

# Scrambling and Reconstruction Asymmetries

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## 1 Introduction

This paper investigates a series of properties exhibited by different types of scrambling in Mongolian and their implications on the distinction between A- and  $\bar{A}$ -movement. It is well-known that in languages with flexible word order such as Japanese and Hindi, short scrambling often behaves like A-movement; intermediate scrambling can be A- or  $\bar{A}$ -movement; and long-distance scrambling is uniformly  $\bar{A}$  (e.g., Mahajan 1990, 1994; Saito 1992). Mongolian contrasts with Japanese and Hindi in that its short and intermediate scrambling behave like A-movement, whereas its long-distance scrambling shows mixed A/ $\bar{A}$ -properties. The diverse properties of scrambling have received much attention in the literature. In particular, there has been long-standing discussion regarding how scrambling with mixed properties observed cross-linguistically can be related to the A-/ $\bar{A}$ -distinction (e.g., Saito 1985, 1992; Déprez 1989; Webelhuth 1989, 1992; Gurtu 1992; Tada 1993; Mahajan 1990, 1994; Müller and Sternefeld 1994; Dayal 1994; Kidwai 2000; Miyagawa 1997, 2001; Karimi 2005).

Generalizations about scrambling properties are often drawn based on a set of phenomena regarding which A- and  $\bar{A}$ -movement typically differ. For example, in English A-movement (e.g., raising) is not subject to weak crossover effect (WCO), whereas  $\bar{A}$ -movement (e.g., *wh*-movement) is (e.g., Postal 1971, Wasow 1972, Safir 2017). A-movement also feeds anaphor binding, whereas  $\bar{A}$ -movement usually does not. In addition, A-movement typically does not exhibit obligatory Condition C reconstruction (connectivity) effects, whereas some instances of  $\bar{A}$ -movement do (e.g., Chomsky 1993, Lebeaux 1988, 1998, Sauerland 1998, Fox 1999). With respect to a single phenomenon (e.g., WCO), scrambling to a certain position often patterns either like A-movement (e.g., it is not subject to WCO) or  $\bar{A}$ -movement (e.g., it is subject to WCO). In this paper, I document and examine a set of facts regarding Condition C connectivity in Mongolian, which does not easily fit into the standard A/ $\bar{A}$ -dichotomy – Depending on the structure involved, scrambling to the same position can apparently pattern with both A- and  $\bar{A}$ -movement. I show that these facts provide support for the view that Condition C connectivity does not track the A-/ $\bar{A}$ -distinction (Bhatt and Keine 2019), and that caution is needed when utilizing Condition C connectivity as a cross-linguistic diagnostic for the A-/ $\bar{A}$ -properties of scrambling. I propose an account in which the relevant Condition C facts in scrambling are tied to case assignment (Takahashi and Hulsey 2009).

## 2 Local Scrambling

### 2.1 Motivating Short A-Scrambling

In languages with flexible word orders, there has been ongoing discussion regarding whether the orders between the two internal arguments are base-generated or are derived by movement. Some studies (e.g., Hoji 1985; Takano 1998; Saito 1985, 1992; Tada 1993; Yatsushiro 2003) propose that ditransitive constructions in Japanese involve one underlying structure in which goal-theme is the base order, and that the theme-goal word order is derived via (A-)movement. In contrast, some studies (e.g., Miyagawa 1997, Miyagawa and Tsujioka 2004, Ito 2007) argue for a base-generation account, in which both theme-goal and goal-theme orders are base-generated. Under this account, the apparent evidence for short A-scrambling in Japanese (such as suppressing WCO, feeding anaphor binding, etc.) is simply because both orders are base-generated. In this section, I use Mongolian data to show that the existence of short scrambling can be proven independent of the issue of whether the language in question has two base-generated ditransitive patterns.

One of the main arguments for the base-generation analysis is based on Rizzi's (1986) Chain Condition, stated in (1). Miyagawa (1997) notes that movement in Japanese (e.g., intermediate scrambling, passivization, etc.) is subject to the Chain Condition. This is illustrated with Mongolian data. We cannot improve the ungrammatical (2a) via intermediate scrambling (2b), because the movement chain violates the condition in (1). The pair in (2) can be contrasted with (3), in which

the reciprocal is inside the possessor position embedded within the subject, rather than being directly placed on the chain. As a result, the reciprocal no longer counts as an intervening binder, thus movement in (3) does not violate the Chain Condition.

(1)  $C = (a_1 \dots a_n)$  is a chain iff, for  $1 \leq i < n$ ,  $a_i$  is the local binder of  $a_{i+1}$ . (Rizzi 1986)

(2) a. \***Bey** **beye** **ni<sub>1</sub>** **[ter khoyor-iig]<sub>1</sub>** khar-san.  
           body body   3S.POSS that two   -ACC see -PST  
           Int. 'Each other<sub>1</sub> saw those two<sub>1</sub>.'  
   b. \*[Ter khoyor-iig]<sub>1</sub> **bey** **beye** **ni<sub>1</sub>** **\_\_\_\_\_<sub>1</sub>** khar-san.  
 (3) **[Ter khoyor-iig]<sub>1</sub> [bey** **beye** **-in** **khni<sub>1</sub>** **bagsh]** **\_\_\_\_\_<sub>1</sub>**   khar-san.  
       that two   -ACC body body -GEN 3S.POSS teacher                   see-PST  
       'Those two, each other's teacher saw.'

Given that movement must obey the condition on chain formation, Miyagawa (1997) suggests that such effect is absent in VP-internal word order permutation, indicating that movement has in fact never occurred. This is illustrated with Mongolian in (4). If movement has occurred in (4), (4b) is expected to be ungrammatical due to the violation of (1), in a similar fashion as (2), contrary to fact. Miyagawa takes these facts to show that both orders in ditransitive constructions are base-generated.

(4) a. \*Bi **[GOAL** **bey** **beye** **-d** **ni<sub>1</sub>** **[THEME** **suragch-uud-iig]<sub>1</sub>**   taniltsuul-san.  
           I           body body-DAT 3S.POSS   student -PL-ACC           introduce-PST  
           Int. 'I introduced the students to each other.'  
   b. Bi **[THEME** **suragch-uud-iig]<sub>1</sub> **[GOAL** **bey** **beye** **-d** **ni<sub>1</sub>****   taniltsuul-san.

However, the absence of Chain Condition effect does not necessarily indicate the absence of (A-)movement (see also McGinnis 2004). According to Miyagawa and Tsujioka (2004) and Ito (2007), there are two available base structures which involve two goal positions – high goal (possessive) and low goal (locative). Low goal (locative) can either occur above or below the theme, whereas high goal (possessive) must be above the theme and the low goal. Aside from these two orders, all other possible VP-internal word order permutations are suggested to be focus-driven Ā-movement.

(5) a. high goal (possessive) ... low goal (locative) ... theme  
   b. high goal (possessive) ... theme ... low goal (locative)

I suggest that VP-internal word order permutation can also be derived via A-movement. Aside from goal phrases, benefactives are usually taken to be introduced higher than themes (e.g., Marantz 1993, Pylkkänen 2008). Under this view, the sentence in (6) in which the benefactive A-binds the theme represents the base order, and the alternative theme>benefactive order can only be derived via movement.

(6) Bi **[Saruul-d]<sub>1</sub> [öör -in** **bey -ii** **ni<sub>1</sub>** **jiru -ju** **ög -sön**   benefactive>theme  
           I   S   -DAT self -GEN body-ACC 3S.POSS draw-CVB give-PST  
           'I drew herself for Saruul.'

As shown in (7a), a reflexive in the higher benefactive position cannot be bound by the theme in the lower position. In (7b), the theme moves over and A-binds the benefactive *öörin beyd ni* ('herself'), showing that A-movement must be an available derivation. If Chain Condition must accompany (A-)movement, we expect (7b) to be ungrammatical, contrary to fact. This indicates that A-movement can take place without triggering the Chain Condition effect (see McGinnis 2004 for further arguments based on cross-linguistics examples).

(7) a. \*Bi   **[öör -in** **bey -d** **ni<sub>1</sub>** **[Saruul-ii]<sub>1</sub>** **jiru -ju** **ög-sön**   \*benefactive>theme  
           I.NOM self-GEN body-DAT 3S.POSS S   -ACC draw-CVB give-PST  
           Int. 'I drew Saruul for herself.'  
   b. Bi   **[Saruul -ii]<sub>1</sub>   [öör -in** **bey -d** **ni<sub>1</sub>** **\_\_\_\_\_<sub>1</sub>** **jiru -ju** **ög-sön**   theme>benefactive

Further evidence from depictive stranding also demonstrates the existence of short (A-)scrambling. Depictives in Mongolian can be stranded via A-movement such as passivization. Crucially, as shown in (8), moving the ACC phrase over DAT not only allows depictive stranding, but also feeds A-binding. In (8a), the non-subject-oriented depictive *nütsgeneer ni* ('naked') obligatorily modifies the DO *Dorj*. The sentence is ungrammatical because the reflexive pronoun *öört in* ('himself'-DAT) is not bound, and the R-expression *Dorj* is locally bound. In (8b), the ACC phrase *Dorjiig* moves over the DAT phrase, stranding the depictive in the base position while binding the reflexive pronoun – The sentence becomes grammatical.

(8) a.\*Emch [öör-t in]<sub>1</sub> [Dorj-iig]<sub>1</sub> nütsgeneer ni üzüül-sen. IO DO <naked>  
 Doctor.NOM self-DAT 3S.POSS D -ACC naked -INST 3S.POSS show-PST  
 Lit.'(The) doctor showed himself<sub>1</sub> Dorj<sub>1</sub> naked.'  
 b. Emch [Dorj -iig]<sub>1</sub> öör-t in<sub>1</sub> nütsgeneer ni üzüül-sen. DO IO <naked>

The above facts suggest that a derivation involving short A-scrambling must be available for constructions such as (7) and (8). Further data also indicate that short scrambling feeds variable binding (9) and is not subject to WCO (10). Taken together, the data presented in this section suggest that short scrambling in Mongolian patterns like A-movement.

(9) Baatar [sorogchi bolgon -ii]<sub>1</sub> [öör-in khni<sub>1</sub> bagsh -d] \_\_\_<sub>1</sub> taniltsuul-san.  
 B student every -ACC self-GEN 3S.POSS teacher-DAT introduce-PST  
 'Baatar introduced every student<sub>1</sub> to his<sub>1</sub> teacher.'  
 (10) Baatar [khen-ii]<sub>1</sub> [öör-in khni<sub>1</sub> bagsh -d] \_\_\_<sub>1</sub> taniltsuul-san be?  
 B who-ACC self-GEN 3S.POSS teacher-DAT introduce-PST Q  
 'Baatar introduced who<sub>1</sub> to his<sub>1</sub> teacher?'

## 2.2 Mongolian Intermediate Scrambling Behaves Like A-movement

Similar to short scrambling, Mongolian intermediate scrambling behaves consistently like A-movement. It feeds anaphor binding (11), variable binding (12), and remedies underlying weak crossover violation (13).

(11) [Ter khoyor-ig]<sub>1</sub> [bey beye-u khni<sub>1</sub> bagsh] \_\_\_<sub>1</sub> magta -ba.  
 That two-ACC body body-GEN 3S.POSS teacher praise-PST  
 'Those two<sub>1</sub>, each other<sub>1</sub>'s teacher praised.'  
 (12) [Oyutan bolgon-ii]<sub>1</sub> [öör-in khni<sub>1</sub> bagsh] \_\_\_<sub>1</sub> magta -ba.  
 Student every-ACC self-GEN 3S.POSS teacher praise-PST  
 'Every student<sub>1</sub>, his<sub>1</sub> teacher praised.'  
 (13) Khen-ii<sub>1</sub> [öör-in khni<sub>1</sub> bagsh ni] \_\_\_<sub>1</sub> magta -jee uu?  
 Who-ACC self-GEN 3S.POSS teacher 3S.POSS praise -PST Q  
 'Who<sub>1</sub>, his<sub>1</sub> teacher praised?'

## 2.3 Mongolian Cross-Clausal Scrambling Shows Mixed A/Ā-Properties

In contrast to local scrambling, cross-clausal scrambling in Mongolian shows mixed effects. I make a distinction between two types of cross-clausal scrambling: Scrambling of embedded subjects and that of embedded objects. First, subjects of embedded clauses in Mongolian can be marked with ACC (14). Fong (2019) shows that these ACC subjects indeed originate from the embedded CP. Specifically, she proposes that they are located at Spec CP, receiving ACC from the matrix *v*.

(14) Bi v [cp [Bat-in eej -iig] [sain khun gej]] khel-sen.  
 I B-GEN mother-ACC good person C say-PST  
 'I said that Bat's mother is a good person.'

Fong further demonstrates that the ACC subjects can move (hyperraise) into the matrix clauses,

displaying characteristics of A-movement. An example of such movement feeding variable binding is given in (15).

(15) Okhin bür-iig<sub>1</sub> öö-iin-kh n'<sub>1</sub> eej [cp \_\_<sub>1</sub> ukhaan-tai gej] khel-sen.  
 Girl every-ACC self-GEN-EPTH POSS.3 mother intelligence-with COMP say-PST  
 'Her<sub>1</sub> mother said that every girl<sub>1</sub> is intelligent.'  
 (For every girl *x*, *x*'s mother said that *x* is intelligent) (Fong 2019: (82b))

The second type of movement across a clausal boundary is the more typical long-distance scrambling (LDS)<sup>1</sup> case where the object of the embedded clause is scrambled into the main clause, exemplified in (16). Note that the gap in the base position cannot be filled with an overt pronoun.

(16) Ene em -iig<sub>1</sub> emch [cp namaig \_\_<sub>1</sub>/\*üüniig<sub>1</sub> uu -san gej] khel-sen.  
 This medicine-ACC doctor 1S.ACC it.ACC drink-PST C say-PST  
 'This medicine, (the) doctor said that I took.'

LDS as shown in (16) obeys subjacency. It cannot take place out of a relative clause (17) or an adjunct (18). These properties contrast with topicalization in Mongolian, which a) can take place out of islands, and b) the gap can be filled with an overt pronoun.

(17) \*Ter nom-ig<sub>1</sub> Bat [[<sub>RC</sub>öchigdor \_\_<sub>1</sub> xudalda-j aw-san] xün -iig] xai -j baina.  
 That book-ACC B yesterday deal-CVB buy-PST person-ACC search-CVB COP.NPST  
 Int. 'That book, Bat is looking for [the person [<sub>RC</sub> who bought e]] yesterday.'  
 (18) \*Süütei tsai-g<sub>1</sub> Bat [Adjunct bidn-iig \_\_<sub>1</sub> uux gej baix-ad] öröön-d or -j ir -sen.  
 Milk tea-ACC B 1PL-ACC drink.INF C COP-when room-DAT enter-CVB come-PST  
 Int. 'Milk tea, Bat entered the room [Adjunct while we were about to drink]'

Further, LDS in Mongolian shows mixed A/Ā-properties. This contrasts with well-known cases in languages such as Hindi and Japanese, in which LDS is uniformly Ā-movement. In this regard, Mongolian patterns more closely with Korean (see Ko 2018 for an overview). On the one hand, LDS feeds anaphor binding (19) and variable binding, which is characteristic of A-movement.

(19)?[Ter khoyor -ig]<sub>1</sub> [bey bey-nii khni<sub>1</sub> bagsh] [Bat-ig önöödör khural deer \_\_<sub>1</sub> shüümjil  
 That two -ACC body body-GEN 3S.POSS teacher Bat-ACC today meeting at criticize  
 -sen gej] khel-sen.  
 -PST C say-PST  
 'Those two<sub>1</sub>, each other's teacher said that Bat criticized \_\_<sub>1</sub> at the meeting today.'

On the other hand, LDS also behaves like Ā-movement in that scrambled phrases can reconstruct. In Mongolian, NPIs such as *khen ch* ('anyone') must be licensed by clause-mate negation. In (20a), the NPI is licensed by the embedded negation. In (20b), however, the scrambled the NPI can be licensed by the negation inside the embedded clause, suggesting that the NPI may be licensed after reconstruction.

(20) a. Bi [cp Bat -ig önöödör **khen-iig ch** khar -aa -güi gej] bodoj baina.  
 I B -ACC today who-ACC FOC see -PST -NEG C think.CVB COP.NPST  
 'I am thinking that Bat did not see anyone today.'  
 b. **Khen-iig ch**<sub>1</sub> bi [cp Bat -ig önöödör \_\_<sub>1</sub> khar-aa-güi gej] bodoj baina.

The data in this section suggest that Mongolian short and intermediate scrambling behave consistently like A-movement, in terms of anaphor binding, variable binding, and underlying WCO

<sup>1</sup> Fong (2019) looks at a different set of data and concludes that there does not seem to be LDS in Mongolian. In fact, there are cases such as the ones reported here that are LDS. The findings reported here align with Sakamoto (2012), who demonstrates the same type of LDS exists in Mongolian.

amnesty. In addition, scrambling an embedded ACC subject into the main clause shows A-properties, but LDS of embedded objects displays mixed A/Ā-properties.

### 3 Reconstruction Asymmetries in Scrambling

In this section, I turn to the behavior of different types of scrambling in terms of Condition C connectivity, which departs from the generalizations in Section 2. Specifically, depending on how Condition C is violated at the base order, scrambling which targets the same landing site can apparently pattern like both A- and Ā-movement in terms of connectivity effects. I suggest that the full range of facts cannot be adequately accounted for based on the A/Ā-distinction, or by imposing specific conditions on binding which holds at different levels of representation (e.g., Frank, Lee, and Rambow's 1996  $\beta$ -marking). Instead, I propose an analysis in which relates Condition C connectivity to the case requirement of noun phrases.

#### 3.1 Reconstruction in Local Scrambling

As shown in (21), short scrambling in a ditransitive construction with the verb ‘to give’ does not exhibit Condition C connectivity. This is consistent with the observation in Section 2 that short scrambling behaves like A-movement. The same point can also be demonstrated with other DAT-marked arguments such as benefactives (22).

(21) a. \*Bagsh **tüün-d<sub>1</sub>** [**Chemeg<sub>1</sub>**-in nom-ii] ög-sön.  
           Teacher 3SG-DAT C -GEN book-ACC give-PST  
           Int. ‘(The) teacher gave her<sub>1</sub> Chemeg<sub>1</sub>’s book’  
       b. Bagsh [**Chemeg<sub>1</sub>**-in nom-ii]<sub>2</sub> **tüün-d<sub>1</sub>** \_\_\_\_<sub>2</sub> ög-sön.

(22) a. \*Bi **tüün-d<sub>1</sub>** [**Dorj<sub>1</sub>**-in daskhal -ii] khii -j ögö-be.  
           I 3SG-DAT D -GEN homework-ACC do -CVB give-PST  
           Int. ‘I did Dorj<sub>1</sub>’s homework for him<sub>1</sub>.’  
       b. Bi [**Dorj<sub>1</sub>**-in daskhal -ii]<sub>2</sub> **tüün-d<sub>1</sub>** \_\_\_\_<sub>2</sub> khii -j ögö-be.

The facts in intermediate scrambling, however, depart from the observation in Section 2.2 that intermediate scrambling behaves like A-movement. Depending on how Condition C is violated at the base order, intermediate scrambling patterns like Ā-movement in some cases, but patterns like A-movement in others. First, when the underlying Condition C violation is induced by the pronoun in the IO position binding the R-expression (23a), intermediate scrambling does not exhibit obligatory reconstruction effect (23b). In this example, intermediate scrambling patterns like A-movement.

(23) a. \*Bagsh **tüün-d<sub>1</sub>** [**Chemeg<sub>1</sub>**-in nom -ii] ög-sön  
           Teacher 3S-DAT C -GEN book -ACC give-PST  
           Int. ‘(The) teacher gave her<sub>1</sub> Chemeg<sub>1</sub>’s book.’  
       b. [**Chemeg<sub>1</sub>**-in nom -ii]<sub>2</sub> bagsh **tüün-d<sub>1</sub>** \_\_\_\_<sub>2</sub> ög-sön

Binder:IO(non-SUBJ)

In contrast, when the underlying Condition C violation is induced by the pronoun in the *subject* position, intermediate scrambling exhibits obligatory reconstruction effect, behaving like Ā-movement. This is the case regardless of the transitivity of the main verb. Example (24) illustrates the obligatory reconstruction effect using a transitive verb ‘to tear’; example (25) shows the same point using a ditransitive verb ‘to give’.

(24) a. \*Ter<sub>1</sub> [**Chemeg<sub>1</sub>**-in nom -ii] ura-san  
           3S.NOM C -GEN book -ACC tear -PST  
           Int. ‘She<sub>1</sub> tore Chemeg<sub>1</sub>’s book.’  
       b. \*[**Chemeg<sub>1</sub>**-in nom -ii]<sub>2</sub> **ter<sub>1</sub>** \_\_\_\_<sub>2</sub> ura-san

(25) a. \*Ter<sub>1</sub> Bat-d [**Chemeg<sub>1</sub>**-in nom-ii] ög-sön.  
           3S.NOM B-DAT C -GEN book-ACC give-PST  
           Int. ‘She<sub>1</sub> gave Bat Chemeg<sub>1</sub>’s book.’

Binder: SUBJ

Binder: SUBJ

b. \*[**Chemeg<sub>1</sub>** -in nom -ii]<sub>2</sub> **ter<sub>1</sub>** Bat-d \_\_<sub>2</sub> ög-sön.

The patterns in intermediate scrambling are puzzling given standard A/Ā-diagnostics. While movement in (23-25) targets the same landing site, it behaves like both A- and Ā-movement in terms of Condition C connectivity. Specifically, intermediate scrambling behaves like A-movement in (23), but behaves like Ā-movement in (24-25). This split pattern makes it difficult to accurately characterize intermediate scrambling based on Condition C connectivity. Furthermore, as observed in Section 2, intermediate scrambling behaves like A-movement in terms of anaphor binding, variable binding, and WCO amnesty. If the landing site of intermediate scrambling is an A-position, then we do not expect scrambling to this position to exhibit obligatory reconstruction effects. In reality, the DO scrambles to the same pre-subject position in (23-25), but only (23) shows no obligatory reconstruction effect.

Alternatively, one might propose that an A-landing site below the subject is available for short scrambling in (21-22), but the landing site above the subject is always an Ā-position. Therefore, scrambling to the Ā-position must reconstruct for Condition C. In (23b), due to the availability of an intermediate A-landing site (i.e., the landing site for short scrambling), the scrambled DP has the option to reconstruct only partially to that intermediate A-position, hence the grammaticality of (23b). In contrast, there is no such option in (24-25). Nevertheless, it remains unexplained why the pre-subject position only behaves like an Ā-position for Condition C but not for any other diagnostics, as visualized in Table 1. Further, as will become clear in the next section, it is also difficult to extend this view to the cross-clausal scrambling cases.

	Short scrambling	Intermediate scrambling
Feed variable binding?	✓ → A	✓ → A
Feed anaphor binding?	✓ → A	✓ → A
Fix underlying WCO?	✓ → A	✓ → A
Reconstruct for Cond C?	✓ → A	Depends → A/Ā

Table 1: Local scrambling based on A/Ā-diagnostics

Frank, Lee, and Rambow (1996) (henceforth FLR) notice similar patterns in Korean and German local scrambling. They suggest that the factor which determine the reconstruction possibilities is not related to the A/Ā-distinction, but is instead tied to specific conditions on binding which holds at different levels of representation. Specifically, FLR argue that the special status of subject binders is responsible for these effects. According to their account, there is no obligatory reconstruction effect in (21-23), because the pronoun binder in the base order is not in the subject position. In contrast, in (24-25), the Condition C violation at the base order is induced by a pronoun binder in the subject position. Thus, reconstruction is obligatory.

	binder	reconstruction
(21)/(22)	IO (non-subject)	✗
(23)	IO (non-subject)	✗
(24)	Subject	✓
(25)	Subject	✓

Table 2: Reconstruction and binders

FLR propose that if a subject X binds Y at some point in the derivation, then X binds Y at all levels of representation. This condition on binding is termed  $\beta$ -marking, as in (26).

(26) a. X binds Y iff X and Y are co-indexed and X  $\beta$ -marks Y at some level of representation.  
 b. X  $\beta$ -marks Y iff
 

- i. (At D-structure or NP-structure) X c-commands Y and X is a subject; or
- ii. (At NP-structure) X c-commands Y.

 (FLR 1996)

Under the  $\beta$ -marking account, (24-25) violate Condition C, because the pronoun in a subject position  $\beta$ -marks and therefore binds the R-expression at all levels of representation. This binding relationship obtains even after the phrase containing the R-expression is moved away from its original position. In contrast, since binding in (21-23) do not involve subjects, the  $\beta$ -marking restriction does not apply. While FLR's proposal captures the reconstruction asymmetries in local scrambling, I show that it is nevertheless difficult to extend the  $\beta$ -marking mechanism to Mongolian cross-clausal scrambling.

### 3.2 Reconstruction in Cross-Clausal Scrambling

First, cross-clausal scrambling the embedded ACC subject does not reconstruct for Condition C, if the binder in the original order is not the subject. In (28a), the matrix DAT pronoun induces Condition C violation on the R-expression contained within the embedded subject. In the derived order (27b), the embedded subject *Batin eejiig* ('Bat's mother'-ACC) is scrambled to the matrix leftmost position, and there is no Condition C reconstruction effect.

(27) a. \*Bi **tüün-d<sub>1</sub>** [<sub>CP</sub> [Bat<sub>1</sub>-in eej -iig] sain khun gej] khel-sen.  
 I he-DAT B-GEN mother-ACC good person C say -PST  
 Int. 'I said to him<sub>1</sub> that Bat<sub>1</sub>'s mother is a good person.'  
 b. [Bat<sub>1</sub>-in eej-iig]<sub>2</sub> bi **tüün-d<sub>1</sub>** [<sub>CP</sub> \_\_<sub>2</sub> sain khun gej] khel-sen.

Second, long-distance scrambling (LDS) of embedded objects shows similar pattern. At the base order (28a), the matrix DAT pronoun induces Condition C violation on the R-expression *Bat* inside the embedded object. In the derived order (28b), the embedded object undergoes LDS to the matrix leftmost position, and the sentence becomes acceptable under the reading where *Bat* and *tüün* coindex.

(28) a. \*Zaya **tüün-d<sub>1</sub>** [<sub>CP</sub> bagsh-iig [Bat<sub>1</sub>-in esee -g] unsh-san gej] khel-sen.  
 Z he-DAT teacher-ACC B -GEN essay -ACC read -PST C say -PST  
 Int. 'Zaya said to him<sub>1</sub> that the teacher read Bat's<sub>1</sub> essay.'  
 b. ?[Bat<sub>1</sub>-in esee -g]<sub>2</sub> Zaya **tüün-d<sub>1</sub>** [<sub>CP</sub> bagsh-iig \_\_<sub>2</sub> unsh-san gej] khel-sen.

In contrast, in both types of cross-clausal scrambling, if the underlying binder is instead the matrix subject, scrambling exhibits obligatory reconstruction effects. An example is given in (29).

(29) \*[Baatar<sub>1</sub>-in daskhal -ii]<sub>2</sub> **ter<sub>1</sub>** [<sub>CP</sub> bagsh -iig \_\_<sub>2</sub> unsh -san gej] khel -sen  
 B -GEN homework-ACC he.NOM teacher-ACC read -PST C say -PST  
 'Baatar's<sub>1</sub> homework, he<sub>1</sub> said that the teacher read.'

Therefore, even LDS, which is at least partially  $\bar{A}$ -movement, bleeds Condition C in certain contexts. Under FLR's analysis, this is because unlike (29), the pronoun binders in (27-28) are not subjects, hence the absence of Condition C violation after scrambling.

Surprisingly, in Mongolian, LDS of an embedded object can escape Condition C violation when the binder is the embedded subject. In (30a), the embedded subject induces Condition C violation on the R-expression inside the embedded object. As shown in (30b), the embedded object phrase undergoes LDS to the matrix-initial position, and the sentence becomes acceptable under the reading that *Bat* and the pronoun *tüün* in the embedded subject coindex. This is unexpected under FLR's proposal, because the binder involved in the original order is indeed a subject. The  $\beta$ -marking account would predict that (30) must exhibit obligatory reconstruction effects, contrary to fact.

(30) a. \*Emch [<sub>CP</sub> **tüün-iig<sub>1</sub>** önöödör [Bat<sub>1</sub>-in em -iig] uu -gaa-gui gej] bod-son.  
 Doctor.NOM 3SG-ACC today B -GEN medicine-ACC drink-PST-NEG C think-PST  
 Int. 'The doctor thought that he<sub>1</sub> did not drink Bat<sub>1</sub>'s medicine today.'  
 b. ?[Bat<sub>1</sub>-in em-iig]<sub>2</sub> emch [<sub>CP</sub> **tüün-iig<sub>1</sub>** önöödör \_\_<sub>2</sub> uu -gaa-gui gej] bod -son.

The cross-clausal scrambling facts, in addition to the local scrambling facts, not only poses

challenges to FLR's  $\beta$ -marking account, but also make it difficult to characterize scrambling purely based on the A/Ā-distinction. The fact that (30) is acceptable under a coindexed reading is especially surprising given that local scrambling over a subject binder obligatorily reconstructs for Condition C, as shown in (24-25).

### 3.3 Case in Scrambling: Towards an Analysis

I suggest that the above puzzle suggests that Condition C must be evaluated differently from the A/Ā-distinction, in consistent with FLR's insight. However, the full range of Mongolian facts cannot be adequately accounted for by imposing specific conditions on binding which holds at different levels of representation (i.e.,  $\beta$ -marking). In this section, I suggest that the relevant facts can be accounted for under the view that Condition C is related to case assignment (Takahashi and Hulsey 2009).

Takahashi & Hulsey (2009) suggest that both A and Ā-movements leave copies. If the landing site is a case position, late merger of restrictors of a determiner (NP restrictors in the current context) may take place. This point is illustrated with the English raising construction in (31).<sup>2</sup> In the base position (31a), the (covert) determiner is introduced alone without its NP restrictor. Then, the determiner undergoes successive cyclic movement (31b), leaving copies along the way. Crucially, in (31c), late merger of [<sub>NP</sub> John<sub>1</sub>'s mother] may take place at the matrix VP-adjoined position, thereby introducing the first copy of the R-expression *John* into the derivation. This is possible because the late-merged NP is within the domain of T, which assigns to it NOM case. In the representation of (31c), no copy of the R-expression is c-commanded by the coreferential pronoun *him*, thus Condition C violation is circumvented.

(31) [**John<sub>1</sub>**'s mother] seems to him<sub>1</sub> [**t** to be intelligent].

- a. (covert) determiner is base-generated without its restrictor  
[<sub>AP</sub> [THE] intelligent]
- b. determiner undergoes successive cyclic movement, leaving copies  
[<sub>VP</sub>[THE] [<sub>VP</sub> seems to him<sub>1</sub> [<sub>TP</sub> [THE] to be [[THE] intelligent]]]]]
- c. WLM of the NP restrictor at matrix VP-adjoined position  
T [<sub>VP</sub>[THE [<sub>NP</sub> John<sub>1</sub>'s mother]] [<sub>VP</sub> seems to **him<sub>1</sub>** [<sub>TP</sub> [THE] to be [[THE] intelligent]]]]]

I suggest that the late merger mechanism can be used to account for the facts in section 3.1-3.2, under the view that some instance of scrambling in Mongolian can target potential case positions. Specifically, there is evidence indicating that ACC can be assigned as a dependent case.<sup>3</sup> For example, ACC on the embedded subject is present even when there is no functional head in the matrix clause that could be the source of ACC. In Mongolian the predicate *uurlax* 'to become angry' is unable to assign ACC (32a). In (32b), *uurlax* is used as a matrix predicate taking an embedded clause. Importantly, the embedded subject can be marked with ACC case. This is unexpected under the view that ACC on the embedded subject is assigned by matrix *v* (Fong 2019), but it would naturally follow if ACC can be assigned as a dependent case.

(32) a. Tuya tüün-d/\*tüün-iig uurla -san  
T.NOM 3SG-DAT/3SG-ACC become.angry -PST  
'Tuya became angry at him/her.'

- b. Emch [<sub>CP</sub> Bat-ig em -ee uu -gaagüi gej] uurla -san  
Doctor.NOM B-ACC medicine-REFL.POSS drink-PST.NEG C become.angry -PST  
'The doctor became angry that Bat did not drink his medicine.'

In addition to ACC being a dependent case, I also assume that NOM is assigned by T, similar to the

<sup>2</sup> Following Takahashi and Hulsey, possessives are analyzed as definite descriptions which involve a covert definite determiner [THE]. Thus, the possessive DP *John's mother* is represented as [<sub>DP</sub> THE [<sub>NP</sub> mother of John]].

<sup>3</sup> In Marantz (1991), case is dissociated from nominal licensing. However, under the current proposal, (dependent) case needs to be a part of narrow syntax that is subjected to the case filter.

mechanism proposed by Baker and Vinokurova (2010). The relevant facts can then be derived using the late merger mechanism. First, recall that short scrambling (21-22) and one specific case of intermediate scrambling (23) do not show connectivity effects. The derivation under the current proposal can be schematized in (34) – Late merger of [<sub>NP</sub> Chemeg-in nom] is possible at the indicated position, because the resulting DP can receive dependent ACC case via competition with the subject. Thus, short scrambling to this dependent case position does not reconstruct for Condition C. In addition, the full copy of DP can move further to the pre-subject landing site, giving rise to (23).

(33)(=21) Bagsh [THE [<sub>NP</sub> **Chemeg<sub>1</sub>**-in nom **-ii**]<sub>2</sub>] **tüün-d<sub>1</sub>** [<sub>VP</sub> [THE] ög-sön]  
 Teacher -GEN book-ACC he-DAT give-PST

In contrast, if the pronoun binder in the base order is instead the subject, scrambling undergoes obligatory reconstruction (24-25). This is because in these cases late merger cannot apply at a point higher than the pronoun subject, because case cannot be assigned to the resulting DP. This essentially derives FLR's generalization that reconstruction is obligatory, whenever (local) scrambling takes place across a subject binder.

(34)(=24)) [THE [<sub>NP</sub> **Chemeg<sub>1</sub>**-in nom\* **-ii**]<sub>2</sub> **ter<sub>1</sub>** [<sub>VP</sub> [THE] ura-san]]

This mechanism also derives the cross-clausal scrambling facts. I use the LDS sentence (28) as an example, represented here as (35). In this case LDS does not obligatorily reconstruct for Condition C, because dependent ACC case can be assigned at an intermediate position between the matrix subject and the matrix DAT pronoun inside the matrix clause, enabling late merger at this position. The underlined NP restrictor can get ACC case, because the resulting DP is within the local domain of a higher argument *Zaya*, which counts as its case competitor. Crucially, at this position the late-merged R-expression is not within the domain of the matrix DAT pronoun binder. Thus, Condition C violation is circumvented. The availability of the intermediate case position inside the matrix clause also accounts for the fact shown in (30) that even when the underlying Condition C violation is induced by a pronoun binder in the embedded *subject* position, LDS of the embedded object makes the sentence acceptable, as schematized in (36).

(35)(=28)) ?[THE[<sub>NP</sub> **Bat<sub>1</sub>**-in esee-g] **Zaya** [THE[<sub>NP</sub> **Bat<sub>1</sub>**-in esee-g]] **tüün-d<sub>1</sub>** [<sub>CP</sub> bagsh-iig [<sub>VP</sub> [THE] unsh-san] **gej**] khel-sen.]

(36)(=30)) ?[THE[<sub>NP</sub> **Bat<sub>1</sub>**-in em-iig]] **emch** [THE [<sub>NP</sub> **Bat<sub>1</sub>**-in em-iig]] [<sub>CP</sub> **tüün-iig<sub>1</sub>** [THE] uu -gaa -gui **gej**] bod-son.]

## 4 Conclusions

In this paper, I examined how Mongolian fits into previous research on scrambling and presented in detail its patterns in terms of Condition C connectivity. While the ability to reconstruct for Condition C is often used as an A/Ā-diagnostic, scrambling targeting the same landing site in Mongolian sometimes show split properties that fails to align with the A/Ā-distinction. This provides evidence for the view that Condition C connectivity needs to be evaluated independent of the A/Ā-distinction (Takahashi and Hulsey 2009, Bhatt and Keine 2019).

## References

Baker, Mark C., and Nadya Vinokurova. 2010. Two modalities of case assignment: Case in Sakha. *Natural Language & Linguistic Theory*, 28(3), 593-642.

Bhatt, Rajesh, and Stefan Keine. (2019). Secondary strong crossover in Hindi and the typology of movement. In *Proceedings of the 49th annual meeting of the North East Linguistic Society*.

Chomsky, Noam. 1993. A minimalist program for linguistic theory. In *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*.

Dayal, Veneeta. 1994. Binding facts in Hindi and the scrambling phenomenon. In *Theoretical perspectives on*

*word order in South Asian languages*, ed. M. Butt, T. H. King, and G. Ramchand, 237-262. Stanford, CA: CSLI Publications.

Déprez, Viviane. 1989. On the typology of syntactic positions and the nature of chains: Move Alpha to the specifier of functional projections. Doctoral dissertation, Massachusetts Institute of Technology.

Fong, Suzana. 2019. Proper movement through Spec-CP: An argument from hyperraising in Mongolian. *Glossa: a journal of general linguistics*, 4(1).

Fox, Danny. 1999. Reconstruction, binding theory, and the interpretation of chains. *Linguistic Inquiry*, 30(2), 157–196.

Frank, Robert, Young-Suk Lee, and Owen Rambow. 1996. Scrambling, reconstruction and subject binding. *Rivista di Grammatica Generativa*, vol. 21, 67-106.

Gurtu, Madhu. 1992. Anaphoric relations in Hindi and English. *Munshiram Manoharlal*.

Kidwai, Ayesha. 2000. *XP-adjunction in Universal Grammar: Scrambling and binding in Hindi-Urdu*. Oxford University Press.

Hoji, Hajime. 1985. Logical form constraints and configurational structures in Japanese. Doctoral dissertation, University of Washington, Seattle.

Ito, Atsushi. 2007. Argument structure of Japanese ditransitives. *Nanzan Linguistics Special*, 3, 127-150.

Karimi, Simin. 2005. *A minimalist approach to scrambling: Evidence from Persian*. Berlin-New York: Mouton de Gruyter.

Ko, Heejeong. 2018. Scrambling in Korean syntax. In *Oxford Research Encyclopedia of Linguistics*.

Lebeaux, David. 1988. Language acquisition and the form of the grammar. Doctoral dissertation, University of Massachusetts, Amherst.

Lebeaux, D. 1998. *Where does binding theory apply?* MIT Press.

Mahajan, Anoop. 1989. On the A/A-bar distinction: scrambling and weak crossover and binding in Hindi. Doctoral dissertation, Massachusetts Institute of Technology.

Mahajan, Anoop. 1994. Toward a unified theory of scrambling. In *Studies on Scrambling: Movement and Non-movement Approaches to Free Word-order Phenomena*, 301-330.

Marantz, Alec. 1991. Case and licensing. In *ESCOL '91: Proceedings of the Eighth Eastern States Conference on Linguistics*, 234-253.

Marantz, Alec. 1993. Implications of asymmetries in double object constructions. In *Theoretical aspects of Bantu Grammar*, 113-150. CSLI.

McGinnis, Martha. 2004. Lethal ambiguity. *Linguistic Inquiry*, 35(1), 47-95.

Miyagawa, Shigeru. 1997. Against optional scrambling. *Linguistic Inquiry*, 1-25.

Miyagawa, Shigeru. 2001. The EPP, scrambling, and wh-in-situ. In *Ken Hale: A life in language*, ed. by Michael Kesntowicz, 293-338. Cambridge, MA: MIT Press.

Miyagawa, Shigeru, and Tsujioka, Takae. 2004. Argument structure and ditransitive verbs in Japanese. *Journal of East Asian Linguistics*, 13(1), 1-38

Müller, Gereon, and Wolfgang Sternefeld. 1994. Scrambling as A-bar movement. In *Studies on scrambling*, 331-385.

Postal, Paul. 1971. *Cross-over phenomena*. New York: Holt, Rinehart and Winston.

Pylkkänen, Liina. 2008. *Introducing Arguments*. *Linguistic Inquiry Monographs* 49. MIT Press.

Rizzi, Luigi. 1986. On chain formation. In *The Syntax of Pronominal Clitics*. Brill.

Safir, Ken. 2017. Weak crossover. In *The Wiley Blackwell Companion to Syntax*, 1-40.

Saito, Mamoru. 1985. Some asymmetries in Japanese and their theoretical implications. Doctoral dissertation, Massachusetts Institute of Technology.

Saito, Mamoru. 1992. Long distance scrambling in Japanese. *Journal of East Asian Linguistics*, 1(1), 69-118.

Sakamoto, Yuta. 2012. A study of sluicing and cleft in Mongolian: A comparison with Japanese. MA thesis, Tohoku University.

Sauerland, Uli. 1998. The meaning of chains. Doctoral dissertation, Massachusetts Institute of Technology.

Tada, Hiroaki. 1993. A/A-bar partition in derivation. Doctoral dissertation, Massachusetts Institute of Technology.

Takahashi, Shoichi, and Sarah Hulsey. 2009. Wholesale late merger: Beyond the A/Ā distinction. *Linguistic Inquiry*, 40(3), 387-426.

Takano, Yuji. 1998. Object shift and scrambling. *Natural Language & Linguistic Theory*, 16(4), 817–889.

Wasow, Thomas. 1972. Anaphoric relations in English. Doctoral dissertation, Massachusetts Institute of Technology.

Webelhuth, Gert. 1989. Syntactic saturation phenomena and the modern Germanic languages. Doctoral dissertation, University of Massachusetts-Amherst

Webelhuth, Gert. 1992. *Principles and Parameters of Syntactic Saturation*. New York: Oxford University Press.

Yatsushiro, Kazuko. 2003. VP Internal Scrambling. *Journal of East Asian Linguistics*, 12(2), 141–170.

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