Positional dependency in Murrinhpatha: Expanding the typology of non-canonical morphotactics

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Abstract

Principles of morphotactics are a major source of morphological diversity amongst the world's languages, and it is well-known that languages exhibit many different types of deviation from a canonical ideal in which there is a unique and consistent mapping between function and form. In this paper we present data from Murrinhpatha (non-Pama-Nyungan, northern Australia) that demonstrates a type of non-canonical morphotactics so far unattested in the literature, one which we call *positional dependency*. This type is unusual in that the non-canonical pattern is driven by morphological form rather than by morphosyntactic function. In this case the realisation of one morph is dependent on the position in the verbal template of another morph. Thus, it is the linearisation of morphs that conditions the morphological realisation, not the morphosyntactic feature set. Positional dependency in Murrinhpatha thus expands our typology of content-form interactions and non-canonical morphotactics with implications for our understanding of morphological structure cross-linguistically.

1 Introduction[1]

Principles of morphotactics are a major source of morphological diversity amongst the world's languages. In a canonical morphotactic system (in the sense of Corbett 2009; Brown et al. 2012) there is a unique and consistent mapping between function and form, and every word form in a

[1] We have presented aspects of this data at the New Fields for Morphology Workshop in Melbourne (2015), the Morphological Eye: Surrey Morphology Group 25th Anniversary workshop (2017) and the Niches in Morphology Workshop at the SLE conference in Zurich (2017). We thank the audiences of these workshops for their useful feedback and suggestions, and especially Matthew Baerman, Matt Carroll, Andy Spencer and Greg Stump. We also thank two reviewers for suggestions that led to improvements in the paper. We are grateful to the Australian Research Council for funding our fieldwork on Murrinhpatha over many years, especially through the ARC Centre of Excellence for the Dynamics of Language (Project ID: CE140100041) and John Mansfield's ARC Discovery Early Career Research Award (Project ID: DE180100872).

paradigm has the same structure. From this canonical ideal we can investigate the many different types of deviation that are found across languages, including heteroclisis, polyfunctionality, syncretism, deponency, morphomic properties and many more (e.g. Spencer 2004; Corbett 2009; Crysmann and Bonami 2016; Stump 2016, 2017a, 2019; Baerman et al. 2017; Diaz et al. 2019 among many others). These non-canonical morphotactic properties all show different types of mismatch in the linkage between content/function and form. However, in all these instances the non-canonical morphotactic pattern is driven by morphosyntactic features, rather than by morphological form.

In this paper we present data from Murrinhpatha (non-Pama-Nyungan, northern Australia) that demonstrates a type of non-canonical morphotactics so far unattested in the literature, one which we call *positional dependency*. In this case the realisation of one morph (A) is dependent on the position in the verbal template of another morph (B). Thus, it is the templatic position of morph B that conditions the choice of realisation of morph A, not the morphosyntactic feature set. Positional dependency in Murrinhpatha involves variable morph ordering (see, for example, Crysmann and Bonami 2016, Mansfield et al. 2020) in that we find the position of morph B in the template varies according to different morphological contexts, but adds the additional complexity that this variable morph placement conditions the realisation of another morph (morph A). Thus, we have a dependency triggered by morphological *form* (position in the morphological template), rather than morphosyntactic *function*, which is what we would expect given other non-canonical morphotactic phenomena. Positional dependency in Murrinhpatha thus expands our typology of content-form interactions and non-canonical morphotactics with implications for our understanding of morphological structure cross-linguistically.

2 The Murrinhpatha verb: Overview

Murrinhpatha is a polysynthetic language from the Northern Territory of Australia, with a templatic verbal structure characterised by complex predicates, multiple exponence and discontinuous dependencies (Nordlinger 2010). The Murrinhpatha verbal template is provided in Table 1.[2]

Table 1. Murrinhpatha verbal template

[2] Mansfield (2015, 2019a) presents a view of the Murrinhpatha verb that differs from this in some respects, including some variation of ordering in slots 6–10, but these differences do not affect the issues discussed in this paper.

Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7	Slot 8	Slot 9	Slot 10
Classifier stem (portmanteau with SUBJ person/number and TAM)	SUBJ Number / OBJ marker/ OBL marker	Reflexive-reciprocal	Incorporated body part / Applicative	**Lexical Stem**	Tense/aspect/ mood (TAM)	Incorporated adverbial	Number (SUBJ or OBJ)	Incorporated adverbial	Serialised classifier

The verbal predicate in Murrinhpatha is usually complex, consisting of a classifier stem in Slot 1 combined with a lexical stem in Slot 5. Classifier stems belong to 38 different subparadigms (Nordlinger 2015), traditionally associated with a number, and are treated here as portmanteau forms encoding some classifying semantics, subject person and number, and tense/mood.[3] The majority of verbs require both a classifier stem and a lexical stem (these are bolded in (1)-(4) below). A few classifier stems can function as verbs on their own without a lexical stem, as in (4); but lexical stems can never appear in the verb without a classifier stem.[4]

(1) ***pam****-ngintha-nu-ma-****rartal***
3SGS.SLASH:RR(24).NFUT-DU.M-RR-APPL-tear
'They two (non-siblings) will tear the (cloth) from each other.'
(RN 20070531-002:011)

(2) ***dani****-ngi-****riwak****-dha-ngintha-dharra*
3SGS.POKE(19).P:IPFV-1SGO-follow-P:IPFV-DU.F-moving
'They two (non-siblings) were following me.'
(Blythe 2009: 124)

(3) ***puddan****-wunku-****rlarl****-deyida-ngime=pumpan-ka*
3DUS.SHOVE(29).NFUT-3DU/PCO-drop-in.turn-PC.F=3DUS.GO(6).NFUT-DU/PC.NFUT

[3] Mansfield (2016) provides a more fine-grained analysis of these classifier stems into constituent morphs, which is completely compatible with this discussion, but unnecessary for present purposes.

[4] The semantics of the classifier stem paradigms has not been fully analysed, and traditionally paradigms have been referred to by a number. We provide indicative glosses for classifier stems but readers should be aware that these are merely placeholders for a proper semantic analysis. We also include the number of the paradigm in brackets, e.g. 'POKE(19)'. Other glosses follow the conventions of the Leipzig Glossing Rules (https://www.eva.mpg.de/lingua/pdf/Glossing-Rules.pdf) with the addition of the following: DM 'discourse marker', EMPH 'emphatic marker', PC 'paucal number', RR 'reflexive/reciprocal'. Examples provided without sources were constructed by us to illustrate the basic grammatical distinctions under discussion.

'They two (siblings) are dropping them off, one after the other, as they go along.'
(Blythe 2009: 134)

(4) ***wurran***
3SGS.GO(6).NFUT
'He's going.'

Classifier stems encode the person/number of the subject, as well as 5 major tense/aspect/mood categories. Classifier paradigms are morphologically complex and suppletive, and only partial regularities can be identified across subsets of the total system. A sample classifier stem subparadigm is given in Table 2. It is beyond the scope of this paper to discuss the nature of these classifier paradigms in more detail – for further information the reader is referred to Mansfield (2016, 2019a) and Mansfield and Nordlinger (2020).

Table 2. Subparadigm for classifier stem 'SIT(1)'

		NFUT[5]	P:IPFV	FUT	FUTIRR	PSTIRR
SING	1	*ngem*	*ngini*	*ngi*	*ngi*	*ngini*
	2	*thim*	*thini*	*thi*	*thi*	*thini*
	3	*dim*	*dini*	*pi*	*ki*	*dini*
1 INCL		*thim*	*thini*	*pi*	*pi*	*thini*
DUAL[6]	1	*ngarrim*	*ngarrine*	*nge*	*nge*	*ngarrine*
	2	*nirrim*	*nirrine*	*ne*	*ne*	*nirrine*
	3	*pirrim*	*pirrine*	*pe*	*ke*	*pirrine*
PLUR	1	*ngarrim*	*ngarrini*	*nguyu*	*nguyu*	*ngarrini*
	2	*nirrim*	*nirrini*	*nuyu*	*nuyu*	*nirrini*
	3	*pirrim*	*pirrini*	*puyu*	*kuyu*	*pirrini*

[5] Non-future classifier stems can also be inflected with the *k-* epistemic authority marker, as discussed by Mansfield (2019b).

[6] In the non-future tense, dual classifier stems combine with *-ka* in Slot 2 (see (5) below). In some analyses *-ka* is treated as part of the classifier stem in this TAM category (e.g. Street 1987; Blythe 2009; Nordlinger 2015), however it is clearly in Slot 2 of the verb as it is blocked by the presence of object/oblique markers, see Section 3 below. Although morphologically interesting, we leave aside discussion of *-ka* in this paper for space considerations.

While there are only three number categories reflected in the classifier stem itself (SINGULAR, DUAL, PLURAL), Murrinhpatha has a fourth number – paucal – and a sibling/non-sibling distinction in the dual and paucal numbers; these are encoded with a combination of the classifier stem and additional number marking in the verb. The basic system is given in Table 3; the shaded combinations are the focus of this paper and discussed further in Section 3.

Table 3. Subject number/sibling marking in the Murrinhpatha verb

Classifier category	**Additional Number Marker**	**Subject category**
SINGULAR	–	Singular
SINGULAR	*-ngintha/-nintha* (Slot 2)	Dual non-sibling
SINGULAR[7]	*-ngintha/-nintha* (Slot 8)	Dual non-sibling
DUAL	*-ngintha/-nintha* (Slot 8)	Dual non-sibling
DUAL (+ka nFut)	–	Dual sibling
DUAL (+ka nFut)	*-ngime/-neme* (Slot 8)	Paucal non-sibling
PLURAL	–	Paucal sibling, Plural

In this paper we focus on the marking of dual subjects within the verb. As is evident in Table 3, we need to be able to distinguish between the paradigmatic category of the classifier (column 1), and the morphosyntactic features of the subject that are being expressed (column 3). This is because we can have the same set of morphosyntactic features for the subject (e.g. dual non-sibling) being encoded by different classifier categories (e.g. SINGULAR or DUAL), as we discuss below. We will therefore make a three-way terminological distinction as follows:

Morphosyntactic feature (set): e.g. dual non-sibling subject
Morphomic category: e.g. SINGULAR classifier
Morphophonological realisation: e.g. *dim-ngintha*

[7] We include this option in the table as it is included in previous descriptions (e.g. Walsh 1976; Street 1987; Blythe et al. 2007; Blythe 2009; Mansfield 2014; Nordlinger 2015), and is found in a very small number of our examples. However, it appears to be very marginal in use – the usual pattern being that with the DUAL classifier, which is the focus of this paper (see Section 3).

As shown in the template in Table 1, the marking of subject number is distributed across the verbal word in Slots 1, 2 and 8. We discuss the nature of this distribution and the interaction of morphosyntactic features, morphomic categories and morphophonological realisations in the expression of dual subjects in more detail in Section 3. For further details regarding the inflectional morphology of Murrinhpatha verbs see Nordlinger (2015) and Mansfield (2019a).

3 Encoding dual subjects

Focussing on the encoding of subjects with the morphosyntactic feature of dual number (the shaded rows of Table 3), Murrinhpatha makes a grammatical distinction between pairs of *siblings* and pairs of *non-siblings*. **Dual sibling** subjects are encoded with the DUAL classifier category, with *-ka* in Slot 2 in the non-future tense (5a) and otherwise no additional number marker in Slot 2, as shown in (5b):

(5a) ***ngubam-ka-****ngkardu*
1**DU**S.SEE(13).NFUT-DU/PCS.NFUT-see
'We two (siblings) saw it/him/her.' (**dual sibling subject)**

(5b) ***nguba-****ngkardu-nu*
1**DU**S.SEE(13).FUT-see-FUT
'We two (siblings) will see it/him/her.' (**dual sibling subject)**

Dual non-sibling subjects, on the other hand, are encoded with the SINGULAR classifier, followed by the dual non-sibling marker *–ngintha/-nintha*[8] in Slot 2, as shown in (6b).

(6a) ***ba-****ngkardu-nu*
1**SG**S.SEE(13).FUT-see-FUT
'I will see it/him/her.' (**singular subject**)

(6b) ***ba-ngintha-****ngkardu-nu*
1**SG**S.SEE(13).FUT-**DU.F**-see-FUT
'We two (non-siblings) will see it/him/her.' (**dual non-sibling subject)**

[8] *-ngintha* is the unmarked form, *-nintha* is used only to refer to two males.

Example (7) shows that it is not possible to use the DUAL classifier instead of the SINGULAR classifier in (6b). In this context *only* the SINGULAR classifier can be used (6b), despite the fact that the morphosyntactic number feature of the subject is dual.

(7) ***nguba-ngintha**-ngkardu-nu*
3**DU**S.SEE(13).FUT-**DU.F**-see-FUT
'We two (non-siblings) will see it/him/her.' **(dual non-sibling subject)**

As shown in the template in Table 1, Slot 2 is also the place in the verb where object/oblique marking appears. Thus, we have a case of exponence competition (Diaz et al. 2019), whereby more than one set of morphosyntactic features compete for exponence in a single position class. Third singular objects are unmarked so the slot is available for subject number marking when the object is third singular as in (5a) and (6b), but other objects require overt marking in this slot (8), and oblique marking is also expressed in this position (9).

(8a) *ma-**nhi**-berti-nu* *ngarra da*
1SGS.HANDS(8).FUT-**2SGO**-take-FUT home
'I'll take you home.'
(RN 20070608-002:042)

(8b) *pubam-**ngi**-ngkardu-ngime*
3DUS.SEE(13).NFUT-**1SGO**-see-PC.F
'They (paucal, female, non-siblings) saw me.'

(9a) *kardu=ka* *pardi-**na**-rel-dha* *nukunu-nu*
CLF:HUMAN=DM 3PLS.BE(4).P:IPFV-3SG.M.**OBL**-sing-P:IPFV 3SG.M-DAT

kunginire=yu
yesterday=DM
'They were singing for him yesterday'
(Street 1987:67)

(9b) *parram-**nga**[9]-mut=yu* *mamay-nu*

[9] A special use of singular bound pronouns is to convey a meaning of 'everyone in a large group', which accounts for the use of the singular bound pronoun here, rather than the plural (as reflected in the translation).

3PLS.POKE(19).NFUT -1SG.**OBL**-give=DM young.child-DAT
'They gave it (i.e. Murrinhpatha) to us kids.'
(RN 9-08TN-School)

When a dual non-sibling subject co-occurs with a non-third singular object or an oblique, both the dual non-sibling marker and the object/oblique marking compete for Slot 2. In this case, the object/oblique marker blocks subject number marking from appearing in this position and instead the dual non-sibling marker *-ngintha/-nintha* appears in Slot 8, as in (10). Crysmann and Bonami (2016), in their typology of variable morphotactics, term this 'conditioned placement', since the dual non-sibling marker is positioned differently, in either Slot 2 or Slot 8, depending on whether there is an non-third singular object or oblique present in the verb.

(10) *puba-**nhi**-ngkardu-nu-**ngintha***
3DUS.SEE(13).FUT-**2SGO**-see-FUT-**DU.F**
'They two (female non-siblings) will see you.'

In fact, the positioning of *-ngintha/-nintha* in Slot 8 also affects the morphomic category of the classifier stem in Slot 1 – it is this that we call *positional dependency* and is the focus of this paper. Whereas dual non-sibling subjects are encoded with the SINGULAR classifier stem with *-ngintha/-nintha* in Slot 2 as illustrated in (6b) above, when *-ngintha/-nintha* appears in Slot 8, it is the DUAL classifier stem that is used (Nordlinger and Mansfield 2015) as shown in (10). Thus, we find the morphological contrast shown in (11) where the SINGULAR classifier stem is used when the dual non-sibling marker is in Slot 2 (11a) and the DUAL classifier stem is used when the dual non-sibling marker is in Slot 8 (11b):

(11a) ***ba-ngintha**-ngkardu-nu*
1**SG**S.SEE(13).FUT-**DU.F**-see-FUT
'We two (non-siblings) will see him/her/it.'

(11b) ***nguba**-nhi-ngkardu-nu-**ngintha***
1**DU**S.SEE(13).FUT-2SGO-see-FUT-**DU.F**
'We two (non-siblings) will see you (sg).'

In this positional dependency, the morphomic category of the classifier stem in Slot 1 is dependent on the position of the *-ngintha/-nintha* dual non-sibling marker. The crucial point here is that the

subjects in both (11a) and (11b) have the same morphosyntactic features – namely, dual non-sibling – despite the fact that one is marked with the SINGULAR classifier, and the other with the DUAL classifier.

Furthermore, it is not possible for *-ngintha/-nintha* to appear in Slot 8 unless there is an object/oblique marker in Slot 2. This is the case irrespective of the morphomic category of the classifier stem, as shown in (12). In the absence of an object/oblique marker in Slot 2, the only grammatical option to encode a dual non-sibling subject is to use the SINGULAR classifier followed directly by the dual non-sibling marker, as in (11a); see (12):

(12a) ***ba**-ngkardu-nu-**ngintha***
1**SG**S.SEE(13).FUT-see-FUT-**DU.F**
'We dual non-siblings will see you (sg).'

(12b) ***nguba**-ngkardu-nu-**ngintha***
1**DU**S.SEE(13).FUT-see-FUT-**DU.F**
'We dual non-siblings will see you (sg).'

The morphological contrast shown in (11) is robust and consistent across all 38 classifier stem subparadigms and all tense/aspect/mood values and is not restricted to particular forms or to particular genres. The following two examples are taken from a written Bible translation, from the same paragraph only one line apart. In (13a) dual non-sibling subject is expressed with the SINGULAR classifier stem followed in Slot 2 by the dual non-sibling marker. In (13b) the verb includes an oblique marker in Slot 2 and so dual non-sibling subject is expressed with the DUAL classifier stem and the dual non-sibling marker in Slot 8.

(13a) *Nankungintha=ka* *the-wa* ***ne-ngintha**-bath-tha*
2DU.NSIB=DM ear-EMPH **2SGS.HANDS(8).P:IPFV-DU.F**-know-PST
'You dual should have known.'
(Lk2:41-52-009 in Mansfield et al. (2019))

(13b) *Thangku-nu-wa* *ngay*
what-DAT-EMPH 1SG

***nira-nga**-winhadhath-tha-**ngintha**=narde*?

2DUS.WATCH(28).P:IPFV-1SG.OBL-seek-PST-**DU.F**=2DUS.BE(4).P:IPFV
'Why did you dual come looking for me?'
(Lk2:41-52-009 in Mansfield et al. (2019))

The robustness of this morphological pattern is further evidenced by the fact that it extends to the serialised classifiers that can be added to the verb to mark imperfective aspect (Nordlinger and Caudal 2012). This construction involves one of a set of 7 classifier stems compounded to the end of the main verb (Slot 10 in the template in Table 1), as shown in (14b):[10]

(14a) *nungam-rirda*
3SGS.FEET(7).NFUT-push
'He kicked him.'
(RN 20070531-002:016)

(14b) *nungam-rirda=**pirrim***
3SGS.FEET(7).NFUT-push=3SGS.STAND(3).NFUT
'He is kicking him.'
(RN 20070531-002:016)

The serialised classifier stem must agree with the classifier stem in the main verb in subject person/number features and tense/mood, as shown in (14b), where both classifier stems are in the third person singular subject non-future tense form, and the following.[11]

(15) ***nume**-nu-yirrilart-nu-neme-nu=**narne***
2DUS.HANDS:RR(10).**FUT**-RR-pick.off-FUT-PC.M-FUT=**2DUS**.BE(4).**FUT**
'You lot will be picking off (molluscs) for yourselves.'

[10] While these serialised classifiers can elsewhere function as independent verbs, in this aspectual function they are morphologically impoverished and highly grammaticalised. This is shown by the fact that the serialised classifier does not include the additional inflectional morphology that it would need as an independent verb. The serialised classifier *narne* in (15), for example, is not grammatical as an independent verb; to be so it would need to be inflected with the future tense marker *-nu* and the paucal number marker *-neme*, thus *narne-nu-neme* (2DUS.BE(4).FUT-FUT-PC.M) 'you (paucal) will be …'.

[11] In a couple of specialised construction types – impersonal verbs and experiencer object constructions – the serialised classifier agrees with the object person/number features rather than the subject person/number features (Nordlinger 2009). However, this is not relevant to the present discussion since these constructions don't generally have dual non-sibling subjects.

(JB 2004_08_08JB03b2.txt)

(16) ***kurdu****-mpa-yirryirr=****kirra***
3SGS.SHOVE(29).**FUTIRR**-2SG.OBL-boil=**3SGS**.STAND(3).**FUTIRR**

kurdu-guwek
3SGS.SHOVE(29).FUTIRR-leave.until.soft
'She might boil them for you until they get soft.'
(JB 2004_08_08JB03b2.txt)

With dual non-sibling subjects, we find also that the *morphomic category* of the serialised classifier must match that of the main verb: thus, when the main verb has a SINGULAR classifier (and *-ngintha/-nintha* in Slot 2), the serialised classifier must also be SINGULAR (17) and when the main verb has a DUAL classifier, the serialised classifier must also be DUAL (18). This matching of morphomic category is required, even though in both cases the morphosyntactic features of the subject are the same.

(17) ***ngirran****-nintha-nu-bath=****ngem***
1**SG**S.WATCH(28).NFUT-DU.M-RR-watch=1**SG**S.SIT(1).NFUT
'We dual non-siblings are looking at each other.'
(RN 20050711:001)

(18) ***ngira****-mpa-winhadhath-tha-ngintha=****ngarde***
1**DU**S.WATCH(28).P:IPFV-2SG.OBL-seek-PST-DU.F=1**DU**S.BE(4).P:IPFV
'We dual non-siblings have been looking for you.'
(Lk2:41-52-008 in Mansfield et al. 2019)

Thus, the positional dependency relation between the classifier stem and the position of *-ngintha/-nintha* in the verbal template is reflected in the agreement patterns of the serialised classifier. This phenomenon of positional dependency is a type of deviation from canonical morphotactics that has not been previously reported in the literature and expands our typology of morphotactic patterns in interesting ways, as we discuss in Section 4.

4 Positional dependency in a typology of morphotactics

A key component of the morphotactic pattern of positional dependency that we have shown here is that the change in category of the classifier stem is triggered by the position of *-ngintha/-nintha* in the verbal template, which in turn is conditioned by the presence of an object/oblique marker in Slot 2. Thus, it is driven by matters of *form*, not by morphosyntactic features. This is shown by the fact that third singular objects, which are not marked in the verb, do not trigger this change in position for *-ngintha/-nintha* and the subsequent classifier stem choice, as shown in the contrasts in (19).

(19a) ***ba-ngintha****-ngkardu-nu*
1SGS.SEE(13).FUT-DU.F-see-FUT
'We dual non-sibling will see it/him/her.'

(19b) ****nguba****-ngkardu-nu-**ngintha***
1DUS.SEE(13).FUT-see-FUT-DU.F
'We dual non-sibling will see it/him/her.'

(19c) ***nguba-nhi****-ngkardu-nu-**ngintha***
1**DU**S.SEE(13).FUT-2SGO-see-FUT-**DU.F**
We dual non-sibling will see you (sg).'

In (19a) there is a third singular object which is not overtly realised in the verb, but is nonetheless part of the morphosyntactic feature set. In this case, the dual non-sibling marker appears in Slot 2. (19b) shows that it is ungrammatical to have the DUAL classifier stem and the changed position of *-ngintha/-nintha* in this case. In (19c), on the other hand, where there is a second person singular object marker in Slot 2, the DUAL classifier stem must be used. Thus, it is not the existence of OBJECT morphosyntactic features in the relevant paradigm cell which conditions the position of *-ngintha/-nintha* and the DUAL classifier category, but rather it is a purely morphological phenomenon triggered by the overt realisation of an object/oblique morph in Slot 2, which requires the change in position for *-ngintha/-nintha*.

These facts violate many of the properties of canonical morphotactics. Firstly, in a canonical system we expect that all cells within a lexeme's paradigm should have the same composition and structure (Corbett 2009). Thus, we do not expect to find that the dual non-sibling subject exponents have SINGULAR classifiers in some cells and DUAL classifiers in others; nor that this relates to the position of *-ngintha/-nintha*. Secondly, in a canonical system the application of a rule of affixation can be conditioned by the morphosyntactic features that it realises and by the properties of the stem to

which it applies, but will not be directly sensitive to the application of any other rule of inflectional affixation (Stump 2017b). In the Murrinhpatha case, however, the application of the rule realising the classifier stem in Slot 1 (ie. as SINGULAR or DUAL) is sensitive to the nature of the rule that is applied in Slot 2, namely whether it realises the dual non-sibling marker or not.

Murrinhpatha dual subject marking shows some similarities with pronominal affixes in Yimas (Crysmann 2020). Yimas verbs host S/A and O affixes exhibiting several dimensions of complexity in their realisation. Most relevant for our study are S/A prefixes, each of which appears in two alternative forms. Crysmann (2020) argues that the clearest generalisation is that one set appears in word-initial position, while the other set appears in word-medial position, as shown in (20).

(20a) ***ipa***-*wa-t*
1PL.S-go-PRF
'We went.'

(20b) *ta-**kay**-wa-r-um*
NEG-**1PL.S**-go-PRF-PL
'We didn't go.'
(Crysmann 2020: 100; citing Foley (1991: 252))

Yimas therefore demonstrates another instance in which affix form depends on the position in the word, rather than morphosyntactic features. However, whereas the realisation of Yimas S/A prefixes is determined by *their own* position (initial or medial), the realisation of the Murrinhpatha dual subject classifier is determined by the position of *another* morph, namely the *ngintha/-nintha* suffix. Furthermore, in Yimas the phonological forms, eg. *ipa-* ~ *kay-*, depend directly upon the positional configuration. In Murrinhpatha, however, the morphomic category of the classifier – SINGULAR or DUAL – depends upon positional configuration, but each of these categories is realised in many different paradigmatic forms. Thus, while there are some similarities with the Yimas facts, positional dependency in Murrinhpatha may be considered to add an additional layer of complexity through its morphomic nature and the fact that the dependency is triggered by the position of another morph in the verbal word.

The Murrinhpatha facts discussed here relate to the mapping between the content paradigm (morphosyntactic properties) and the form paradigm (morphophonological realisation), and are therefore morphomic in nature (Aronoff 1994; Luís and Bermúdez-Otero 2016; Stump 2016).

Morphomic phenomena have purely morphological functions and are intermediary between the morphosyntactic feature set and its morphophonological realisation. However, morphomic properties, like other types of non-canonical morphotactics discussed in the literature, are usually morphosyntactically-conditioned (Round 2015), but the Murrinhpatha facts are conditioned by the positioning of another morph in the verbal word. Thus, our data challenges standard morphomic analysis since the choice between the SINGULAR and DUAL classifier morphomic categories is not driven by morphosyntactic features, but by morphophonological properties alone, namely the linearisation of morphs. Furthermore, in the behaviour of the serialised classifier discussed in (17) and (18), we find agreement in morphomic category within the complex word – a phenomenon that has not been previously identified in the literature as far as we are aware. The Murrinhpatha data therefore has implications for theories of morphological structure and the nature of morphomic properties within them (see, for example, Bonami and Boyé 2008; Stump 2016, chapter 8), and we hope that our findings will stimulate further theoretical work on the interaction of morphosyntactic features, morphomic categories and morphophonological form.

5. Conclusion

In this paper we have presented aspects of the inflectional paradigm of Murrinhpatha verbs that suggest a new type of non-canonical morphotactics previously unreported in the literature: positional dependency. To summarise, the relevant empirical facts are as follows:

(a) The positioning of the dual non-sibling marker *-ngintha/-nintha* is variable (Slot 2 vs Slot 8) and its position is dependent upon the presence or absence of other morphs in Slot 2: for dual non-sibling subjects it appears in Slot 2 if there are no object or oblique markers realised in that slot; otherwise it appears in Slot 8.

(b) The category of the classifier stem for dual non-sibling subjects is dependent upon this variable positioning, even though the morphosyntactic feature set for subject doesn't change: when *-ngintha/-nintha* is realised in Slot 8 a DUAL classifier stem is used; when *-ngintha/-nintha* is realised in Slot 2 a SINGULAR classifier stem is required.

(c) The serialised aspectual classifier must share the morphomic category of the main verb classifier stem, so its realisation also depends on the variable positioning of *-ngintha/-nintha.*

Aspects of the Murrinhpatha data have been discussed in recent work that focusses on non-canonical

morphotactics, and particularly variable affix ordering. Crysmann and Bonami (2016) discuss the variable positioning of *-ngintha/-nintha* (point (a) above) as an example of non-canonical morphotactics and treat it as an instance of 'conditioned placement', since the position of the dual non-sibling marker is conditioned by the presence or absence of an object/oblique marker. This Murrinhpatha data is also a known counterexample to the Category Clustering tendency (Mansfield et al. 2020) since it violates both the paradigmatic alignment constraint (since the subject dual non-sibling number suffix appears in two positions within the verb) and the principle of featural coherence (since slot 2 realises object marking, oblique marking and the subject dual non-sibling number marker).

In this paper, however, we have shown that Murrinhpatha verbs challenge assumptions about morphological structure in further, more complex ways – points (b) and (c) above. In addition to variable affix order, in Murrinhpatha we find a dependency holding between the position in the template of the dual non-sibling marker, and the morphomic category selected for the classifier stem in Slot 1. Such a positional dependency has not been previously reported in the literature and challenges standard assumptions that morphotactic principles are conditioned solely by morphosyntactic features. Here we present a new type of non-canonical morphotactics that is dependent on issues of morphological form rather than the morphosyntactic feature set. This Murrinhpatha data thus expands our typology of content-form interactions and non-canonical morphotactics and has consequent implications for our understanding of morphological structure cross-linguistically.

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