- (11) ngada wuu-ju dathin-ku wirrin-ku  
1sgNOM give-POT that-MPROP money-MPROP

ngjin-maru-thu thabujin-maru-thu  
my-V.DAT-POT e brother-V.DAT-POT  
'I will give that money to my elder brother.'

(v) Phrases inflected with verbal case can function as arguments of verbs, just like regular NPs (e.g. 9, 11)

(vi) Phrases inflected with verbal case can appear in embedded NPs in adnominal function (e.g. 6, 10)

(vii) Phrases inflected with verbal case are subject to the same ordering principles as regular NPs:

(MODIFIERS) HEAD (MODIFIER)  
(Determiner) (Number) (Qualifier) Entity

- (12) dathina kiyarrngka jungarra biyarba  
those two big dugong  
'those two big dugongs'

- (13) *ngada* *thaa-thu* [daihin-jani-iu] *kyaar-jani-iu*  
 1sgNOM return-POT that-V.PURP-POT two-V.PURP-POT

*jungar-jani-iu* *bijarta-jani-iu*  
 big-V.PURP-POT dugong-V.PURP-POT  
 'I'll go back for those two big dugongs'.

(viii) Phrases inflected with verbal case, like regular NPs, allow emphatic postposition of *mungkiji* 'own' after NP head:

- (14) *marr-ja* *kakuu* *mungkiji*  
 listen-IMP uncle(NOM) own(NOM)  
 'Listen to your own uncle!'

- (15) *ngada* *thaa-thu* *rar-ung-ku* *dulk-iwa-thu*  
 1sgNOM return-POT south-ALL-MPROP country-V.ALL-POT  
*mungkiji-wa-thu*  
 own-V.ALL-POT  
 'I will return southward, to my own country.'

(ix) None of the syntactic properties of verbs apply to these constituents inflected with verbal case – e.g. they do not allow modification by adverbs.

*Conclusion:* not only are verbal cases clearly nominal morphology, the nominals they attach to form regular NPs in the syntax.

### 3. Distinguishing morphological and syntactic category

- Verbal cases are clearly attached to nominals. Their output, however, is something that is syntactically a nominal while morphologically a verb.

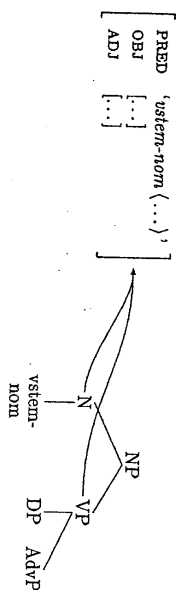
- These forms are, therefore, a type of mixed category. However, more 'familiar' mixed categories (e.g. masdars, participles, nominalizations, etc.) arise as the result of derivation from one (syntactic) category to another, and exhibit mixed properties in the syntax (e.g. Haspelmath (1996, 2002), Bresnan (1997), Mugane (2002)).

E.g. Italian infinitive noun – both N and V in the syntax (Zucchi 1993, cited in Bresnan 1997):

- (16) *il suo continuo eseguire la canzone impeccabilmente*  
 the his/her continual perform.INF the song impeccably  
 (Zucchi 1993:55).

- In Bresnan's (1997) 'head sharing' approach, the infinitive noun functions as the head of an NP taking a VP as its sister. The extended head theory allows this N to provide the PRED of the VP f-structure while the VP provides the object and the adverbial adjunct for the N f-structure.

(17)



- In contrast, with Kayardild verbal case, the mismatch is between the morphology and the syntax. The syntactic category of nominal remains unchanged – the mismatch arises through the shift from noun-form to verb-form in the morphology.

- This is, then, a particularly striking example of Spencer's (to appear)

'Morphological shift': 'a pattern of lexical relatedness in which syntactic and semantic representations remain constant but the morphology shifts.' (p. 31). For example, cells in a verbal paradigm are filled with forms inflected as adjectives (e.g. Russian *delai/dela/delaio/delali* 'make.PST' cf. *mal'mala/malo/maly* 'short').<sup>1</sup>

- The difference between Kayardild and these other examples, however, is that the morphological shift in the Kayardild case is triggered by the verbal case inflection. The nominals inflect regularly as morphological nominals until the verbal case is added, after which they become morphological verbs (see (10), repeated from above).

- (10) [[*utha-naba-yiwa-tha* *dangka-naba-yiwa-tha*]<sub>ABL</sub> *mala-yiwa-tha*]<sub>ALL</sub>  
 other-ABL-V.ALL-ACT man-ABL-V.ALL-ACT sea-V.ALL-ACT  
*warra-j*  
 go-ACT  
 '(The dugong) went onto another man's sea (territory).'

- Such data argue strongly for a theoretical model that assumes a strict separation between morphology and syntax, such as LFG. Recent work in morphology and the morphology-syntax interface in LFG has assumed a distinction between syntactic features (s-features) and morphological features (m-features) (Sadler and Spencer 2001, Sells (in press), Spencer (to appear)).

- Sadler and Spencer (2001): S-features are the functional features which have to be expressed by well-formed phrases and clauses (e.g. definiteness in English). M-features are those that regulate the morphophonological structure of words (e.g. inflectional class, Past Participle). Some features are found in both components (e.g. Number:Plural] ⇔ NUMBER PLURAL).

<sup>1</sup> In fact, Kayardild verbal case would appear to be the example of morphological shift from N that Spencer needs to complete his typology 'I haven't been able to identify clear-cut instances of "wrong" morphological forms in noun or adjective paradigms. However, it's not difficult to imagine examples of what to look for.' (p. 37).

- On the basis of the verbal case data we argue that this distinction should be extended to apply to category also (see also Spencer (2003)). Thus forms inflected with the verbal case are *s-nominals*, but *m-verbs*.

- In (18) we show the m- and s-features associated with the fully inflected forms – one with regular allative case, and the other with the verbal allative.

(18a) *ngilirr-iring-ku* 'cave-ALL-MPRO'

m-features: [Category:n, Case<sub>core</sub>:ALL, Case<sub>mod</sub>:Prop]  
s-features: [CATEGORY: N, CASE ALL, TENSE "POT"]

(18b) *ngilirr-iwa-thu* 'cave-V.ALL-POT'

m-features: [Category:v, Case<sub>core</sub>:V.ALL, Tense:Pot]  
s-features: [CATEGORY: N, CASE V.ALL, TENSE POT]

- The usual situation is for the s-category and the m-category of any given lexeme to match (19), but it is precisely in the Kayardild data (and the other types of paradigmatic mixing discussed by Spencer (to appear)) that we see them vary independently of one another.

(19) Category ⇔ CATEGORY

- The extensive morphology in Kayardild allows us to see clearly the switch back and forth in the morphology between m-nominal and m-verb, while the category of s-nominal remains unchanged. This data also shows us that while s-category (corresponding to the traditional notion of syntactic category) is a property of lexemes, m-category must be a property of stems.

(20) *ngada* *kurrija* *maku-ya* *wuu-n-ki* *wuran-ki*  
1sgNOM see-ACT woman-MLOC give-NMZR-MLOC food-MLOC

[[*thabuju-karra-maru-n-ki*]<sub>m-nom</sub> *yathuny-maru-n-ki*]<sub>v-dat</sub>  
eB-GEN-V.DAT-NMZR-MLOC dog-V.DAT-NMZR-MLOC  
'I saw the woman giving food to (my) older brother's dog.'

[[[[[*thabuju*]<sub>m-nominal</sub> *karra*]<sub>m-nominal</sub> *maru*]<sub>m-verb-n</sub> *n*]<sub>m-nominal</sub> *ki*]<sub>m-nominal</sub>  
eB-GEN-V.DAT-NMZR-MLOC

(21) *ngada* *kurri-ja* *biyanta-ya* *warra-n-ki*  
1sgNOM see-ACT dugong-MLOC go-NMZR-MLOC

[[*yatha-naba-yiwa-n-ki*]<sub>abl</sub> [*dulk-urn-naba-yiwa-n-ki*]<sub>pro</sub>  
other-ABL-V.ALL-NMZR-MLOC place-PROP-ABL-V.ALL-NMZR-MLOC  
*dangka-naba-yiwa-n-ki*]<sub>abl</sub> *mala-yiwa-n-ki*]<sub>v-all</sub>  
person-ABL-V.ALL-NMZR-MLOC sea-V.ALL-NMZR-MLOC  
'I saw the dugong going into another custodian's [country-having person's] sea (country).'

[[[[[*dulk*]<sub>m-nominal</sub> *urn*]<sub>m-nominal</sub> *naba*]<sub>m-nominal</sub> *yiwu*]<sub>m-verb-n</sub> *n*]<sub>m-nominal</sub> *ki*]<sub>m-nominal</sub>  
place-PROP-ABL-V.ALL-NMZR-MLOC

#### 4. Very little LFG

- The verbal cases, then, attach to a stem that is both m-nominal and s-nominal, and convert it to an m-verb, while keeping the syntactic category of nominal. This can be represented informally for the verbal allative as in (22):

(22) verbal allative

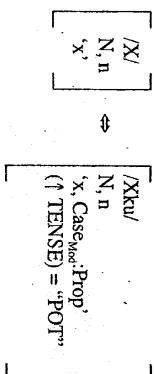
$\left[ \begin{array}{c} /X/ \\ N, n \\ 'x' \end{array} \right] \Leftrightarrow \left[ \begin{array}{c} /Xyiwu/ \\ N, v \\ 'x, \text{Case}_{core}:V.ALL' \\ (\uparrow \text{CASE}) = V, ALL \\ (ADJ \uparrow) \end{array} \right]$

- Since 'Xyiwu' is of m-category v, the realisation of TAM features such as 'potential' must involve inflections appropriate for m-verbs (namely, the verbal TAM features). At the morphosyntactic level, however, the verbal allative is identical to the regular allative (24), as shown by the fact that it contributes essentially equivalent s-features to the f-structure, following Nordlinger's (1998) constructive case approach to case marking in Kayardild and other Australian languages.

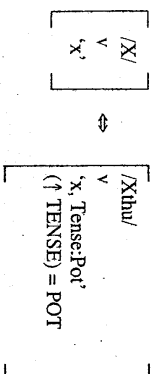
(23) regular allative

$\left[ \begin{array}{c} /X/ \\ N, n \\ 'x' \end{array} \right] \Leftrightarrow \left[ \begin{array}{c} /Xiring/ \\ N, n \\ 'x, \text{Case}_{core}:ALL' \\ (\uparrow \text{CASE}) = ALL \\ (ADJ \uparrow) \end{array} \right]$

(24) modal proprietive

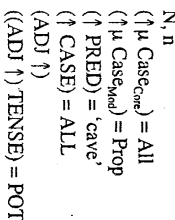


(25) potential tense marker

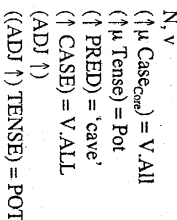


• After Morphological Composition (Nordlinger 1998, Sadler and Nordlinger 2002):

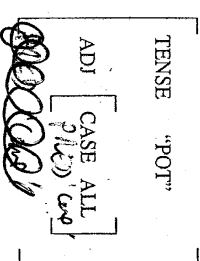
(26a) *ngilirr-irring-ku* 'cave-ALL-MPROP'



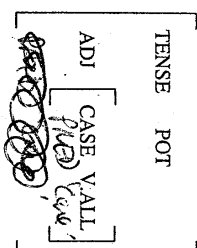
(26b) *ngilirr-iirwa-thu* 'cave-V.ALL-POT'



(27a)



(27b)



The encoding of clausal TAM on these forms will naturally fall out of the constructive case model, which already accounts for the encoding of clausal TAM on regularly-inflected NPs via modal case marking. In this way, we provide a unified morphosyntactic account of the many complex aspects of Kayardild case, while capturing the significant differences in morphological structure.

## 5. Conclusion

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