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The Syntax and Prosody of DOM and PNI in Mongolian*,**

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Michael Barrie, Kang, Jungu, 2022. **The Syntax and Prosody of DOM and PNI in Mongolian**. *Studies in Generative Grammar* 32-3, 405-424. We examine the behavior of bare nouns in differential object marking and pseudo noun incorporation environments in Mongolian. Unmarked bare nouns and pseudo incorporated nouns have the same segmental structure; however, we show that they differ in their prosody. The prosodic word in Mongolian has a characteristic LH contour. This contour is found on unmarked bare nouns which are not pseudo incorporated; however the pseudo incorporated noun lacks this contour. Guntsetseg (2016) identifies various syntactic differences, which we use to provide a structural analysis of nominals. Specifically, the pseudo incorporated noun is a bare *n*P and non-pseudo incorporated nouns are full KPs, regardless of whether they are case marked or not. We propose an analysis in a modified version of Match Theory in which phases map to prosodic categories. Specifically for Mongolian the KP phase and the *n*P phase both map to a phonological word. Thus, a full KP contains two recursive phonological words, while a *n*P (a pseudo incorporated noun) contains only a single phonological word. We propose that only non-minimal phonological words bear a LH contour. Thus, only a full KP will appear with this contour.

Keywords: DOM, PNI, Mongolian, Syntax-Prosody Interface, Match Theory

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1. Introduction

Differential object marking (DOM) and pseudo noun incorporation (PNI) have provided fruitful grounds for research on the structure of nominals (Bossong 1991, Massam 2001, Dayal 2011, López 2012, Dayal 2015, Levin 2015, Guntsetseg 2016, Kalin 2018). We investigate both DOM and PNI in a single language, Mongolian, and propose that a structural difference in the size of the nominals is responsible for the observed properties. As we discuss below, there is a lack of consensus on how to distinguish between pseudo incorporated nouns and unmarked nouns. Some analyses (such as Levin 2019) argue that unmarked nouns are structurally reduced; however, this makes it difficult to distinguish between unmarked nouns and pseudo incorporated nouns, as the standard analysis for pseudo incorporated nouns holds that they are structurally reduced, too (Massam 2001, Dayal 2015). For the current study on Mongolian, we assume, following López (2012), that DOM involves a full KP with a phonologically null accusative case marker and that PNI involves a bare *n*P. We discuss some evidence from Guntsetseg's (2016) in depth study of DOM in Mongolian to bolster this syntactic difference. The core of the current study is to bolster prosodic evidence in favour of this distinction. We use this distinction to argue for a streamlined version of Match Theory (Selkirk 2009, Selkirk 2011, Elfner 2015) in which syntactic phases (in the sense of Chomsky 2001) map to prosodic domains (Kratzer and Selkirk 2007, Newell 2008, Compton and Pittman 2010, Newell and Piggott 2014, Newell and Scheer 2017, Weber 2020, 2021).

The novel empirical observation we make is as follows. While an unmarked object in Mongolian has a typical word-initial LH contour (Karlsson 2014) typical of the prosodic word in the language, the pseudo incorporated object lacks such a contour. We take this as partial evidence of a difference in the syntactic structure. Specifically, we propose that the object is generally a KP with either an overt case suffix (DOM) or a phonologically null allomorph (an unmarked object). A pseudo incorporated object, however, is a bare *n*P. The gist of the analysis goes as follows. Assuming that both K (adapting Svenonius 2004) and n (Marvin 2003; Newell 2008) are phase heads the unmarked object is composed of two phases (KP and *n*P), while the pseudo incorporated object is composed of one phase (*n*P). We argue further that both KP and *n*P map to phonological words (ω) and that the characteristic left edge LH contour is found only on a non-minimal ω. Since the pseudo incorporated object is a bare *n*P it will consist of a single ω. Under our analysis a recursive ω is necessary for the LH contour, so it is found only on a KP.

The remainder of this paper is structured as follows. Section 2 gives the background for this study, introducing the basic facts of the prosodic phonology of Mongolian, discussing previous accounts of PNI and DOM in Mongolian, and introducing basic aspects of Match Theory relevant for the analysis. Section 3 presents the methodology used for gathering the data. Section 4 presents the results of the study. Section 5 presents the discussion and analysis of the data, and presents our proposal that phases map to prosodic domains. Section 6 is a brief conclusion of the discussed details

2. Background

2.1. Mongolian Prosodic Phonology

Various phonological phenomena have been used to identify prosodic domains in Mongolian (Svantesson et al. 2005, Janhunen 2012, Karlsson 2014). Only Karlsson identifies specific prosodic categories. She identifies the intonational phrase (IP), intermediate phrase (iP) and accentual phrase (AP), which we take to be equivalent to the intonational phrase (ι), phonological phrase (ϕ), and phonological word (ω), respectively. Although little work has been done on prosody in Mongolian, the following generalizations have been made about prosodic domains in Mongolian. What all researchers agree on is that the highest domain is the intonational phrase, ι, which encodes the intonational contour that distinguishes statements from questions, in addition to other illocutionary properties. In the descriptive works cited above, the authors identify a LH contour at the left edge of a word, which Karlsson (2014) specifically identifies as an Accentual Phrase. Longer phrases are grouped into an intermediate phrase and have a pitch resent on the word-initial LH contour. The pitch reset is identified as -LH in the following example (Karlsson 2014: 196).

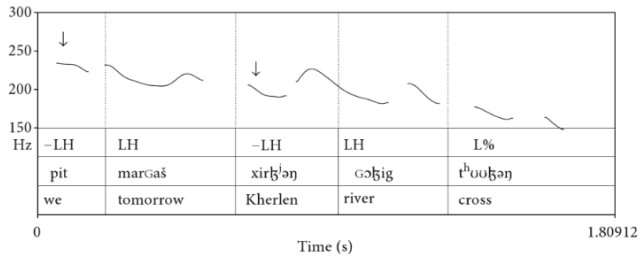


Figure 1. Example of a LH contour (graph taken from Karlsson, 2014)

Furthermore, the domain of vowel harmony is restricted to lexical words and their suffixes (see also Goldsmith 1985; Ko 2011 in addition to the references above). Compound words, crucially, count as separate domains for vowel harmony. Observe in the following examples that the ablative suffix (ABL) changes its form, following standard rules of vowel harmony in the language. The reflexive suffix (REFL) also changes accordingly. Note specifically in (1d) that the suffix changes to match that of the second half of the compound (*cui* 'study'). Crucially the two halves of the compound can be disharmonic.

(1) Vowel harmony in Mongolian (Svantesson et al. 2005, 52) and (Janhunen 2012, 140)
a. eeč-es (mother-ABL) 'from mother'
b. aaw-as (father-ABL) 'from father'
c. awja-cui (sound-study) 'phonetics'
d. awja-cui-ge (sound-study-REFL) 'one's phonetics'
e. noxai (dog) 'dog'
f. noxai-ga (dog-REFL) 'one's dog'

Although no detailed study has been undertaken, the limited data available suggests that compound words have a single left-edge LH contour. Karlson (2014) gives the following example.

(2) Töv shuudang Enkh taivany gudamjind baidag.
central post peace street is
'The central post-office is on Peace Street.'

She shows that the two compounds *Töv shuudang* (central post) and *Enkh taivany* (Peace) each have a single left-edge LH contour. These two facts suggest, then, that the compound acts as a single domain for LH contour assignment and as two domains for vowel harmony, thus necessitating a more articulated prosodic structure.

2.2. Differential Object Marking and Pseudo Noun Incorporation in Mongolian

Differential object marking (DOM) is a cross-linguistically widespread phenomenon in which the object noun varies in the expression of case morphology (Bossong 1991). This variation typically correlates with specificity, definiteness, animacy, or a combination of these features. We give an example of DOM in Mongolian (Guntsetseg 2016, 86). Observe that in (3a), the object is marked with accusative

case and has an obligatory specific reading. In (3b), on the other hand, there is no case marking on the object, and it can be specific or non-specific.

(3) a. Öčigdör Tujaa gudamžin-d neg zaluu-g üns-sen.
yesterday Tujaa street-DAT a guy-ACC kiss-PST
'Yesterday, Tujaa kissed a certain guy in the street.'

b. Öčigdör Tujaa gudamžin-d neg zaluu üns-sen.
yesterday Tujaa street-DAT a guy kiss-PST
'Yesterday, Tujaa kissed a (certain) guy in the street.'

Guntsetseg gives an extremely detailed discussion of the semantic properties that correlate with DOM. We do not reproduce her detailed discussion here but instead concentrate on those properties that play a role in our analysis. Specifically, she shows that DOM correlates with scopal specificity (in addition to other properties). In this paper we investigate scopal specificity with the intensional verb *want*. As with the example above, the case-less noun is ambiguous between a specific and a non-specific reading. Example (4a) shows a non-specific bare noun, which exemplifies pseudo noun incorporation, as we will see below. Example (4b) shows a specific noun.

(4) Scopal specificity on the bare object noun
(a) Bi guu saa-maar baina …ali ch guu hamagui.
I mare milk-INF want …any mare will do
'I want to milk a mare…any mare will do.'
(b) Bi guu saa-maar baina …ter tsagaan guu.
I mare milk-INF want ...that white mare
'I want to milk a mare…that white mare'

Guntsetseg also identifies pseudo noun incorporation (PNI) in Mongolian, however, does not cover the phenomenon in depth. Example (5) is one of the examples she gives. Crucially, examples of PNI all involve narrow scope readings of the bare noun, as in example (4a).

(5) Bi öčigdor nom unš-san.
I yesterday book read-PST
'Yesterday, I did book-reading.'

She notes that pseudo incorporated nouns in Mongolian do not appear with demonstratives or possessives and do not appear with postpositions or case markers (Guntsetseg, 2016, p.61ff). This is shown in the following example (Guntsetseg, 2016: 61). The object noun in (6) must be interpreted as specific (and definite), so does not have the non-specific reading found in PNI. As Guntsetseg notes, it is unexpected to find case or demonstratives on incorporated nouns, so we do not comment on this further.

(6) Tujaa ene / minij nom-yg unš-san.
Tujaa the / I.GEN book-ACC read-PST
'Tujaa read this/my book.'

More interestingly, Guntsetseg (2016: 63) shows that plural marking is not possible in PNI. Here is the example she gives.

(7) Tujaa amralt-aar-aa nom(*-nuud) unš-dag.
Tujaa holiday-INSTR-RFL book(*-PL) read-HAB
'Tujaa does book-reading on her holiday.'

The analyses offered for DOM and PNI across languages are quite varied. Indeed, it is unlikely that these two phenomena are uniform in the languages in which they are found. A common theme for analyses of PNI is to assume a reduced nominal structure for the pseudo incorporated noun (Massam 2001, Dayal 2011, Bliss 2018, Clemens 2019). Many analyses of DOM also propose a reduced structure for the unmarked object (Levin 2019, van Urk 2020), essentially proposing the same analysis for pseudo incorporated nouns and unmarked nouns in DOM languages. Given that Mongolian clearly exhibits both DOM and PNI as distinct phenomena, a unified analysis for these two phenomena is undesirable.

Other authors have proposed that the size of the object in DOM languages does not differ between marked and unmarked objects (López 2012). Given that DOM and PNI are distinct phenomena as argued at length by Guntsetseg, distinct analyses must be proposed. We assume along with the standard literature on PNI that the pseudo incorporated object is an *n*P. We assume that all other objects are KPs. We adopt (López 2012) and assume that marked objects have an overt K head (the accusative case marker) and that unmarked objects have a phonologically null allomorph. The bulk of the discussion below will argue that the phonologically null K head, a phase head, gives rise to a difference in the prosodic structure. Here, we present some

evidence from Guntsetseg's monograph for the structural distinction that we propose.

First, (Guntsetseg 2016, 63) shows that adverbs of frequency cannot appear between a pseudo incorporated object and the verb. She offers the following example. Note that the object is modified by an adjective showing that it has not undergone noun incorporation in the sense of Baker (1988) since the object is phrasal.

(8) a. Tujaa dandaa zuzaan nom unš-dag
Tujaa always thick book read-HAB
'Tujaa always reads a thick book/does thick-book reading.'

b. * Tujaa zuzaan nom dandaa unš-dag
Tujaa thick book always read-HAB
('Tujaa always reads a thick book/does thick-book reading.')

If the object appears with an article, however, then an adverb of frequency can appear between the object and the verb, as in example (9).

(9) Tujaa neg zuzaan nom dandaa unš-dag
Tujaa one thick book always read-HAB
'Tujaa always reads a thick book.'

Given the broad, cross-linguistic evidence that PNI involves a bare *n*P and the Guntsetseg's evidence presented here, we safely assume that the pseudo incorporated noun is a *n*P. Recall that the pseudo incorporated noun cannot appear with case or plural marking, suggesting KP and NumP are absent. The other properties described here are in line with the usual syntactic and semantic properties of PNI found in other languages, as is the conclusion that the pseudo incorporated noun is a *n*P (Massam 2001, Dayal 2011).

What's less obvious (and less agreed upon) is whether the unmarked object in a DOM language is a full KP or not. We note one example of a wide-scoping bare noun in which a temporal adverb can intervene between the object and the verb. The bare noun in (10) behaves like the full KP in (9) in terms of adverb ordering. This contrasts with the pseudo incorporated noun in (8b), in which the temporal adverb cannot intervene between the object and the verb.

(10) Tujaa güü dandaa khurdan saa-dag
Tujaa mare always fast milk-HAB
'Tujaa always milks a mare quickly.' [speaker comment: It must be a specific mare.]

Given that the unmarked objects behave similarly to marked objects and distinct from pseudo incorporated objects in terms of adverb ordering described above and the prosodic contours described below, we assume that they have the same structure–namely, that an unmarked object is a KP.

2.3. Phases in Mongolian

Our analysis crucially relies on identifying phases in the nominal domain. While C and *v** are well established as phase heads in a number of languages, including Mongolian (Fong 2019). While KP phases do have more of a history, albeit usually under the moniker of DP phases (Svenonius 2004; Ticio 2005; Kramer 2009; Compton and Pittman 2010), *n* as a phase head is much less discussed. As such, we will go over some justification for positing K and *n* as phase heads. Chomsky (2001), of course, defines phases as domains of predication. While this works well for the First, we wish to make clear that our analysis does not crucially rely on the existence of KP as a functional projection distinct from DP. We employ KP as our discussion crucially revolves around case. We make the innocuous assumption here that the highest functional head in the extended nominal projection is a phase head, pending successful review of phasehood diagnostics. We also assume that the entire phase rather than the complement to the phase head undergoes spell out (Fox and Pesetsky 2005; Compton and Pittman 2010; Newell and Piggott 2014; Weber 2020). Thus, the spell out domains in question are the KP and the *n*P.

We start with the KP. We note first that there is prior evidence for K as a phase head. Aravind (2021) discusses extensive evidence for successive cyclic movement through the Specifier of DP. (She did not consider KP in her analysis.) Her discussion is quite extensive and it would take us too far afield to reproduce her discussion here. We leave the reader to consult her paper. Instead, we concentrate on other diagnostics that have not been tested on Mongolian before. Matushansky (2005) argues that one defining property of phases is their ability to move. The reader need only examine the data above in example (9) showing that a full KP object can undergo scrambling in Mongolian.

Moving to *n*P, there is less discussion on *n* as a phase head (Marantz

2001; Arad 2003; Marvin 2003). First, note that if our analysis of PNI in Mongolian is correct, namely that the pseudo incorporated object is an *n*P, then the short scrambling of the PNI object in example (11) shows that the *n*P can undergo movement, in compliance with Matushansky's proposal that only phases can undergo movement.

(11) a. Tujaa xurdan nom unš-dag. (Guntsetseg, 2016: 62)
Tujaa quickly book read-HAB
'Tujaa does book-reading quickly.'

b. Tujaa nom xurdan unš-dag
Tujaa book always read-HAB
'Tujaa reads books quickly.'

The authors above argue that the categorizing head is a phase head as it blocks phonological changes. Marvin in particular discusses the English example twinkle, which requires an epenthetic schwa in some cases. Consider the following examples.

(12) a. twinkle [*n* [root /twinkl/]] schwa inserted
b. twinkling 'an instant' [*n* -ing [root /twinkl/]] no schwa required
c. twinkling 'gleaming' [*n* -ing [*v* [root /twinkl/]]] schwa required

In (12a) and (12c) a schwa is required to break up the consonant cluster. The epenthetic schwa is not required in (12b) since the initial vowel of the suffix can re-syllabify the root-final /l/. The reason the initial vowel of the suffix cannot resyllabify the root-final /l/ in (12c) is that the *v*P has already been spelled out and its phonological form cannot be altered.

A similar observation is found in Mongolian. Consider the following data (Svantesson et al. 2005, 74). The surface syllabification forms are shown in square brackets, and the proposed syntactic structure is shown below that. Capital letters indicate vowels that undergo harmony. Note that the forms here are taken from Svantesson *et al.*, and use a phonetic transcription rather than the Romanized forms found in Mongolian data in the rest of this paper.

(13) a. cowl-lE [co.wel.lo]
advise-PST [T -lE [*v* [root cowl]]]
'advised'

b. cowl-l-E [cow.le.lo]
advise-NZLR-REFL [D -E [*n* -l [root cowl]]]
'his advice'

Considering the first form, the root /cowl/ requires an epenthetic schwa since [wl] is not a well-formed coda in Mongolian. Before the tense suffix on T is added, the vP phase is spelled out, and the schwa survives on the surface form as shown. In the second example, the nominalizer /l/ is added to the root, and the nP phase is spelled out as [cow.lel]. This time, the epenthetic vowel is added to break up the final [ll] cluster. Crucially, the root is not spelled out by itself as in the first example because the nominalizer and the root are part of the same spell out domain, namely *n*P. Once the reflexive suffix is added, the coda consonant of the base is resyllabified to the onset of the final syllable. Of course a full scale investigation of Mongolian morphophonology would have to verify this claim, but we leave that to future research.
We note also Samuels (2009; 2012) who argues that phases define domains for prosodic activity; however, this is precisely the investigation we undertake below. We take this up in the discussion in section 5. Taken together, the facts discussed here support the claim that *n* and K are phase heads in Mongolian (akin to *v* and C in the clausal domain).

2.4. Match Theory

Match Theory proposes an indirect relationship between syntactic structure and prosodic structure governed by violable constraints (Selkirk 2009; Elfner 2015). The syntactic and prosodic categories match as follows. Note that this relationship is indirect as the constraints in (14) can be overridden by more highly ranked constraints that give rise to a prosodic structure that is non-isomorphic with syntactic structure.

(14) Match Theory Constraints
(a) CP − ι (CP with illocutionary force)
(b) XP − ϕ
(c) X − ω

A growing body of research, however, suggests that prosodic categories correlate to syntactic phases (Kratzer and Selkirk 2007, Newell 2008, Kahnemuyipour 2009, Compton and Pittman 2010, Ershova 2020, Weber 2020; Weber 2021). Although

there is no consensus on how phases match with prosodic categories (or even what the phase heads are, as discussed in the previous section) we will show in the forthcoming discussion that the KP and *n*P phases map to ω and that the *v*P phase maps to ϕ. Although we assume the CP phase maps to ι, we do not investigate this aspect here.

3. Methodology

Fourteen native speakers of Mongolian from Ulaanbaatar were given a list of sentences to record, including PNI, DOM and a number of filler sentences. The pitch contours of these sentences were analyzed on Praat (Boersma and Weenink, 2018) and compared to known intonational correlates of prosodic categories in Mongolian (Karlsson, 2014).

As discussed in the previous section, we use scopal specificity with an intensional verb such as *want* to distinguish between DOM and PNI. Here are two examples of the test data we used. In example (15a) the object noun guu ('mare') takes narrow scope with respect to the matrix verb. We take this as an instance of PNI. In (15b), the object noun takes wide scope with respect to the matrix verb. We take this to be an instance of DOM.

(15) Test sentences for Mongolian PNI and DOM
(a) Bi guu saa-maar baina …ali ch guu hamagui.
I mare milk-INF want …any mare will do
'I want to milk a mare…any mare will do.'
(b) Bi guu saa-maar baina …ter tsagaan guu.
I mare milk-INF want ...that white mare
'I want to milk a mare…that white mare'

Each participant had a list of 75 sentences to read presented on individual slides in Mongolian script. Each sentence was read twice to ensure the participant understood the context (high versus low scope). Each experiment was preceded by five practice sentences for the participants to become accustomed to the experimental procedure. The list was randomized and contained 42 test sentences and 33 filler sentences. All recorded data were analyzed through Praat.

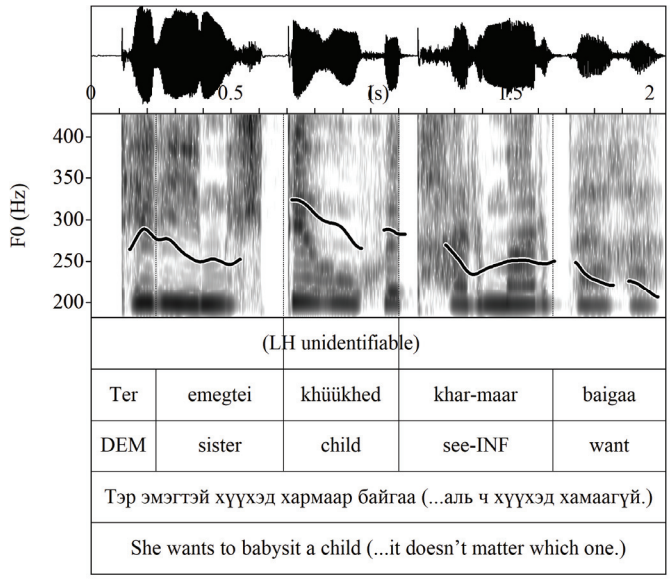
4. Results

The results of the experiment on pitch contours on the object noun are shown in Table 1. Non-bare object nouns (nouns with plural marking, case marking, or both) showed clear evidence that object nouns nearly always bear the LH contour at the left edge as reported in the literature above.

Table 1. Pitch contours on object nouns (second reading)

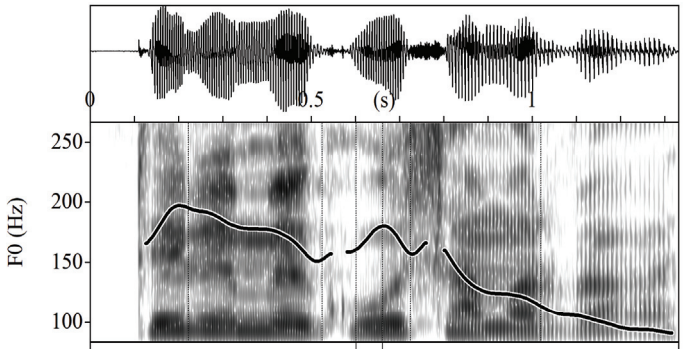
	LH Contour	Flat Contour
Non-bare	63	2
Bare narrow scope	25	66
Bare wide scope	50	12

The bare nouns with low scope, which we are taking to be instances of PNI, typically lack this contour, while bare nouns with high scope, which we take to be non-PNI, but simply a full KP that lacks overt case marking (case-less DOM) typically do bear the LH contour. The reader will note, of course, that the distinction, while robust, is not categorical. While we (along with many others) assume that syntactic structure (in particular phase structure) affects prosodic structure, it is not the only variable at play. Crucially, speech rate and individual speech patterns also affect prosodic structure. Nevertheless, we come back to this point in the discussion, although we leave a definitive answer for future research. We give two illustrative examples here in Figure 2 and Figure 3. Figure 2 shows a flat contour on a low-scoping noun, while Figure 3 is a LH contour on a high-scoping noun. We assume the high pitch at the left edge of the object in Figure 2 is simply pitch reset due to the preceding short pause.



(LH unidentifiable)				
Ter	emegtei	khüükhed	khar-maar	baigaa
DEM	sister	child	see-INF	want
Тэр эмэгтэй хүүхэд хармаар байгаа (...аль ч хүүхэд хамаагүй.)				
She wants to babysit a child (...it doesn't matter which one.)				

Figure 2. Example of a low-scoping noun



Ter	emee	güü	saa-maar	baigaa
DEM	grandmother	mare	milk-INF	want
Тэр эмээ гүү саамаар байгаа (... тэр цагаан гүү.)				
She wants to milk a mare (... that white mare.)				

Figure 3. Example of a high-scoping noun

5. Discussion

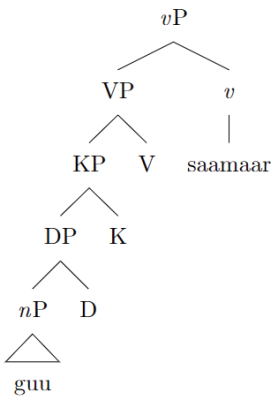
Caseless bare nouns with low scope by and large did not bear a LH contour. Since low scope is a prototypical property of PNI (Dayal, 2011), we assume the bare nouns with low scope have been pseudo incorporated while the bare nouns with high scope are full KPs that exemplify DOM and just happen to be singular and indefinite (but specific). Unlike morphological incorporation (in the sense of Baker, 1988), in which a head is incorporated, PNI involves the incorporation of a phrase. Thus, we propose the following structures for PNI objects and non-pseudo incorporated objects. To simplify the discussion we did not include other functional projections inside the Mongolian KP.

(16) a. [VP [*n*P güü] V]

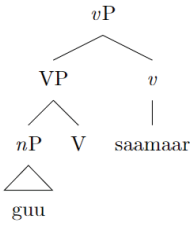
b. [VP [KP [*n*P güü] [K ∅/ACC]] V]

We are now in a position to account for the difference in the tonal contours found above. We assume the following full structures for (17a) and (17b) followed by the respective *v*Ps of the embedded clause:

(17) a.



b.



Under Match Theory, all XPs map to ϕ and all Xs map to ω. In the original version of Match Theory phonologically null elements are 'pruned' from the structure. For example, in (17a), K and D are empty, so they are removed for the purposes of determining prosodic structure. Thus, we expect no difference

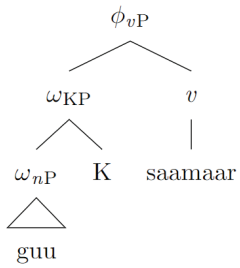
between a full KP and an *n*P after pruning.

Adapting the proposals above that phases and prosodic domains are isomorphic, we propose that both the KP phase and the *n*P phases map to phonological words and that the *v*P phase maps to phonological phrases. We do not investigate CP phases and intonational phrases here. We hasten to note that this proposal is not intended to be a universal description mapping phases to prosodic domains. Rather, individual languages and dialects make their choices regarding such mapping. We note, for example, Kandybowicz (2020), who proposes that all CPs (matrix and embedded) map to intonational phrases in some Bantu languages, while in others only the matrix CP maps to an intonational phrase. Here, then, is our proposal.

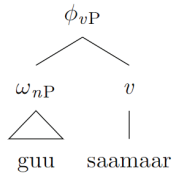
(18) Phase/Prosody Mappings for Mongolian
  (a) *v*P - ϕ
  (b) KP – ω
  (c) *nP* – ω

Example (19) contains the prosodic structures for the PNI object and the caseless full KP object, based on the mapping constraints in (18).

(19) a.



b.



We adopt Wagner (2010) and Elfner (2015) and assume that the prosodic word can be recursive. Furthermore Both Elfner (2015) and Richards (2017) propose that phonological rules can target a specific subset of the prosodic words. Namely, they propose that phonological rules can target minimal ωs, non-minimal ωs, maximal ωs, or non-maximarl ωs. In this vein we propose that the characteristic LH contour is found at the left edge of a non-minimal ω.[1] Vowel harmony, then,

[1] Recall from Table 1 that while low scoping noun overwhelmingly had a flat contour, a non-insignificant number of cases had an LH contour. It was suggested that speech rate and speaker variation might play a role. We conjecture here that some speakers give an LH contour

is limited to a minimal ω with its suffixes. Observe in the prosodic trees in example (13a) that the full KP object maps to a prosodic word that contains another prosodic word inside it. This mapping happens regardless of whether K is phonologically overt or not. The pseudo incorporated object, however, is a bare *n*P, so contains only a single prosodic word. Since only a non-minimal ω has a LH contour at its left edge a pseudo incorporated noun will not bear the contour as it has only a single ω.

In this section we have argued that the difference in the prosodic activity of unmarked nouns (which have an LH contour) and pseudo incorporated nouns (which lack an LH contour) falls out from the differences in their prosodic structures. Our analysis assumed a modified version of Match Theory in which only phases map to prosodic categories. Furthermore, we argued that all phase heads participate in the formation of prosodic structure and that phonologically null phase heads are not pruned away. Thus, we have prima facie evidence that phonologically null elements can affect prosody, contrary to the usual assumption that it does not (Selkirk 2011, Selkirk and Lee 2015, Elfner 2015). Finally, we proposed that the LH contour appears at the left edge of a non-minimal ω.

6. Conclusion

We have shown that there is a prosodic difference between morphologically bare PNI and non-PNI nouns in Mongolian. Bare non-PNI nouns have an initial LH contour, typical of phonological words in the language. Bare PNI nouns lack this contour, suggesting it constitutes a smaller prosodic domain. We argued that non-PNI bare nouns are full KPs and that PNI nouns are *n*Ps. Assuming that K and *n* are phase heads, we adopted the proposal that phases map to prosodic domains. Specifically, both the KP phase and the *n*P phase map to phonological words and the *v*P phase maps to a phonological phrase. Following the lead of Newell and Shear (2017) the analysis proposed here leads to an overall simplification of the grammar by eliminating the prosodic hierarchy as a primitive of grammar and having prosodic domains read directly off of phase structure.

In most theories of the syntax-phonology interface, phonologically null categories are typically pruned out as it is thought they have no effect on the prosodic structure. We have shown here, however, that the difference in the prosody of two otherwise segmentally identical strings can be understood by

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on all ω's rather than just on non-minimal ω's.

positing a null K, in accordance with the syntactic and semantic properties of these two kind of bare nouns. To the best of our knowledge the fact that a phonologically null element gives rise to a difference in prosodic structure is a novel observation. One consequence of this is that care must be taken in pruning syntactic trees to produce prosodic structure. Nevertheless, we suspect that this unexpected state of affairs arises due to the fact that Mongolian has both PNI and DOM, giving rise to string identical structures that differ in the amount of phonologically null functional structure. Indeed, the structures in question here include a bare *n*P and a KP whose higher functional structure just happens to all be null.

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