

# Successive cyclicity in DPs: Evidence from Mongolian nominalized clauses\*

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## 1 Introduction

A well-established property of long-distance movement is that it is *successive cyclic*: phrasal movement of an XP from its base position to the one where it is pronounced takes place in a series of shorter steps. This punctuated nature of movement is often tied to phasehood. Phases are taken to be special in that they (i) may provide intermediate positions along the path of successive cyclic movement where moving XPs can stop off and (ii) force XPs to land in these positions by virtue of being opaque domains otherwise. By now, there is a growing body of evidence that long-distance movement stops off at the edge of each intervening CP (Henry, 1995; McCloskey, 2002; Torrego, 1984) and vP (Bruening, 2001; Rackowski and Richards, 2005; van Urk, 2015) (see Citko 2014 for an overview). However, there is debate as to whether DP, another purported phasal domain, hosts escape hatches and allows intermediate movement through its edge (Bach and Horn, 1976; Chomsky, 1973; Cinque, 1980; Gavruseva, 2000; Giorgi and Longobardi, 1991; Matushansky, 2005; Svenonius, 2004; Szabolcsi, 1994; Tellier, 1991). On the one hand, Complex Noun Phrase Constraint effects as in (1) may be taken to show that DPs lack an escape hatch.

- (1) a. Where<sub>*i*</sub> did you hear [CP that Mary bought a house *t<sub>i</sub>* ] ?  
b. \*Where<sub>*i*</sub> did you hear [DP a rumor that Mary bought a house *t<sub>i</sub>* ] ?

On the other hand, left-branch extraction facts crosslinguistically have been argued to show the opposite (Cinque, 1980; Gavruseva, 2000; Giorgi and Longobardi, 1991; Szabolcsi, 1984, 1994). For instance, Szabolcsi (1994) shows for Hungarian that only possessors that appear to the left of determiners when non-extracted can undergo movement from their containing DP. She and others (e.g. Gavruseva 2000) have tied this to the availability of an escape hatch position within DP. Similarly, in Romance, only those arguments that can be

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\*I am grateful to Urandari Byambadalai and Buyandelger Manduhai for sharing their language with me. My thanks also to David Pesetsky, Norvin Richards, Coppe van Urk and audiences at MIT and UMass Amherst for helpful comments and feedback.

possessivized can move out of the DP, which has also been taken to show that XPs must pass through Spec, DP in order to move out of the phase (Cinque, 1980; Giorgi and Longobardi, 1991). However, such interpretations of these facts are not uncontroversial. Left-branch extraction data have been analyzed by others as showing instead the *absence* of a D-layer altogether (Bošković, 2005, 2014; Uriagereka, 1998). Thus, the question remains: does DP allow — and require — movement of phase-internal material through its edge?

In this paper, I present novel evidence from Mongolian (Mongolic) showing that movement happens successive cyclically from at least some DPs. Nominalizations in Mongolian require  $\bar{A}$ -movement out of them to stop off at [Spec, DP]. Supporting evidence comes from unexpected interactions between movement and certain syntactic operations affecting nominalization-internal constituents. I will discuss two processes in particular, both of which require that the relevant nominal occupies the DP-edge: (i) assignment of Accusative case to subjects of nominalizations and (ii) binding of a nominalization-internal XP by an external antecedent. Both processes are blocked if the nominalization in question has been crossed by movement. I argue that the fact that these processes interact with movement constitutes evidence that movement out of these nominalizations proceed successive cyclically: the moving XP *must* stop off at the edge of the DP, which is impossible if that position is occupied by another element. More broadly, these results lead to the conclusion that [Spec, DP] serves as a landing site for intermediate movement in at least some DPs and suggest that phases of any category can, in principle, provide escape hatches for movement out of them.

## 2 Mongolian Nominalized Clauses and Subject Case

### 2.1 Nominalized clauses are nominals

Subordinate clauses in Mongolian are ordinarily headed by the complementizer *gej*, as illustrated in (2).

- (2) a. Bi [Bat tsuqlaa-nt hoj-sən gej] mitən  
 I [Bat lottery-DAT win-PAST C] know  
 ‘I know that Bat won the lottery.’
- b. Naraa [Bat tsuqlaa-nt hoj-sən gej] bot-dəg  
 Naraa [Bat lottery-DAT win-PAST C] think-HAB  
 ‘Naraa thinks that Bat won the lottery.’

In addition, a range of embedding predicates can take nominalized complements. These

predicates include verbs of perception (*harsəx* ‘see’, *suntsəx* ‘hear’), (certain) cognitive factives (*mitəx* ‘know’, *oḷč mitəx* ‘find out’) and verbs of saying (*hiḷsəx* ‘tell’). Though an overt nominalizer is absent, the nominal nature of these clauses is illustrated by the fact that they are obligatorily case marked (3), can complement prepositions (4), and may appear in subject positions (5). As shown by the comparisons with *gej*-clauses, CPs in this language do not show any of these properties.

(3) *Nominalized complements must bear case; CPs cannot.*

- a. Bi [Bat tsuqlaa-nt hoj-sn]\*(-iig) mitən  
I [Bat lottery-DAT win-PAST]\*(-ACC) know  
‘I know Bat won the lottery.’
- b. Bi [Dorj oč-təε bεεGaa]\*(-t) haram-səŋ  
I [Dorj sick-COM COP]\*(-DAT) regret-PAST  
‘I regretted that Dorj is sick.’
- c. Bi [Bat tsuqlaa-nt hoj-sən gej]\*(-iig) mitən  
I [Bat lottery-DAT win-PAST C]\*(-ACC) know  
‘I know that Bat won the lottery.’

(4) *Nominalized complements can complement prepositions; CPs cannot.*

- a. Bid [Naraa bujigəḷ-sən] toxə jari-səŋ  
We [Naraa dance-PERF] about talk-PERF  
‘We talked about Naraa having danced.’ *nominalization*
- b. \*Bid [Naraa bujigəḷ-sən gej] toxə jari-səŋ  
We [Naraa dance-PERF C] about talk-PERF  
‘We talked about that Naraa had danced.’ *CP*

(5) *Nominalized complements can be subjects; CPs cannot*

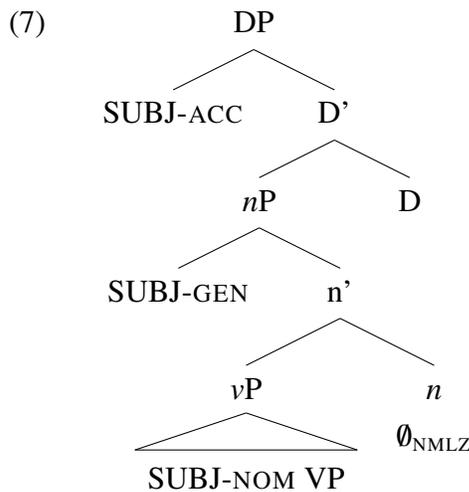
- a. [Bat huḷḷ-oo hogeḷ-səŋ]-n miti-gd-səŋ  
[Bat.NOM leg-POSS break]-PAST]-SUBJ know-PASS-PAST  
‘That Bat broke his leg is known.’
- b. \*[Bat huḷḷ-oo hogeḷ-sən gej](-n) miti-gd-səŋ  
[Bat.NOM leg-POSS break]-PAST C]-(SUBJ) know-PASS-PAST  
‘That Bat broke his leg is known.’

## 2.2 Subject Case Alternations

Subjects of nominalized embedded clauses may be case-marked in one of three ways: with NOM (unmarked), GEN (*-iin/nii*) or ACC (*-(ii)g*).

- (6) a. Bi Bat tsuqlaa-nt hoj-sn-iig mitən  
 I Bat.NOM lottery-DAT win-PAST-ACC know  
 ‘I know that Bat won the lottery.’
- b. Bi Bat-**iin** tsuqlaa-nt hoj-sn-iig mitən  
 I Bat-GEN lottery-DAT win-PAST-ACC know  
 ‘I know that Bat won the lottery.’
- c. Bi Bat-**iig** tsuqlaa-nt hoj-sn-iig mitən  
 I Bat-ACC lottery-DAT win-PAST-ACC know  
 ‘I know that Bat won the lottery.’

Though seemingly in free variation, when we look beyond the basic cases, we find syntactic environments where one or the other case morphology is blocked. I take these asymmetries to reflect differences in the syntactic position of the nominal in question, as schematized in (7).<sup>1</sup> Evidence for such structural differences among differently case-marked subjects come from specificity effects, NPI licensing facts, and variability in case-possibilities depending on the syntactic position of the clause. I elaborate on these arguments below.



### 2.2.1 NOM vs. GEN/ACC

Case on subject nominals varies as a function of specificity. For instance, a non-specific indefinite subject of a nominalized clause can only bear NOM.

<sup>1</sup>The assumed syntax is in the spirit of Abney (1987) and Borsley and Kornfilt (2000) in taking nominalizations to involve a verbal projection dominated by a nominal projection.

(8) *Only NOM is possible on non-specific indefinites*

- a. Bi [hinnigin Naraa-g zur-sn]-iig bi mitič бєєн  
1.NOM someone.NOM Naraa-ACC draw-PAST-ACC know PROG  
'I know that someone drew Naraa.' (but I don't know who.)
- b. \*Bi [hinnigin-ii Naraa-g zur-sn]-iig bi mitič бєєн  
1.NOM someone-GEN Naraa-ACC draw-PAST-ACC know PROG
- c. \*Bi [hinnigin-iig Naraa-g zur-sn]-iig mitič бєєн  
1.NOM someone-ACC Naraa-ACC draw-PAST-ACC know PROG

Pronouns, on the other hand, show the opposite pattern: NOM is impossible if the embedded subject is a pronoun.<sup>2</sup>

(9) *Pronouns cannot be NOM*

- a. Naraa [mini/namaiig/\*bii bujigəŋ-iig] har-səŋ  
Naraa 1.GEN/1.ACC/\*1.NOM dance.INF-ACC see-PAST  
'Naraa saw me dance.'
- b. Naraa [čini/čamaiig/\*čii bujigəŋ-iig] har-səŋ  
Naraa 2.GEN/2.ACC/\*2.NOM dance.INF-ACC see-PAST  
'Naraa saw you dance.'
- c. Naraa [tuunii/tuniig/\*tir bujigəŋ-iig] har-səŋ  
Naraa 3.GEN/3.ACC/\*3.NOM dance.INF-ACC see-PAST  
'Naraa saw him dance.'

These patterns can be taken to provide indirect evidence that GEN/ACC-marked subjects are structurally higher than NOM subjects. More specifically, I suggest that a NOM subject remains in the vP-internal position where it is generated, whereas GEN/ACC subjects move out of this position (see Asarina 2011 and Gribanova 2017 for similar claims about Uyghur and Uzbek respectively). Following Diesing (1992), Diesing and Jelinek (1995) and much

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<sup>2</sup>Though this has been previously analyzed as relating to Differential Subject Marking, with highly referential expressions requiring morphological marking (Guntsetseg, 2010), the contrast between pronouns and proper names (7) is surprising. Moreover, Differential *Object* Marking in Mongolian does not exhibit this contrast, and requires DOM on both proper names and pronouns (i).

- (i) a. Bat namaiig/\*bi har-səŋ  
Bat 1.ACC/\*1.NOM see-PAST  
'Bat saw me.'
- b. Bat Naraa\*(-g) har-səŋ  
Bat Naraa\*(-ACC) see-PAST  
'Bat saw Naraa.'

work since, the interpretational differences between specific and non-specific nominals can be treated as a consequence of their relative position with respect to an Existential Closure operator. The specificity effects discussed above follow if Existential Closure occurs immediately above  $vP$  (and below  $nP$ ), such that  $vP$ -internal subjects remain in the scope of this operator. Any indefinite that receives an existential interpretation must be in the scope of Existential Closure. Moreover, since Existential Closure is taken to be unselective (Heim, 1982), any nominal that introduces a free variable and must not receive an existential interpretation, e.g. referring pronouns, must move out of its scope.

The distribution of NPI-licensing facts provides further arguments in favor of a correlation between syntactic position and case morphology on subjects. Indefinites with the focus particle *-č* attached to them are NPIs and felicitous only in downward-entailing environments. When the subject of a nominalized clause is an NPI and its licenser is a clause-mate negation, the subject can only bear NOM (10). As (11) demonstrates, NOM case-marking is not a requirement for NPIs across-the-board, as those subject NPIs licensed by higher clause negation need not be NOM.

(10) *Only NOM is possible on NPIs licensed by same-clause negation*

- a. Bi [neg-č hun Naraa-t tusɣaa-gui]-ig čamt hiɣ-səŋ  
 1.NOM ∃-FOC person.NOM Naraa-DAT help-NEG-ACC 2.DAT tell-PAST  
 ‘I told you that no one helped Naraa.’
- b. \*Bi [neg-č hun-ii Naraa-t tusɣaa-gui]-ig čamt hiɣ-səŋ  
 1.NOM ∃-FOC person-GEN Naraa-DAT help-NEG-ACC 2.DAT tell-PAST
- c. \*Bi [Neg-č hun-iig Naraa-t tusɣaa-gui]-ig čamt hiɣ-səŋ  
 1.NOM ∃-FOC person-ACC Naraa-DAT help-NEG-ACC 2.DAT tell-PAST

(11) Bi [neg-č hun(-ii) uG-sn]-iig tuunt hiɣɣεε-gui  
 1.NOM ∃-FOC person.NOM-(GEN) die-PAST-ACC 3.DAT tell-NEG  
 ‘I didn’t say that anyone died.’

These restrictions also follow if there is a positional asymmetry between NOM and GEN/ACC subjects. The syntactic position of the negative morpheme *-gui*, when it appears in nominalizations, is structurally higher than  $vP$ , but, crucially, lower than  $nP$ . This follows directly from selectional properties of the morpheme, which is restricted to the verbal/clausal domain and cannot compose with nominals in the first place. As a consequence, only a  $vP$ -internal NPI — which must be NOM-marked — would be in the scope of the licensing clause-mate negation.

### 2.2.2 GEN vs. ACC

GEN and ACC subjects pattern together in most environments, but the availability of ACC on a subject, crucially, is limited to clauses that occupy a complement position. When the nominalized embedded clause appears in subject position, ACC is unavailable (12).

(12) *Nominalized clauses in subject position cannot have ACC subjects*

- a. [Bat huʔʔ-oo hogeʔʔ-səŋ]-n miti-gd-səŋ  
Bat.NOM leg-POSS break-PAST-SUBJ know-PASS-PAST  
'That Bat broke his leg is known.'
- b. [Bat-iig huʔʔ-oo hogeʔʔ-səŋ]-n miti-gd-səŋ  
Bat-GEN leg-POSS break-PAST-SUBJ know-PASS-PAST
- c. \*[Bat-iig huʔʔ-oo hogeʔʔ-səŋ]-n miti-gd-səŋ  
Bat-ACC leg-POSS break-PAST-SUBJ know-PASS-PAST

This suggests that the licensing of ACC on embedded subjects depends on the presence of some higher-clause element. Note, however, that an ACC-marked subject has not overtly raised out of the nominalized clause into the higher clause, as in more familiar Raising-to-Object constructions. For example, an ACC-marked subjects cannot be stranded when the nominalized clause containing it undergoes scrambling (13).

- (13) a. Bi [Bat-iig tsuqlaa-nt hoʔʔ-sn]-iig mitən  
I [Bat-ACC lottery-DAT win-PAST]-ACC know  
'I know that Bat won the lottery.'
- b. [Bat-iig tsuqlaa-nt hoʔʔ-sn]-iig bi mitən  
[Bat-ACC lottery-DAT win-PAST]-ACC I know
- c. \*[t<sub>i</sub> tsuqlaa-nt hoʔʔ-sn]-iig bi **Bat-iig**<sub>i</sub> mitən  
[ lottery-DAT win-PAST]-ACC I Bat-ACC know

Moreover, the embedded subject cannot be interrupted from the rest of the nominalized clause by a matrix element; (14) illustrates.

- (14) a. Bi tsoŋG-oor [šaar-iig hagarəx]-iig har-səŋ  
I window-ABL [balloon-ACC pop]-ACC see-PERF  
'I saw the balloon pop through the window'
- b. \*Bi šaar-iig<sub>i</sub> tsoŋG-oor [ t<sub>i</sub> hagarəx]-iig har-səŋ  
I balloon-ACC window-ABL [ pop]-ACC see-PERF  
Intended: 'I saw the balloon pop through the window'

The resulting picture is one where ACC-marked subjects must stay within the clause, but also establish a dependency with some higher clause element that licenses ACC-case. Given the phasehood of DPs, the only position where material internal to them are visible for operations outside the phase is the edge, i.e. [Spec, DP]. Therefore, I propose that ACC-case can be licensed only on nominals that move to this peripheral position within the nominalized clause. Thus, whereas both GEN and ACC-marked DPs have vacated their  $\nu$ P-internal position, ACC-subjects, by virtue of being at the DP-edge, are structurally higher than GEN-subjects. GEN, I suggest, is licensed on DPs that move to the specifier of the nominalizing head, *nP*.

For the purposes of this paper, it is not important how subject case is licensed, as long as the DP in question is forced to be at the phase-edge to receive ACC. Two prominent families of theories of case — head-licensing approaches (Chomsky, 1981, 2000, 2001) and configurational approaches (Baker and Vinokurova, 2010; Bittner and Hale, 1996; Levin and Preminger, 2015; Marantz, 1991) — make the same predictions regarding this requirement. Consider first theories that attribute case assignment to dedicated functional heads. ACC-case on embedded subjects may be thought as being exceptionally licensed by a higher-clause  $\nu$ . On a configurational approach to case assignment, ACC case is a manifestation of *dependent case*, assigned to a DP if it is c-commanded by another DP within some local domain. ACC-marking on embedded subjects could arise because the nominal in question may be in the same case-competition domain as the higher-clause subject (Baker, 2015; Baker and Vinokurova, 2010). Importantly, on either approach, subjects receiving ACC must be local to some higher, clause-external element, either the higher  $\nu$  or the higher subject, a requirement that is met only by subjects at the phase-edge.<sup>3</sup>

<sup>3</sup>There is tentative evidence that favors a configurational view of case. As shown in (i), the predicates *get angry* and *like* cannot license Accusative case. However, as (ii) shows, when this predicate takes a nominalized clause complement, the subject of that nominalized clause can nevertheless receive ACC case.

- (i) a. Naraa huuhət-et/\*iig uurlən-sən  
 Naraa child-DAT/\*ACC become.angry-PERF  
 ‘Naraa got angry at the child.’  
 b. Naraa nokhoi-d/\*iig dur-tɛɛ  
 Naraa dog-DAT/\*ACC like-HAB  
 ‘Naraa likes the dog.’
- (ii) a. Naraa [huuhət-iig/\*et baksh-iig-aa həj-sən]-d uurlən-sən  
 Naraa [child-ACC/\*DAT teacher-ACC-REFL bite-PERF]-DAT become.angry-PERF  
 ‘Naraa got angry that the child bit his teacher.’  
 b. Naraa Bat-iig/\*et gui-x-əd dur-tai  
 Naraa Bat-ACC/\*DAT run-INF-DAT like-HAB  
 ‘Naraa likes for Bat to run.’

To sum up, I have suggested that NOM-marked subjects of nominalized clauses remain within the  $\nu$ P domain, whereas GEN and ACC subjects occupy higher, derived positions. Because ACC-licensing requires that the relevant nominal be accessible to elements outside of the DP-phase, I proposed that ACC-subjects raise to Spec, DP. In the following section, I will argue that the availability of ACC case is a diagnostic of successive cyclicity in these nominalized clauses. The logic of the argumentation is as follows. Suppose a nominalized clause that otherwise permits ACC subjects loses its ability to host ACC subjects when movement has taken place. This is predicted if a moving XP lands in the edge position on its way to its final landing site and in consequence, make ACC-licensing position unavailable for subject nominals.

### 3 Successive cyclicity in nominalized clauses

My evidence here will rely on topicalization involving the marker *bol*. The fact that *bol*-topicalization reconstructs for binding (15) suggests that the operation involves movement. It moreover shows hallmarks of  $\bar{A}$ -movement. It is island sensitive (16) and can take place across a CP-boundary (17).

(15) *Reconstruction for Principle A*

- a. Bat [oor-iig-oo tsoqlaa-nt hodg-sen gideg-t] itigsen  
Bat self-ACC-REFL lottery-sc dat win-PST C-DAT believed  
'Bat believed that he won the lottery.'
- b. [oor-iig-oo tsoqlaa-nt hodg-sen gideg-t] BOL itigsen  
self-ACC-REFL lottery-sc dat win-PST C-DAT TOP believed  
'As for (the news) that he won the lottery, Bat believed it.'

(16) *Island Sensitivity*

- a. En tsaxjaa-g bol bi bič-sen  
This letter-ACC TOP I write-PST  
'As for this letter, I wrote it.' *Baseline*
- b. \*En tsaxjaa-g bol bič-sen- $\emptyset$  hun-iig bi har-sen  
This letter-ACC TOP write-PAST-REL person-ACC I saw-PST  
Intended: 'As for this letter, I saw the person who wrote it.' *Relative Clause*
- c. \*En tsaxjaa-g BOL bi bič-sen bogod tir tsaxjaa-g unš-sen  
This letter-ACC TOP I write-PAST and that letter-ACC read

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On a head-licensing approach, the head that assigns objective case would be one that is as unable to assign ACC. But if this is so, the availability of ACC on the embedded subject is surprising, given the absence of a suitable ACC-licenser in the verbal domain of the higher clause in the first place.

Intended: ‘As for this letter, I wrote it and I read that letter.’ *Coordination*

(17) *Movement across clause-boundary*

en tsaxjaa-g bol Bat Naraa bič-sen geĵ hiĵ-sen  
 this letter-ACC TOP Bat Naraa write-PST C say-PST  
 ‘As for this letter, Bat said that Naraa wrote it.’

In what follows, I demonstrate that topicalization interacts in non-trivial ways with case on the subject of nominalizations, an interaction which will be argued to be the result of this type of movement proceeding through [Spec, DP].

### 3.1 Topicalization from nominalizations

Constituents inside nominalized embedded clauses can be extracted by topicalization, but this movement interacts with subject case, whether or not it is the subject itself that is topicalized. First, if an embedded subject of a nominalized clause is topicalized, it must bear ACC case. The baseline in (18) shows that the subject of the nominalized clause can be marked NOM, GEN or ACC. In (19), however, the embedded subject undergoes topicalization and only ACC is possible.<sup>4</sup>

(18) bi [Naraa/Naraa-giin/Naraa-g taĵ ba inx unšič bεεG]-iig harsen  
 I Naraa.NOM/Naraa-GEN/Naraa-ACC War and Peace read PROG-ACC saw  
 ‘I saw Naraa reading War and Peace.’

- (19) a. Naraa-**g**<sub>i</sub> bol bi [<sub>t<sub>i</sub></sub> taĵ ba inx unšič bεεG]-iig harsen  
 Naraa-ACC BOL I War and Peace read PROG-ACC saw  
 ‘As for Naraa, I saw her reading War and Peace.’
- b. \*Naraa<sub>i</sub> bol bi [<sub>t<sub>i</sub></sub> taĵ ba inx unšič bεεG]-iig harsen  
 Naraa.NOM BOL I War and Peace read PROG-ACC saw
- c. \*Naraa-**giin**<sub>i</sub> bol bi [<sub>t<sub>i</sub></sub> taĵ ba inx unšič bεεG]-iig harsen  
 Naraa-GEN BOL I War and Peace read PROG-ACC saw

Second, if a non-subject XP is topicalized, the embedded subject cannot bear ACC case;

<sup>4</sup>Of course, if ACC is independently available on the subject, e.g. when the clause is in subject position, topicalization does not change the situation. When the nominalization itself is in subject position and ACC is impossible, the next highest case available, i.e. GEN, is what shows up on the extracted subject.

- (i) Bat-iin/\*Bat bol huĵĵ-oo hogeĵ-sen-en mitig-dg-sen  
 Bat-GEN/\*Bat.NOM TOP leg-REFL break-PERF-SUBJ know-PASS-PERF  
 ‘As for Bat, it is known that he broke his leg.’

compare the ill-formed (a)-variants in (20) and (21), where the subject of the nominalization bears ACC, to the (b) and (c) variants, where the subject is unmarked and GEN-marked, respectively.

(20) *Topicalization of direct object blocks ACC on subject*

- a. \*buuts-iig<sub>i</sub> bol bi [Bat-**iig** *t<sub>i</sub>* avčer-ex]-iig harsen  
dumplings-ACC TOP I Bat-ACC bring-INF-ACC saw
- b. buuts-iig<sub>i</sub> bol bi [Bat *t<sub>i</sub>* avčer-ex]-iig harsen  
dumplings-ACC TOP I Bat.NOM bring-INF-ACC saw
- c. buuts-iig<sub>i</sub> bol bi [Bat-**iin** *t<sub>i</sub>* avčer-ex]-iig harsen  
dumplings-ACC TOP I Bat-GEN bring-INF-ACC saw  
'As for the dumplings, I saw Bat bringing them.'

(21) *Topicalization of dative argument blocks ACC on subject*

- a. \*Dorj-et bol ixč [DP Bat-**iig** *t<sub>i</sub>* uurlən-sn]-iig nadet hiḡsen  
Dorj-DAT TOP sister Bat-ACC become.angry-PERF-ACC 1.DAT told
- b. Dorj-et bol ixč [DP Bat *t<sub>i</sub>* uurlən-sn]-iig nadet hiḡsen  
Dorj-DAT TOP sister Bat.NOM become.angry-PERF-ACC 1.DAT told
- c. Dorj-et bol ixč [DP Bat-**iin** *t<sub>i</sub>* uurlən-sn]-iig nadet hiḡsen  
Dorj-DAT TOP sister Bat-GEN become.angry-PERF-ACC 1.DAT told  
'As for Dorj, sister told me that Bat became angry at him.'

When the subject is pronominal and NOM is independently banned, only GEN is a possibility when topicalization takes place from within the clause.

- (22) a. \*buuts-iig bol bi [č**amaig** *t<sub>i</sub>* avčer-ex]-iig harsen  
dumplings-ACC BOL I **2.ACC** bring-INF-ACC saw  
Intended: 'As for the dumplings, I saw you bringing them.'
- b. \*buuts-iig bol bi [č**i** *t<sub>i</sub>* avčer-ex]-iig harsen  
dumplings-ACC BOL I **2.NOM** bring-INF-ACC saw
- c. buuts-iig bol bi [č**ini** *t<sub>i</sub>* avčer-ex]-iig harsen  
dumplings-ACC BOL I **2.GEN** bring-INF-ACC saw

Finally, and strikingly, extraction of a constituent from an embedded nominalized clause has ramifications for the case on the subjects of every intervening nominalized clause along the path of movement. Specifically, the subjects of these intervening clauses cannot bear ACC, even though movement did not originate from within them. The sentences in (23), for example, involve the topicalization of a deeply embedded object nominal, but only

the variants where *Bat* is unmarked or GEN-marked are acceptable. Crucially, ACC on intermediate subjects is not blocked in (24), which is identical to (23-a) except that no movement has taken place. This asymmetry confirms that it is indeed topicalization from the lower clause that blocks accusative case of the intermediate nominalized clause.

(23) *Topicalization blocks ACC on intervening subjects*

- a.  $\varepsilon\varepsilon$ reg-iig bol ixč [DP ✓Bat /✓Bat-**iin** /\*Bat-**iig** [DP Doḡma  $t_i$   
 horsemilk-ACC TOP sister Bat.NOM/Bat-GEN/\*Bat-ACC Dolma  
 avčer-ex]-iig harsn]-iig nadet hiḡsen  
 bring-INF-ACC saw-ACC 1.DAT told  
 ‘As for horsemilk, sister told me that Bat saw Dolma bring it.’
- b. Dorj-et bol ixč [DP ✓Bat /✓Bat-**iin** /\*Bat-**iig** [DP Doḡma  $t_i$   
 Dorj-DAT TOP sister Bat.NOM/Bat-GEN/\*Bat-ACC Dolma  
 uurlən-sn]-iig harsn]-iig nadet hiḡsen  
 become.angry-PERF-ACC saw-ACC 1.DAT told  
 ‘As for Dorj, sister told me that Bat saw Dolma become angry at him.’

(24) ✓ixč [Bat-**iig** [Doḡma  $\varepsilon\varepsilon$ reg-iig avčer-ex]-iig harsn]-iig nadet hiḡsen  
 sister Bat.ACC Dolma horsemilk-ACC bring-INF-ACC saw-ACC 1.DAT told  
 ‘Sister told me that Bat saw Dolma bring horsemilk.’

### 3.2 Competition for the edge

If there is a single edge position accessible to phase-external processes, and the two operations in question both require use of this edge position, the correlations discussed above are predicted and explained. One argument for uniqueness of the edge position in nominalizations — and perhaps DPs generally — comes from the unavailability of multiple topicalization from them, even though it is generally possible in the language. Consider the contrast between (25-a), in which two constituents have been topicalized from a simplex sentence, and (25-b), in which a minimally different clause appears as an embedded nominalization.

(25) *Context: You are discussing sibling rivalries among your friends’ children. Bat and Naraa are the children of your best friend, Doḡma.*

- a. Bat $_i$  bol Naraa-t $\varepsilon\varepsilon_k$  bol [ $t_i$   $t_k$  ix hiriḡt-dəḡ b $\varepsilon\varepsilon$ -səḡ]  
 Bat TOP Naraa-COM TOP a.lot argue-HAB cop-PERF  
 ‘As for Bat and Naraa, he argued with her a lot.’

- b. \*Bat-iig<sub>i</sub> bol Naraa-tɛɛ<sub>k</sub> bol [Doɣma nadet [<sub>DP</sub> t<sub>i</sub> t<sub>k</sub> ix hiriɣt-dəg  
 Bat-ACC TOP Naraa-COM TOP Dolma 1.DAT a.lot argue-HAB  
 bɛɛGaa]-g hiɣ-sen]  
 cop]-ACC tell-PERF  
 Intended: ‘As for Bat and Naraa, Dolma told me he argued with her a lot.’

This asymmetry indicates that two long-distance processes cannot take place from within the same nominalization, and in turn, that there is only one position where constituents that need to be visible to phase-external processes can occupy. We have already shown that ACC-marking on subjects of nominalizations require the nominals to occupy [Spec, DP]. Together, the uniqueness of the edge in these DPs and a requirement that movement takes place successive cyclically from them derive the interactions between case and topicalization we observe.

### 3.3 Further evidence: Binding

I argued above that movement of a non-subject from a nominalized clause cannot co-exist with ACC-marking on its subject because both processes require the relevant constituent to move to [Spec, DP]. In this section, I present further evidence in favor of this idea from anaphor binding.

A number of authors have argued that the binding domain for Condition A should be stated in terms of phases (Hicks, 2009; Lee-Schoenfeld, 2008; Safir, 2014). On this approach, an anaphor can be bound outside of its own phase only if it is located at the edge of that phase. Given the assumed syntax of nominalizations in (7) above, we expect that only nominals in [Spec, DP] are able to be bound by an element outside of the nominalization. Conveniently, in Mongolian such nominals have a morphological signature: in ordinary circumstances, they will be ACC-marked subjects. If movement out of a nominalization must proceed through [Spec, DP], as argued in the previous subsection, we make a second prediction: cross-phasal anaphor-binding of a nominalization-internal element should never co-occur with topicalization. Below, we see that this prediction is borne out.

To express possession on a nominal whose possessor is an element within the same sentence, Mongolian utilizes the reflexive possessive suffix -AA (subject to alternations based on vowel harmony) (26).

- (26) a. Bat mini ixč-iig har-səŋ  
 Bat 1.GEN sister-ACC see-PERF  
 ‘Bat saw my sister.’

- b. Bat ixč-iig-εε har-səŋ  
 Bat sister-ACC-REFL see-PERF  
 ‘Bat<sub>i</sub> saw his<sub>i</sub> sister.’

Cross-clausal binding of a reflexive possessive-marked nominal inside a nominalized clause is possible, but as mentioned above, restricted to ACC-bearing subjects (27).<sup>5</sup>

- (27) Bat [ixč\*(-iig)-εε uŋ-sn-iig] oǰč mit-sen  
 Bat sister-\*(ACC)-REFL fall-PERF-ACC find out-PERF  
 ‘Bat found out that his sister fell.’

There are also restrictions on the antecedents of reflexive possessor-marked nominals. If the antecedent is also the subject of a nominalization, it must be *unmarked*. Thus in (28), the subject of the intermediate embedded clause, which binds the reflexive possessor-marked subject of the most deeply embedded nominalization, cannot appear with GEN or ACC case.

- (28) a. [DP Bat [DP ixč-iig-εε uŋ-sn-iig] oǰč mit-sn-iig]  
           Bat.NOM sister-ACC-REFL fall-PERF-ACC find out-PERF-ACC  
 bi sunt-səŋ  
 I.NOM hear-PERF  
 ‘I heard that Bat<sub>i</sub> found out that his<sub>i</sub> sister fell.’
- b. \*[DP Bat-iig [DP ixč-iig-εε uŋ-sn-iig] oǰč mit-sn-iig]  
           Bat-GEN sister-ACC-REFL fall-PERF-ACC find out-PERF-ACC  
 bi sunt-səŋ  
 I.NOM hear-PERF
- c. \*[DP Bat-iig [DP ixč-iig-εε uŋ-sn-iig] oǰč mit-sn-iig]  
           Bat-ACC sister-ACC-REFL fall-PERF-ACC find out-PERF-ACC  
 bi sunt-səŋ  
 I.NOM hear-PERF

What these patterns show is that reflexive-possessive binding in Mongolian requires a highly local relation between the antecedent and the reflexive. In (28) for example, the only way for this relation to be successful is if the antecedent remains within the higher vP phase, and

<sup>5</sup>Note that ACC-marking is not an across-the-board requirement for reflexive possessor-marked arguments, as (i) demonstrates.

- (i) bi εεč-εε sanat beən  
 I mother-NOM.REFL miss PROG  
 ‘I miss my mother.’

the anaphor is at the edge of the lower phase, [Spec, DP].

Topicalization out of a nominalized clause makes binding of a possessed subject impossible. As we see in (29), irrespective of the case morphology on the subject, reflexive possessor-marking renders the construction ungrammatical. The way to rescue this structure is by the use of the non-anaphoric third person pro-form *-en*, as shown in (30).

- (29) a. [DP Bat [DP ixč-iig-εε en noxoi-d durteε]-g oǰč mit-sn]-iig bi  
 Bat sister-ACC-REFL this dog-DAT like-ACC find out-PERF-ACC I  
 sunt-səŋ  
 hear-PERF  
 ‘I heard that Bat<sub>i</sub> found out that his<sub>i</sub> sister likes this dog.’
- b. \*en noxoi-d<sub>k</sub> bol [DP Bat [DP ixč(-iig)-εε t<sub>k</sub> durteε]-g oǰč  
 this dog-DAT TOP Bat sister-(ACC)-REFL like-ACC find  
 mit-sn]-iig bi sunt-səŋ  
 out-PERF-ACC I hear-PERF  
 Intended: ‘As for this dog, I heard that Bat<sub>i</sub> found out that his<sub>i</sub> sister likes it.’
- (30) en noxoi-d<sub>k</sub> bol [DP Bat [DP ixč-ən t<sub>k</sub> durteε]-g oǰč mit-sn]-iig  
 this dog-DAT TOP Bat sister.NOM-3POSS like-ACC find out-PERF-ACC  
 bi sunt-səŋ  
 I hear-PERF  
 ‘As for this dog, I heard that Bat<sub>i</sub> found out that his<sub>i/j</sub> sister likes it.’

These data thus corroborate the account developed here. Movement out of nominalizations always proceeds through [Spec, DP], and disrupt all additional processes that require the use of this edge position.

#### 4 Conclusions and further issues

In this paper, I presented novel evidence from Mongolian nominalizations that extraction out of DPs involves intermediate movement through every phase edge on the way to the landing site, making DPs no different from CPs or *v*Ps with regard to successive cyclicity. More generally, these data point to a perspective on phases where there are no fundamental asymmetries across phasal categories with regard to the availability of a landing site for intermediate movement.

However, even in Mongolian, not all DPs pattern alike. Unlike nominalized clauses, entity-denoting-DPs allow extraction of only the highest nominal. In other words, only those constituents which can appear at the phase-edge for independent reasons seem to be able to

undergo movement outside of the phase. Consider first a set of examples that may initially seem as the exceptions that prove the rule. (31) demonstrates that in a possessive DP, only the highest argument — the possessor — can extract.

- (31) a. Bi [Bat-iin [uls tur-iin taḡaar] nom]-iig unsič been  
 1.NOM Bat-GEN politics-GEN about book-ACC read PROG  
 ‘I am reading Bat’s book about politics.’ *Baseline*
- b. Bat-iin<sub>i</sub> bol Bi [t<sub>i</sub> [uls tur-iin taḡaar] nom]-iig unsič been  
 Bat-GEN TOP 1.NOM politics-GEN about book-ACC read PROG  
 ‘As for Bat, I am reading his book about politics.’ *Possessor extraction*
- c. \*uls tur-iin<sub>k</sub> bol bi [Bat-iin [t<sub>k</sub> taḡaar] nom]-iig unsič been  
 politics-GEN TOP 1.NOM Bat-GEN about book-ACC read PROG  
 Intended: ‘As for politics, I am reading Bat’s book about it.’  
*Extraction of PP-complement*

We can independently show that the possessor occupies [Spec, DP] in the examples above. Possessors can be bound by an external antecedent, as shown in (32). If the arguments in §3.3 are correct that binding into a phase requires the anaphor to be at the phase edge, then it must be the case that possessors are in [Spec, DP].

- (32) Bi [DP oor-iin-oo nom]-iig unš-sen  
 1.NOM SELF-GEN-REFL book-ACC read-PERF  
 ‘I read my book.’

So, perhaps the impossibility of moving any other element from possessive DPs is simply a consequence of the fact that the only edge position of a DP is already occupied by the possessor. However, even when there is no possessor occupying the phase edge, extraction from these types of DPs does not seem to be possible (33).

- (33) a. Bi [[uls tur-iin taḡaar] nom]-iig unsič been  
 1.NOM politics-GEN about book-ACC read PROG  
 ‘I am reading a book about politics.’
- b. \*uls tur-iin<sub>k</sub> bol bi [[t<sub>k</sub> taḡaar] nom]-iig unsič been  
 politics-GEN TOP 1.NOM about book-ACC read PROG  
 Intended: ‘As for politics, I am reading a book about it.’

Thus, in Mongolian, there appears to be differences within the phasal category DP in the availability of successive cyclicity. I see two general routes one might take in explaining these asymmetries. One possibility is that while there aren’t category-based differences

across phases in successive cyclicity, there are other, perhaps semantically driven differences. For instance,  $\nu$ Ps, CPs and the clausal DPs discussed in this paper may share the ability to host intermediate landing sites for movement because they denote events or propositions. The "propositional" nature of  $\nu$ Ps and CPs has previously been taken to support their phasal status (Chomsky, 2000; Legate, 1998, 2003). The guiding intuition is that phases, being syntactic objects that can spell-out before the entirety of the structure is built, are potentially interpretable in isolation; phrases that are truth-value denoting (assuming a simplistic, non-intensional semantics) have the requisite independence at LF. One possibility worth exploring is that the semantic nature of the phase in question determines whether or not movement can take place through its edge: whereas  $\nu$ Ps, CPs and DPs are all phasal, perhaps only those that are truth-value denoting have the ability to trigger successive cyclic movement.

This idea is promising for Mongolian and raises interesting questions about the taxonomy of phases in the language, but it will fail to generalize beyond this particular language. Consider, for instance, some of the striking English data first observed in Ross (1967), where relativization has taken place across a sequence of recursively embedded DPs, which, crucially, are all entity-denoting (34).

- (34) Reports<sub>*i*</sub> which the government prescribes [DP the height of [DP the lettering on [DP the covers of *t<sub>i</sub>* ] ] ]

An alternative path, therefore, might involve finding orthogonal hidden variables that prohibit extraction in cases like (33). For example, one possibility, which is in the spirit of Bošković (2014), is that certain anti-locality constraints make extraction from complements of lexical nouns impossible in Mongolian, a problem that does not arise in nominalizations as they do not involve a lexical noun in the first place.<sup>6</sup> It is beyond the scope of this paper to delimit the conditions under which extraction is possible. What I have shown is that when movement out of a DP is possible, it happens in much the same way as movement out of CPs and  $\nu$ Ps — in a series of short steps. Having established that, the next step is to identify general architectural or language-specific properties that make movement out of DPs much more severely constrained than movement out of these other phases.

<sup>6</sup>A full implementation of Bošković's (2014) analysis will require the adoption of a somewhat different model of phasehood.

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