

SCRAMBLING IN BENGALI: AN A-/A'-MOVEMENT DISTINCTION*

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Abstract. Bengali is an SOV language (Bhatt & Dayal 2007) known for its flexible word-order. Elements in a phrase can be moved to other positions, both within and across clausal boundaries, in a process called scrambling (David 2015). This study aims to provide a comprehensive description of scrambling in Bengali and argues that scrambling manifests in two types of movement in this language: A- and A'-. It further argues that the type of scrambling involved (A- vs. A'-) is predictable from the syntactic environment based on the following generalization: A'-movement is possible only when a Spec,CP position is available as a landing site. Given this, scrambling in Bengali supports the position-based approach to the A-/A'- distinction, recently argued for in Keine (2018). Building on previous literature on scrambling in other SOV languages, such as Hindi (Keine 2018; Dayal 1994; Mahajan 1990, 1994) and Japanese (Sato & Goto 2014; Saito 1985, 1992), this paper investigates scrambling in four syntactic environments, each with a different scrambling profile: 1) vP-internal movement; 2) clause-internal movement; 3) cross-non-finite clause movement; and 4) cross-finite clause movement. Two well-established tests are used to discern A-movement from A'-movement: i) A-movement can obviate weak crossover effects and lead to reciprocal binding; ii) A'-movement can reconstruct for Condition A. It is demonstrated that vP-internal scrambling is unambiguously A-movement, while clause-internal scrambling may be both A- and A'-movement. Additionally, cross-clausal movement out of non-finite clauses can be both A- and A'-movement, but cross-clausal movement out of finite-clauses is unambiguously A-movement.

Keywords. Scrambling; A-/A'-movement; Weak crossover obviation; Reciprocal binding; Reconstruction

1 Introduction

1.1 Linguistic Description

Bengali (endonym: Bangla; ISO: *ben*) is the national language of Bangladesh and the official language of the Indian states of West Bengal and Tripura (David 2015; Lewis 2009). Bangla is part of the Indo-Aryan sub-group of the Indo-European language family (David 2015). Spoken Bangla exhibits considerable dialect variation. The two more widely documented dialects of Bangla are the standardized dialects of Kolkata and Dhaka, called as Kolkata Colloquial Bangla (KCB) and Dhaka Colloquial Bangla (DCB) (David 2015). This project features an analysis of KCB.¹

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¹ All data that is not cited comes from the author, who is a native speaker of Bengali.

Bangla is an SOV language; it has post-positions and a head-final clause structure (Thompson 2020; Bhatt & Dayal 2007). The basic word order of a declarative sentence is subject, indirect object, direct object, and verb (S IO DO V), as shown in (1). Auxiliaries and modals follow the main verb (David 2015).

- (1) Apu Keya-ke ek-ta chobi dekha-lo - [S IO DO V]
 Apu.NOM Keya-ACC one-CLF picture show-PST
 ‘Apu showed Keya a picture.’

1.2 Scrambling in Bangla

Bangla’s word-order is known to be fairly flexible. Elements in the phrase can be moved to other positions in a process called scrambling. In other words, in free-word-order languages, scrambling can be defined as a process that allows for the derivation of non-canonical word-orders via movement from base-generated positions to other syntactic positions (Cho 1994; Saito 1985). Scrambling operations in Bangla are generally optional, and the version of the sentence without movement, that is, the basic word order, is always available (David 2015; Keine 2018). However, despite syntactic optionality, such movement of constituents alter[s] the information structure in some salient way (David 2015). For instance, scrambling is often used to achieve variable emphasis and contrastive focus interpretations (Thompson 2004; Syed 2017). Focus mainly lies on the word occupying first position in the clause. The word in the second position plays a role in emphasizing the meaning of the first word. The same transitive sentence *I have read the story* can be scrambled in six different ways, as shown in (2).

- (2) a. ami golpo-ta pod-e-chi - [SOV]
 1SG.NOM story-CLF read-PRF-PRS
 ‘I have read the story.’
 b. ami pod-e-chi golpo-ta - [SVO]
 1SG.NOM read-PRF-PRS story-CLF
 ‘I have *read* the story.’
 c. golpo-ta ami pod-e-chi - [OSV]
 story-CLF 1SG.NOM read-PRF-PRS
 ‘The story, *I* have read.’
 d. golpo-ta pod-e-chi ami - [OVS]
 story-CLF read-PRF-PRS 1SG.NOM
 ‘The story, I have *read*.’
 e. pod-e-chi ami golpo-ta - [VSO]
 read-PRF-PRS 1SG.NOM story-CLF
 ‘I have *read it*, the story.’
 f. pod-e-chi golpo-ta ami - [VOS]
 read-PRF-PRS story-CLF 1SG.NOM
 ‘I have read it, *the story*.’

Additionally, scrambling in Bangla allows for both leftward and rightward-movement of the constituents. The subject or object may be moved to clause-initial or clause-final positions to highlight different “discourse relevant information,” such as new or old information, background or fore-

ground information, and so on (David 2015). Clause-initial (3-a) or clause-final (3-b) positions are generally indicative of emphasis (Thompson 2004), as shown below:

- (3) a. **gari-ta** ami **t₁** chali-e-chi gotokal
 car-CLF 1SG.NOM **t₁** drive-PRF-PRS yesterday
 ‘The car I drove yesterday.’
- b. am-ar **t₁** ach-e **ek-ti** **darun dharona**
 1SG-GEN **t₁** be-PRS one-CLF.DIM great idea
 ‘I have a great idea.’ (from David 2015:248)

Existing literature on Bangla syntax include examinations of headedness and clause-structure. For instance, according to Simpson and Bhattacharya (2003), Bangla has an underlying SVO structure. They argue that wh-questions, and surface-SOV structures are derived through overt movement as opposed to an underlying SOV structure that combines wh-in-situ constructions and covert movement. Bhatt and Dayal (2007) argue against this claim, drawing upon rightward remnant movement to make their argument. Islam (2016) also offers a critical evaluation of the aforementioned claim, highlighting the need for covert movement and arguing that the analysis for Bangla remain wh-in situ. Descriptions of Bangla’s free word-order can be found in the literature (David 2015; Bhatt & Dayal 2007; Thompson 2004); however, the type of movement (A- or A’-) involved in different scrambling environments, both within and across clausal boundaries, the positions targeted by the different types of movement, and why they exhibit different properties in different scrambling environments, have yet to be adequately described for Bangla.

Therefore, this study provides a comprehensive description of scrambling in Bengali, based on the type of movement and the positions targeted by that movement. To that end, this research builds on existing literature on scrambling in other SOV languages, such as Hindi (Keine 2018; Mahajan 1990, 1994; Dayal 1994) and Japanese (Saito 1992; Sato & Goto 2014), to investigate Bangla scrambling in four different syntactic environments: 1) vP-internal movement, 2) clause-internal movement, 3) cross-non-finite clause movement, and 4) cross-finite clause movement.

Movement in Bangla manifests as either A- or A’- movement. A-movement can feed binding relations, while A’-movement cannot. Therefore, in Section 2, two well-established tests that discern A-movement from A’-movement are used to identify the types of movement involved in each scrambling environment: i) Only A-movement can obviate weak crossover effects and lead to reciprocal binding, and ii) Only A-movement can reconstruct for Condition A of binding.²

It is demonstrated that vP-internal scrambling is unambiguously A-movement, while clausal-internal movement can be both A- or A’-movement. Further, cross-clausal scrambling out of non-finite clauses can exhibit both A- and A’-properties, while cross-clausal scrambling out of finite clauses can only be A’-movement. Additionally, in Section 3, it is argued that the distribution of movement types in different syntactic environments follows from a position-based theory of the A-/A’-distinction that was recently established in Keine (2018). It is argued that the type of movement, A- vs. A’-, is predictable from the scrambling environment and that A’-movement is

² A binding relation between A and B is established when A c-commands B, and A and B are co-indexed in their binding domain. The following conditions govern the distribution of anaphors, pronouns, and R-expressions in their binding domains (from Carnie 2021):

Condition A: An anaphor must be bound in its binding domain.

Condition B: A pronoun must be free in its binding domain.

Condition C: An R-expression must be free.

only available in scrambling environments that can provide an available Spec,CP position as a landing site for such movement. Finally, the discussion and scope for further research is provided in Section 4.

1.3 A- and A'-Movement in Bangla

The movements involved in Bangla scrambling can be of two types: A- or A'-. The type of movement involved in scrambling can be identified using the following properties:

1. Only A-movement is known to obviate weak-crossover effects and lead to binding of reciprocal pronouns
2. Only A'-movement can reconstruct for Condition A of binding

An illustration of weak crossover obviation and reciprocal binding in Bangla is provided in (4) and (5), respectively:

(4) *Weak crossover obviation*

- a. $o-r_1$ ma **prot-ek-meye-ke₂** pochhondo kar-e
3SG-GEN mother.NOM **every-girl-ACC** like do-PRS
'Her mother likes every girl.' (bound reading impossible)
- b. **prot-ek-meye-ke₁** $o-r_1$ ma **t₁** pochhondo kar-e
every-girl-ACC 3SG-GEN mother.NOM **t_t** like do-PRS
'For every girl x , x 's mother likes x .'

In (4-a), the pronoun *or* 'his/her' cannot be co-indexed with *protek meye* 'every girl,' making a bound reading impossible. A-movement of the object, *protek meye* 'every girl' over the subject, *or ma* 'her mother', enables co-indexing and thereby binding of the subject-internal pronoun. This allows for a bound reading of the sort 'every girl is liked by her (own) mother' in (4-b).

(5) *Reciprocal binding*

- a. **ak-e-opor-er* ma **Anup-aur-Pratap-ke** daak-lo
each other-GEN mother.NOM **Anup-and-Pratap-ACC** call-PST
'*Each other's mother, Anup and Pratap called.'
- b. **Anup-aur-Pratap-ke** [*ake-opor-er* ma **t₁**] daak-lo
Anup-and-Pratap-ACC each.other-GEN mother.NOM **t₁** call-PST
'Anup and Pratap, each other's mother called, t_1 .'

(5-a) is ungrammatical because the reciprocal pronoun (anaphor) *ake opor er* 'each other's' is unbound in its binding domain, leading to a violation of Condition A. A-movement of 'Anup and Pratap' in (5-b) provides a c-commanding antecedent to the reciprocal pronoun and enables binding.

Wh-movement is an instance of A'-movement, involving the movement of a question-word from a theta-position into a non-argument position for interpretation (Dayal 1994). That A'-movement cannot obviate weak crossover nor lead to reciprocal binding is demonstrated in (6) and (7), respectively.

(6) *Weak crossover obviation*

- a. ***o-r₁** ma kon-meye-ke₁ bok-lo?
3SG-GEN mother.NOM which-girl-ACC scold-PST
'*Which girl₁ did her₁ mother scold?' (bound reading impossible)
- b. *kon-meye-ke₁ **o-r₁** ma **t₁** bok-lo?
which-girl-ACC 3SG-GEN mother.NOM **t₁** scold-PST
'Which girl₁ did her₁ mother scold?'

A'-movement does not enable bound reading of the subject-internal pronoun.

(7) *Reciprocal binding*

- a. *ake-opor-er₁ ma-ra **kon du-to baccha-ke₁** bok-lo?
each other-GEN mother-PL.NOM **which two-CLF children-ACC** scold-PST
'*Which two children₁ did each other's mothers scold?'
- b. ***kon du-to baccha-ke₁** ake-opor-er₁ ma-ra **t₁** bok-lo?
which two-CLF children-ACC each other's mother-PL.NOM **t₁** scold-PST
'Which two children did each other's mother's t₁scold?'

A'-movement of *kon duto baccha* 'which two children' over the reciprocal DP *ake-oper-er ma-ra* 'each other's mothers' does not provide an antecedent for binding.

However, A'-movement is known to be able to reconstruct. Reconstruction refers to the process where "the movement operation is undone," and the structure is reconstructed to its pre-movement representation for interpretation, thereby "allowing the binding principles to apply as if the movement had not occurred" (Barss 2001). In the example of reconstruction in (8), the grammaticality of (8-b), despite a violation of Condition A, is reflective of proper anaphor binding in its pre-movement structure in (8-a)

- (8) a. Apu₁ **o-r₁** **kon chhobi** dekh-lo?
Apu.NOM 3SG-GEN **which picture** see-PST
'Which picture of Apu_i did he_i see?'
- b. **o-r₁** **kon chhobi** Apu₁ **t₁** dekh-lo?
3SG-GEN **which picture** Apu.NOM **t₁** see-PST
'Which picture of Apu_i did he_i see?'

2 Types of Scrambling

There are four distinct sub-classes of leftward scrambling. These are: 1) vP-internal movement; 2) clause-internal movement; 3) long-distance cross-clausal movement out of non-finite clauses; and 4) long-distance cross-clausal movement out of finite clauses.

2.1 vP-Internal Scrambling

vP-internal scrambling refers to the "permutation of the IODO order" inside the vP's domain (Sato & Goto 2014), as shown below:

- (9) a. Apu [vP Keya-ke *boi-ta* di-lo] - [S IO DO V]
 Apu.NOM Keya-DAT **book-CLF** give-PST
 ‘Apu gave Keya the book.’
- b. Apu [vP **boi-ta** Keya-ke **t₁** di-lo] - [S DO IO V]
 Apu.NOM **book-CLF** Keya-DAT **t₁** give-PST
 ‘Apu gave Keya the book.’

vP-internal scrambling in Bangla exhibits A-properties. This is illustrated using weak crossover obviation in (10). In (10-a), the pronoun *or boi* ‘his book’, is bound by Apu, indicating that the book belongs to Apu. Movement in (10-b) allows *protek meye* ‘every girl’ to bind the pronoun *or boi* ‘their book,’ providing a bound reading of the sort ‘Apu gave every girl her book.’

(10) **Weak crossover obviation**

- a. Apu₁ [vP o-r₁/*₂ boi-ta **prot-ek₂ meye-ke** di-lo]
 Apu.NOM 3SG-GEN book-CLF **every girl-ACC** give-PST
 ‘Apu gave every girl his book.’ (bound reading impossible)
- b. Apu₁ [vP **prot-ek₂ meye-ke** o-r_{1/2} boi-ta **t₁** di-lo]
 Apu.NOM **every girl-ACC** 3SG-GEN book-CLF **t₁** give-PST
 ‘Apu gave every girl x, x’s book.’

Converging evidence of A-movement can be found in reciprocal binding. It is shown in (11) that vP-internal scrambling provides a c-commanding antecedent to the unbound reciprocal pronoun.

(11) **Reciprocal binding**

- a. *Joy [vP ake-opor-er ma-baba-r-shathe **Rani-ar-Abhi-ke**
 Joy.NOM each-other-GEN parent-PL-GEN-with **Rani-and-Abhi-ACC**
 alap-kora-lo]
 introduce-PST
 ‘Joy introduced Rani and Abhi to each other’s parents.’
- b. Joy [vP **Rani-ar-Abhi-ke** ake-opor-er ma-baba-r-shathe **t₁**
 Joy.NOM **Rani-and-Abhi-ACC** each-other-GEN parent-PL-GEN-with **t₁**
 alap-kora-lo]
 introduce-PST
 ‘Joy introduced Rani and Abhi to each other’s parents.’

(11-a) reflects the basic ditransitive word-order. Here, the reciprocal pronoun remains unbound, resulting in an ungrammatical construction because of a Condition A violation. On the other hand, (11-b), which is derived through vP-internal scrambling of the DO *Rani-ar-Abhi-ke* ‘Rani and Abhi’ over the reciprocal pronoun *ake-opor-er* ‘each other’s’, provides an antecedent for reciprocal binding. vP-internal scrambling can thus be A-movement in Bangla.

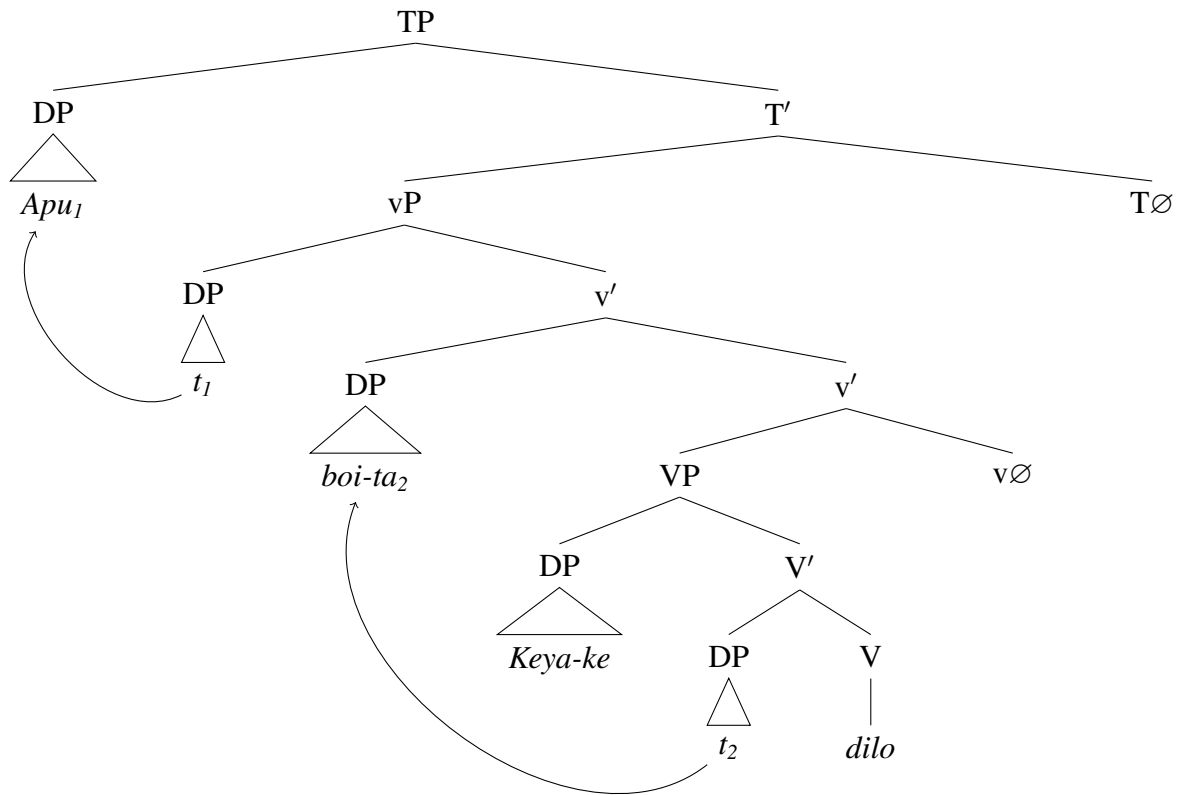
Using similar data, Sato & Goto (2014) demonstrate that vP-internal scrambling in Japanese also has A-properties. Furthermore, they show that vP-internal scrambling in Japanese is unambiguously A-movement and cannot be A’-movement. An equivalent construction demonstrates that this is also true in Bangla, as shown in (12).

- (12) a. Joy [vP Rani-ar-Abhi-ke **ake-opor-er-shathe** alap-kora-lo]
 Joy.NOM Rani-and-Abhi-ACC **each-other-GEN-with** introduce-PST
 ‘Joy introduced Rani and Abhi to each other.’
- b. *Joy [vP **ake-opor-er-shathe** Rani-ar-Abhi-ke t₁ alap-kora-lo]
 Joy.NOM **each-other-GEN-with** Rani-and-Abhi-ACC t₁ introduce-PST
 ‘Joy introduced Rani and Abhi to each other.’

Here, a grammatical reconstructed reading is unavailable. (12-a) provides the basic ditransitive word-order, which is grammatical because the reciprocal pronoun, *ake-oper-er-shathe* ‘with each other’ is bound. Movement of the reciprocal pronoun over *Rani and Abhi* in (12-b) is unacceptable. That is, since such movement causes the reciprocal pronoun to A-bind the R-expression from the moved position, it violates both Condition A (the reciprocal pronoun needs to be bound) and Condition C (the R-expression cannot be bound). This ungrammaticality is accurately predicted by A-movement, resulting in the exclusion of (12-b). However, if vP-internal scrambling were A’-movement, contrary to evidence in (12), the R-expression would be A-free, and Condition C violation would be evaded due to reconstruction. (12-b) shows that reconstruction by A’-movement is not available for vP-internal scrambling.

Therefore, this proves that vP-internal scrambling in Bangla is also unambiguously A-movement. (13) provides the derivation of vP-internal A-movement in (9).

(13)



Apu boita Keya ke dilo 'Apu gave Keya the book.'

It is proposed that vP-internal scrambling targets an inner specifier of v, tucking in below the subject. This is necessary since the subject is seen as a more local goal by T_0 when its EPP probes.

2.2 Clause-Internal Scrambling

Clause-internal scrambling is the movement of an element across a subject to a sentence-initial position within the same clause (Sato & Goto 2014) as shown below:

- (14) a. Apu **boi-ta** kin-lo
 Apu.NOM **book-CLF** buy-PST
 'Apu bought the book.'
- b. **boi-ta** Apu **t₁** kin-lo
 book-CLF Apu.NOM **t₁** buy-PST
 'The book, Apu bought t₁.'

Clause-internal scrambling in Bangla exhibits both A- and A'-properties. Evidence of its A-properties comes from weak cross-over obviation, as shown in (15).

(15) **Weak crossover obviation**

- a. o-r₁ ma prot-ek_{*1/2} baccha-ke dekh-lo
 3SG-GEN mother.NOM every child-ACC see-PST
 ‘His/her mother saw every child.’ (bound reading impossible)
- b. prot-ek₁ baccha-ke o-r₁ ma t₁ dekh-lo
 every child-ACC 3SG-GEN mother.NOM t₁ see-PST
 ‘For every child x, x’s mother saw x.’

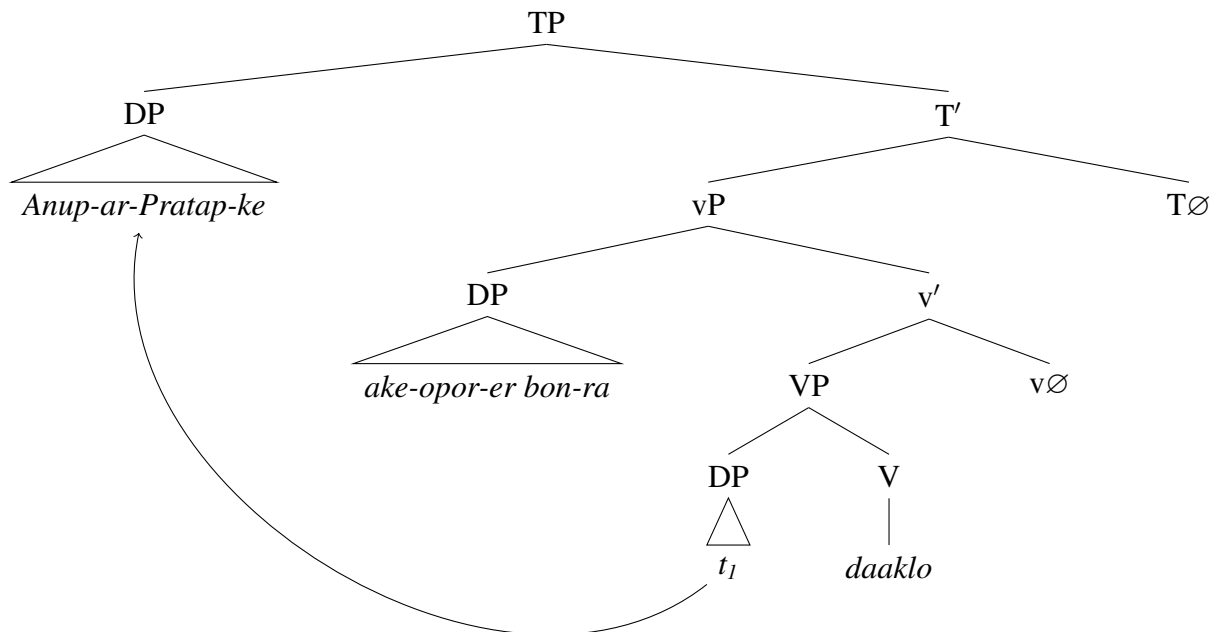
Movement of the object *protek baccha ke* ‘every child’ over the subject *or ma* ‘his/her mother’ provides a bound reading of the subject-internal pronoun. Furthermore, reciprocal binding, as in (16), also provides supporting evidence of A-movement in clause-internal scrambling environments; movement provides antecedent for reciprocal binding.

(16) **Reciprocal binding**

- a. *ake-oper-er₁ bon-ra Anup-ar-Pratap-ke₁ daak-lo
 Each other’s sister-PL Anup and Pratap-ACC call-PST
 ‘*Each other’s sisters called Anup and Pratap.’
- b. Anup-ar-Pratap-ke₁ [ake-oper-er₁ bon-ra] t₁ daak-lo
 Anup and Pratap-ACC Each other’s sister- PL t₁ call-PST
 ‘Anup and Pratap, each other’s sisters called t₁.’

A derivation of A-movement in clause-internal scrambling in (16) is given in (17).

(17)



Anup-ar-Pratap-ke ake-opor-er bon-ra daaklo ‘Anup and Pratap, each other’s sisters called t₁.’

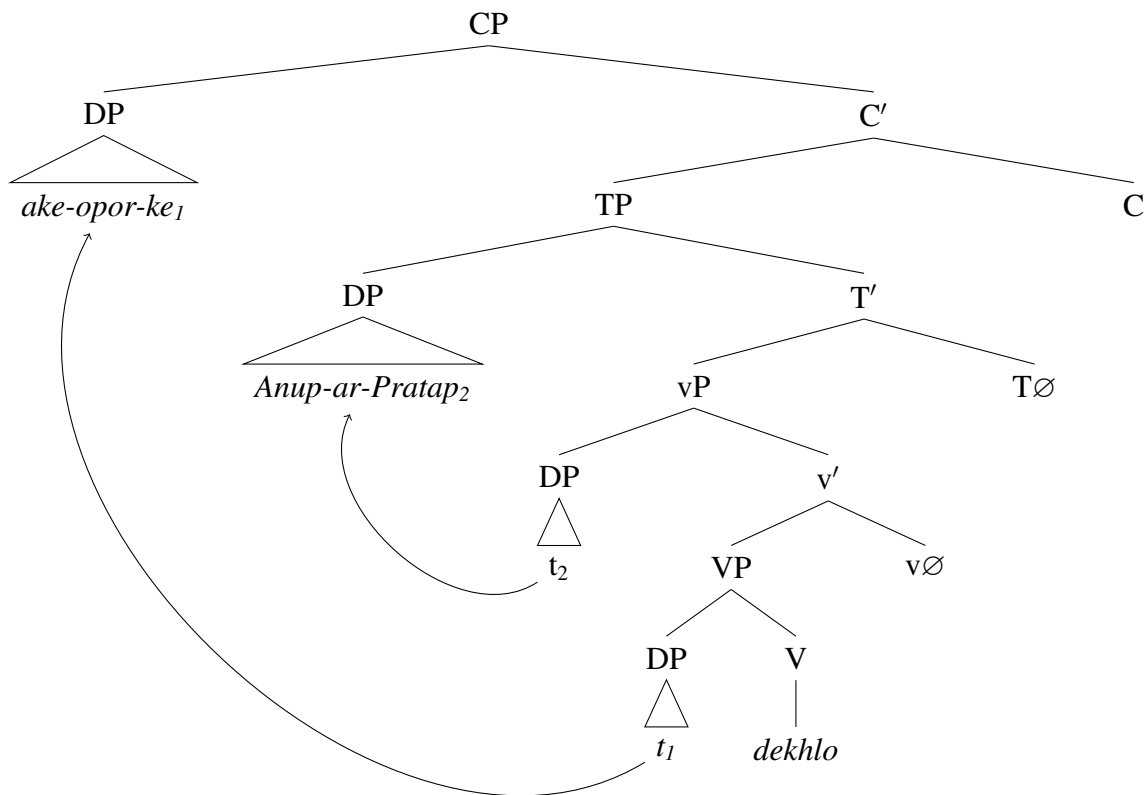
Hindi (Keine 2018) and Japanese (Sato & Goto 2014) also behave similarly in displaying A-movement in clause-internal scrambling. Furthermore, Hindi and Japanese, in their ability to re-

construct, also exhibit A'-properties in clause-internal scrambling (Keine 2018; Sato & Goto 2014). Equivalent phrases in Bangla reveal that clause-internal scrambling also exhibits A'-properties in Bangla, as demonstrated by reconstruction in (18).

- (18) a. Anup-ar-Pratap **ake-opor-ke** dekh-lo
 Anup and Pratap.NOM each-other-ACC see-PST
 'Anup and Pratap saw each other.'
- b. **ake-opor-ke** [Anup-ar-Pratap **t₁**] dekh-lo
 Each-other-ACC Anup and Pratap.NOM **t₁** see-PST
 'Each other, Anup and Pratap saw t₁.'

(18-a) shows the basic grammatical word order that follows both Conditions A and C in that the reciprocal pronoun is bound and, the R-expression is free. The grammaticality of (18-b) is evidence of reconstruction because the scrambled reciprocal pronoun does not induce violation of Condition C. The R-expression *Anup and Pratap* remains A-free, thereby avoiding violation of Condition C. Therefore, clause-internal scrambling can also be A'-movement. The derivation of A'-movement in (18-b) is illustrated in (19).

(19)



ake-opor-ke Anup-ar-Pratap marlo 'Each other, Anup and Pratap saw t₁

2.3 Cross-Clausal Scrambling

Cross-clausal scrambling is the movement of an element to a sentence-initial position across a clause boundary (Sato & Goto 2014). Cross-clausal movement can occur out of both non-finite clauses (20) and finite clauses (21) (Keine 2018).

(20) *Cross-clausal movement out of non-finite clauses*

- a. Apu **Keya-ke** dekh-te chai-lo
 Apu.NOM **Keya-ACC** see-INF want-PST
 ‘Apu wanted to see Keya.’
- b. **Keya-ke** Apu [TP **t₁** dekh-te] chai-lo
 Keya-ACC Apu.NOM **t₁** see-INF want-PST
 ‘Keya, Apu wanted to see t₁.’

(21) *Cross-clausal movement out of finite clauses*

- a. Apu bhab-lo [CP je Keya **shobai-ke** dekh-e-che]
 Apu.NOM think-PST that Keya **everyone-ACC** see-PRF-PRS
 ‘Apu thought that Keya had seen everyone.’
- b. **shobai-ke** Apu bhab-lo [CP je Keya **t₁** dekh-e-che]
everyone-ACC Apu.NOM think-PST that Keya **t₁** see-PRF-PRS
 ‘Everyone, Apu thought that Keya had seen t₁.’

The two scrambling environments vary in the kinds of movement they allow out of them. While movement out of non-finite clauses exhibits similar properties to clause-internal scrambling in allowing both A- and A'-movement out of them, movement out of finite clauses is restricted to A'-movement.

2.3.1 Cross-clausal scrambling out of non-finite clauses

As stated above, cross-clausal scrambling out of non-finite clauses exhibits both A- and A'-properties. Evidence of A-movement can be found in weak crossover obviation (22) and binding of reciprocal pronoun (23).

(22) *Weak crossover obviation*

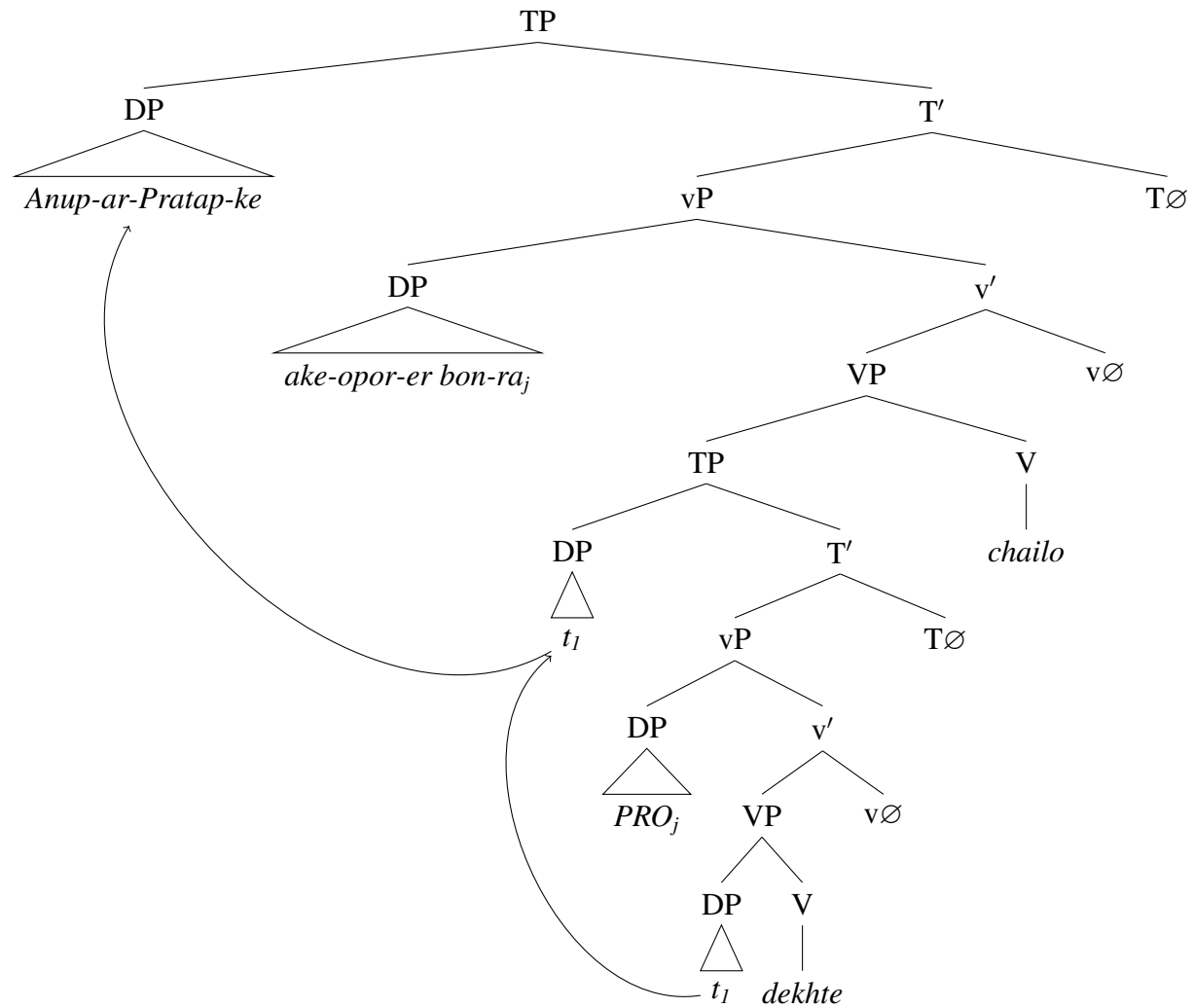
- a. [o-r_{1/*2} ma] [TP **prot-ek₂ baccha-ke** dekh-te] chai-lo
 3SG-GEN mother.NOM every child-ACC see-INF want-PST
 ‘His/her mother wanted to see every child.’ (bound reading impossible)
- b. **prot-ek₁ baccha-ke** [o-r₁ ma] [TP **t₁** dekh-te] chai-lo
 every child-ACC 3SG-GEN mother.NOM **t₁** see-INF want-PST
 ‘For every child x, x’s mother wanted to see x.’

(23) **Reciprocal binding**

- a. [**ake-opor-er₁ bon-ra*] [_{TP} **Anup-ar-Pratap-ke₁** dekh-te] chai-lo
 Each other's sister-PL **Anup-and-Pratap-ACC** see-INF want-PST
 '*Each other's sisters wanted to see Anup and Pratap.'
- b. **Anup-ar-Pratap-ke₁** [*ake-opor-er₁ bon-ra*] [_{TP} **t₁** dekh-te] chai-lo
 Anup-and-Pratap-ACC Each other's sister-PL **t₁** see-INF want-PST
 'Anup and Pratap, each other's sisters wanted to see t₁.'

The derivation of reciprocal binding as in (23) is given in (24).

(24)

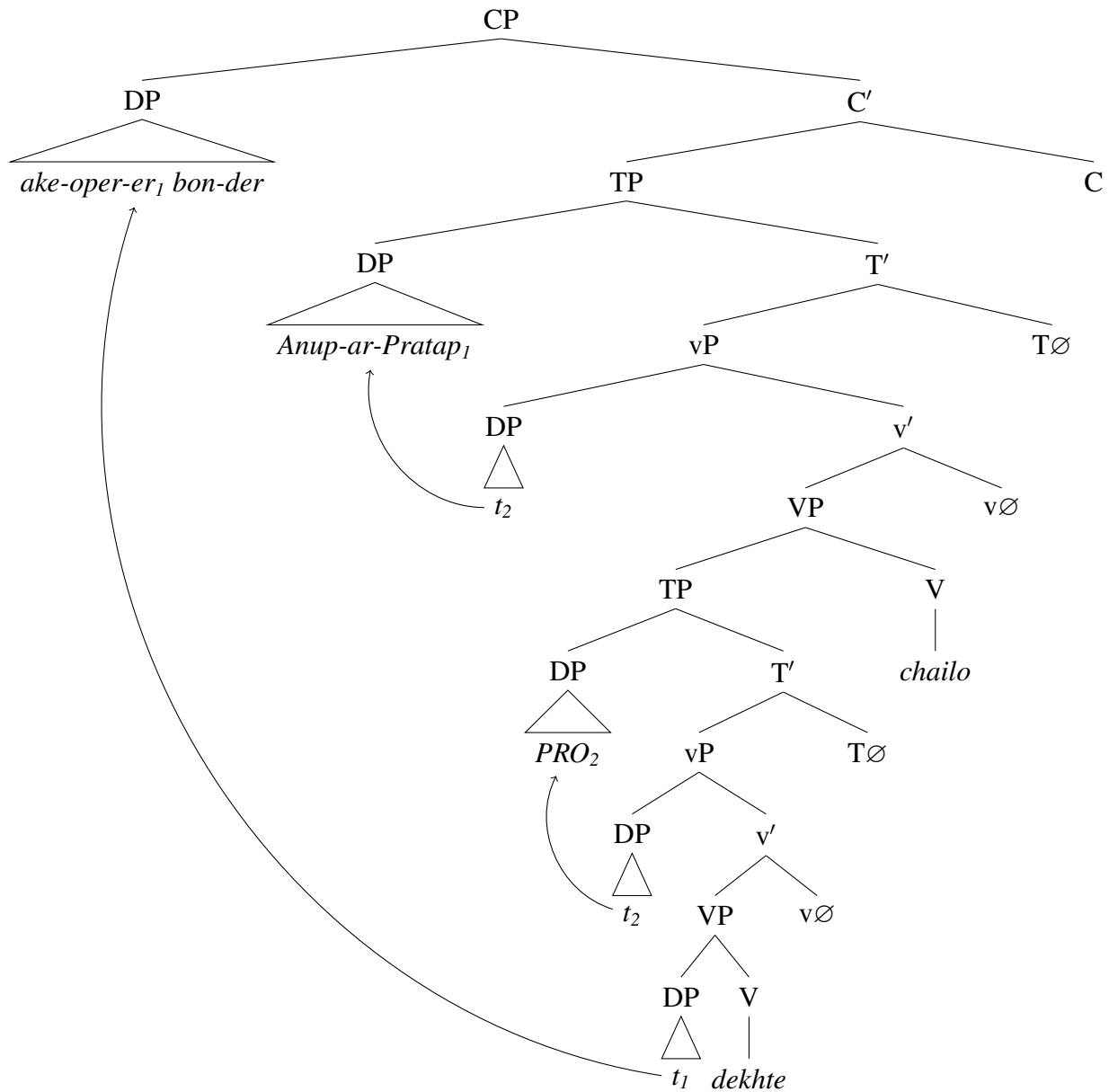


Anup-ar-Pratap ke ake-opor-er bon-ra dekh-te chailo
 'Anup and Pratap, each other's sisters wanted to see t₁.'

Movement out of non-finite clauses can also be A'-movement, as shown in (25), and derived in (26).

- (25) a. **Anup-ar-Pratap₁** [TP **ake-oper-er₁** bon-der dekh-te] chai-lo
 Anup and Pratap.NOM each other's sister- PL see-INF want-PST
 'Anup and Pratap wanted to see each other's sisters.'
 (Reciprocal pronoun is bound by Anup and Pratap.)
- b. [**ake-oper-er₁ bon-der**] **Anup-ar-Pratap₁** [TP t₁ dekh-te] chai-lo
 each other's sister-PL Anup and Pratap-ACC t₁ see-INF] want-PST
 'Each other's sisters, Anup and Pratap wanted to see.'

(26)



Ake-opor-er bon-der Anup-ar-Pratap dekhte chailo
 'Each other's sisters, Anup and Pratap wanted to see.'

(25-a) presents the basic word order, which follows both Conditions A and C of binding. (25-b) shows a grammatical sentence with scrambled word order that violates both binding conditions; the R-expression is bound, and the reciprocal pronoun is not. The grammaticality of (25-b) is evidence of reconstruction, and thereby of A'-movement.

2.3.2 Cross-clausal scrambling out of finite clauses

In Bangla, cross-clausal scrambling out of finite clauses does not display A-properties. While movement out of a finite sentence is possible, it does not lead to binding of the subject-internal pronoun *or ma* 'his/her mother' by the object *prot-ek baccha ke* 'every child', as shown in (27).

(27) *Weak crossover obviation*

- a. [o-r₁/*₂ ma] bhab-lo [CP je Anup **prot-ek₂ baccha-ke**
3SG-GEN mother.NOM think-PST that Anup.NOM every child-ACC
dekh-e-che]
see-PRF-PRS
'His/her mother thought that Anup had seen every child.'
- b. **prot-ek₂ baccha-ke** [o-r₁/*₂ ma] bhab-lo [CP je Anup **t₁**
every child-ACC 3SG-GEN mother.NOM think-PST that Anup.NOM **t₁**
dekh-e-che]
see-PRF-PRS
'His/her mother thought that Anup had seen every child.'

A bound reading is not obtained despite movement. Since this movement does not obviate weak crossover, it is thereby classified as an A'-movement. Reciprocal binding also provides supporting evidence. In (28), movement of *Anup-ar-Pratap* 'Anup and Pratap-ACC' over the reciprocal pronoun *ake opor er* 'each other's' does not lead to reciprocal binding. Hence, scrambling out of finite clauses is unambiguously A'-movement.

(28) *Reciprocal binding*

- a. *ake-oper-er₁ bon-ra bhab-lo [CP je Keya **Anup-ar-Pratap-ke**
each other's sister-PL think-PST that Keya.NOM **Anup-and-Pratap-ACC**
dekh-e-che]
see-PRF-PRS
'*Each other's sisters thought Keya had seen Anup and Pratap.'
- b. ***Anup-ar-Pratap-ke₁** ake-oper-er₁ bon-ra bhab-lo [CP je Keya **t₁**
Anup-and-Pratap-ACC each other's sister-PL think-PST that Keya.NOM **t₁**
dekh-e-che]
see-PRF-PRS
'Anup and Pratap, each other's sisters thought that Keya had seen t₁.'

In sum, Bangla exhibits the following properties in different scrambling environments:

- (29) vP-internal scrambling is unambiguously A-movement.
Clause-internal scrambling can be A- or A'-movement.
Cross-clausal movement out of non-finite clauses can be A- or A'-movement.
Cross-clausal movement out of finite clauses in unambiguously A'-movement.

The varying properties of movement in the different scrambling environments can be explained based on the structure of clauses and the positions targeted by A- and A'-movement.

3 A Position-Based Account of Bangla Scrambling

The positional properties of A- and A'-movement in Bangla mirror the properties of movement in Hindi, as shown in Keine (2018). Equivalent constructions in Bangla are used to determine the structure of clauses and the positions involved in A- and A'-movement.

3.1 The Structure of Embedded Clauses

Keine (2018) has demonstrated that in Hindi, finite clauses are CPs, whereas non-finite clauses, which lack a CP layer, are TPs. This difference in structure is determined based on two observations: Firstly, Hindi finite embedded clauses may contain the complementizer *ki*, but non-finite clauses may not. Secondly, interrogative scope is associated with finite clauses and not non-finite clauses, which means that non-finite clauses lack an embedded-question reading. The standard assumption that interrogative scope is associated with C explains why it is absent in non-finite clauses, which lack a CP layer. Furthermore, complementizers are also known to sit in C, and the lack of a CP layer explains why they are absent in non-finite clauses. Therefore, non-finite clauses are structurally smaller than finite clauses (Keine 2018) and are classified as TPs.

Similarly, Bangla finite clauses also may contain the complementizer *je* (30), but non-finite clauses may not (31).

(30) Apu bhab-lo [_{CP} **je** Keya shobai-ke dekh-e-che]
 Apu.NOM think-PST that Keya-ACC everyone see-PRF-PRS
 'Apu thought that Keya had seen everyone.'

(31) Apu [_{TP} ***je** Keya-ke dekh-te] chai-lo
 Apu.NOM *that Keya-ACC see-INF want-PST
 'Apu wants to see Keya.'³

Again, in Bengali, only finite clauses provide an interrogative scope position, but non-finite clauses do not. The *wh*-element *ki* 'what' takes *wh*-scope within the embedded finite sentence, like in Hindi (Keine 2018); a matrix-question interpretation is impossible because finite-clauses are islands for *wh*-scope. In non-finite clauses, however, an embedded-question interpretation is impossible, and the *wh*-element in (33) takes mandatory matrix scope.

(32) tumi jaano [_{CP} **je** o ki kor-e-che]
 you know that 3SG.NOM what do-PRF-PRS
 'You know what he did.'

³ This sentence might have a relative clause reading, as in "Apu, who wanted to see Keya"; or something like "Oh, but Apu wanted to see Keya!".

- (33) tumi [_{TP} ki kor-te] jaano?
 you what do-INF know
 ‘What do you know to do?’

The evidence therefore leads to the same conclusion for Bangla (33).

- (34) a. Finite clauses in Bangla are CPs.
 b. Non-finite clauses in Bangla lack a CP layer; they are TPs.

3.2 Positions Targeted by A- and A'-Movement

Once again, evidence from Hindi (Keine 2018) demonstrates that A-movement lands in Spec,TP (and TP-internal positions), whereas A'-movement lands in Spec,CP. Equivalent evidence proves this to be true for Bangla as well.

3.2.1 A-movement lands in Spec,TP (and TP-internal positions)

Keine (2018) presents novel evidence for Spec,TP, and TP-internal positions being the landing sites of the A-movement in Hindi. To demonstrate the same evidence in Bangla, an embedded non-finite clause is extraposed to the right to demarcate the right edge in (35). This extraposition ensures that movement does not lead to extraction out of the non-finite clause but remains within it.

- (35) Keya cheye chilo [_{TP} prot-ek meye-ke₁ [o-r₁ biye-r shomoy t₁ dekh-te]
 Keya.NOM want AUX every girl-ACC 3SG-GEN wedding-GEN time t₁ see-INF
 ‘Keya wanted to see every girl x during x’s wedding.’

The embedded DO *protek meye* ‘every girl’ moves over the adjunct *or biyer shomoy* ‘during her wedding’ and can bind the internal-pronoun *or* ‘her’ from its landing site. This is clear evidence of A-movement.

Since extraposition prevents movement outside the non-finite clause, the landing site of *protek meye* ‘every girl’ must be within the non-finite clause. Consequently, (35) demonstrates that A-movement can target a position internal to a non-finite clause. Furthermore, based on evidence that non-finite clauses are TPs that lack a CP layer, A-movement in Bangla must also land in Spec, TP and TP-internal positions.

3.2.2 A'-movement lands in Spec, CP

In contrast to A-movement, A'-movement targets TP-external positions in Hindi (Keine 2018). The same can be demonstrated for Bangla as well. (36) consists of sentences in a double embedding structure; a finite clause is embedded inside a non-finite clause, which is again embedded within a finite matrix clause.

(36) *A'-movement cannot land inside a non-finite clause*

- a. [CP ami chai [TP bol-te [CP je ami **boi-ta** pod-e niy-e-chi]
1SG.NOM want say-INF that 1SG book-CLF read take-PRF-PRS
'I want to say that I have read the book.'
- b. [CP *ami chai [TP **boi-ta** bol-te [CP je ami t₁ pod-e niy-e-chi]
1SG.NOM want **book-CLF** say-INF that 1SG t₁ read take-PRF-PRS
'*I want to **the book** say that I have read t₁.'
- c. [CP **boi-ta** ami chai [TP bol-te [CP je ami t₁ pod-e niy-e-chi]
book-CLF 1SG.NOM want say-INF that 1SG t₁ read take-PRF-PRS
'**The book** I want to say that I have read t₁.'

Both (36-b) and (36-c) depict movement out of finite clauses, and hence, must be A'-movement (given that finite clauses allow only A'-movement out of them, as demonstrated in section 2.3.3) Converging with evidence in Hindi (Keine 2018), the ungrammaticality of (36-b) demonstrates that A'-movement in Bangla cannot land inside a non-finite clause. On the other hand, (36-c) shows that A'-movement can land in finite clauses. Therefore, the ungrammaticality of (36-b) must stem from the difference in the structure of finite and non-finite clauses. While non-finite clauses, which obligatorily lack a CP layer, simply lack the "functional structure" needed for a A'-movement landing site, finite clauses, with their CP layer, can provide this landing site to A'-movement. This, therefore, must indicate that A'-movement targets TP-external, Spec,CP positions.

In sum, A- and A'-movement target the following positions in Bangla:

- (37) a. A-movement lands in Spec,TP (or TP-internal) positions
b. A'-movement lands in Spec,CP.

4 Discussion

The conclusions in (37) predict the different properties of A- and A'-movement in the different scrambling environments. Reiterating the observations presented in Section 2: vP-internal scrambling is unambiguously A-movement, whereas clause-internal movement may be both A- and A'-movement. Further, cross-clausal movement out of non-finite clauses again exhibit properties of both A- and A'-movement, but cross-clausal movement out of finite clauses can only be A'-movement.

The reason why movement in vP-internal scrambling can only be A-movement is because the VP-internal structure does not have the functional structure to provide a landing site for A'-movement. Clause-internal scrambling, on the other hand, can be both A- and A'-movement because the structure of the clause provides landing sites for both kinds of movement. A-movement, in binding relations, can move into Spec,TP, whereas, A'-movement can lead to reconstruction by occupying a higher Spec,CP position in the clause.

Furthermore, in cross-clausal environments, movement out of non-finite embedded clauses exhibits properties of both A- and A'- movement. This also follows from the fact that the structure of the non-finite clause can provide landing sites for both types of movement. A-movement out of the embedded non-finite clauses can land in the Spec,TP position of the higher clause. Again, non-finite clauses are transparent to A'-movement because movement out of a non-finite clause can land in the Spec,CP position of the higher clause, hence leading to reconstruction.

Movement out of a finite (i.e. CP) clause is unambiguously A'-movement; it can only target an A'-position. That is, movement out of an embedded finite clause must obligatorily proceed through Spec,CP of the embedded clause and therefore can only land in the Spec,CP position of the higher matrix clause but not a lower TP-internal position. This is described as a *Ban on Improper Movement*.

(38) *Ban on Improper Movement*

Movement out of Spec,CP must land in Spec,CP. Movement from Spec,CP to a TP-internal position is ruled out. (from Keine 2018:22)

Converging with the evidence in Hindi (Keine 2018), finite clauses in Bangla allow A'-movement out of them because such movement lands in Spec,CP of the higher clause. The lack of a CP layer in embedded non-finite clauses allows A-movement out of them.

The ban on A-movement out of finite clauses can also be explained in terms of phase-boundaries. A'-positions (Spec,CP) are generally known to be phase-edge positions, while A-positions (Spec,TP and TP-internal) are phase-internal positions. A-movement does not cross phase boundaries, and therefore, "movement may not proceed from a phase edge to a phase-internal position" (Keine 2018).

In conclusion, this study distinguishes the different types of movement involved in Bangla scrambling, and provides an account of the properties exhibited by A- and A'-movement in four scrambling environments using a position-based account.

Bangla-scrambling has also been known to exhibit right-ward movement (David 2015; Bhatt & Dayal 2007). This can be seen in the following example (39):

- (39) a. t_1 Joy-ke boi-ta di-lo **Rani**
 t_1 Joy-ACC book-CLF give-PST Rani.NOM
 'To Joy gave book, Rani.'
 b. am-ar t_1 ach-e **ek-ti darun dharona**
 1SG-GEN t_1 be-PRS one-CLF.DIM great idea
 'I have a great idea.'

The properties of right-ward scrambling in Bangla form the next crucial step in this research. Additionally, Bangla scrambling is also widely notes in wh-constructions. wh-elements can remain in-situ (40-a), undergo intermediate movement (40-b), or complete left-ward (40-c) and right-ward movement (40-d), as shown in (40).

- (40) a. Joy **ki** dilo Rani-ke boi ta? - Joy did give Rani the book?
 b. Joy boi-ta dilo **ki** Rani-ke? - Joy give did the book Rani?
 c. **?Ki** Joy dilo boi-ta Rani-ke? - Did Joy give the book Rani?
 d. Joy boi-ta Rani-ke dilo **ki**? - Joy the book Rani give did?

A comprehensive account of A'-movement in question-constructions warrants further examination.

Furthermore, certain speakers of Bangla agree to a bound reading in constructions involving movement out of finite clauses (27) as shown below:

(41) *Weak crossover obviation*

- a. [o-r₁/*₂ ma] bhab-lo [CP je Anup **prot-ek₂ baccha-ke**
3SG-GEN mother.NOM think-PST that Anup.NOM every child-ACC
dekh-e-che]
see-PRF-PRS
'His/her mother thought that Anup had seen every child.'
- b. **prot-ek₂ baccha-ke** [o-r₂ ma] bhab-lo [CP je Anup **t₁**
every child-ACC 3PL-GEN mother.NOM think-PST that Anup.NOM **t₁**
dekh-e-che]
see-PRF-PRS
'Every child x's mother thought that Anup had seen x.'

It is shown in (41-b) that movement out of finite clauses feeds binding, and therefore, evidence of A-movement, in contrast to the example in (27). This indicates that Bangla allows hyperraising out of finite clauses, also contrasting with the evidence in Hindi (Keine 2018). This variation seems to be conditioned upon the speakers' exposure to Hindi; the grammar of speakers of Bangla originating from Northern Indian states, with more influence from Hindi, seems to disallow such constructions, while speakers belonging to the state of West Bengal allow bound readings. The cause of such a variation, and its possible implications about Bangla's clausal structure, also make for an interesting avenue for further research.

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