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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 t_1 chali-e-chi   gotokal
         car-CLF 1SG.NOM t_1 drive-PRF-PRS yesterday
         'The car I drove yesterday.'

     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.'   (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

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[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-ke$_2$** 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-ke$_1$** o-r$_1$ ma   **t**$_1$ 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   **t$_1$**] daak-lo
        Anup-and-Pratap-ACC each.other-GEN mother.NOM **t$_1$** 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-r$_1$**   ma   kon-meye-ke$_1$ bok-lo?
        3SG-GEN mother.NOM which-girl-ACC scold-PST
        '*Which girl$_1$ did her$_1$ mother scold?'   (bound reading impossible)

    b.   *kon-meye-ke$_1$ **o-r$_1$**   ma   **t$_1$** bok-lo?
        which-girl-ACC 3SG-GEN mother.NOM **t$_1$** scold-PST
        'Which girl$_1$ did her$_1$ mother scold?'

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

(7) *Reciprocal binding*

    a.   *ake-opor-er$_1$ ma-ra   **kon du-to   baccha-ke$_1$** bok-lo?
        each other-GEN mother-PL.NOM **which two-CLF children-ACC** scold-PST
        '*Which two children$_1$ did each other's mothers scold?'

    b.   ***kon du-to   baccha-ke$_1$** ake-opor-er$_1$ ma-ra   **t$_1$** bok-lo?
        which two-CLF children-ACC each other's mother-PL.NOM **t$_1$** scold-PST
        'Which two children did each other's mother's t$_1$scold?'

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.   Apu$_1$ **o-r$_1$**   **kon chhobi** dekh-lo?
          Apu.NOM **3SG-GEN which picture** see-PST
          'Which picture of Apu$_i$ did he$_i$ see?'

       b.   **o-r$_1$**   **kon chhobi** Apu$_1$ **t$_1$** dekh-lo?
          3SG-GEN which picture Apu.NOM **t$_1$** 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-r$_{1/*2}$ 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.
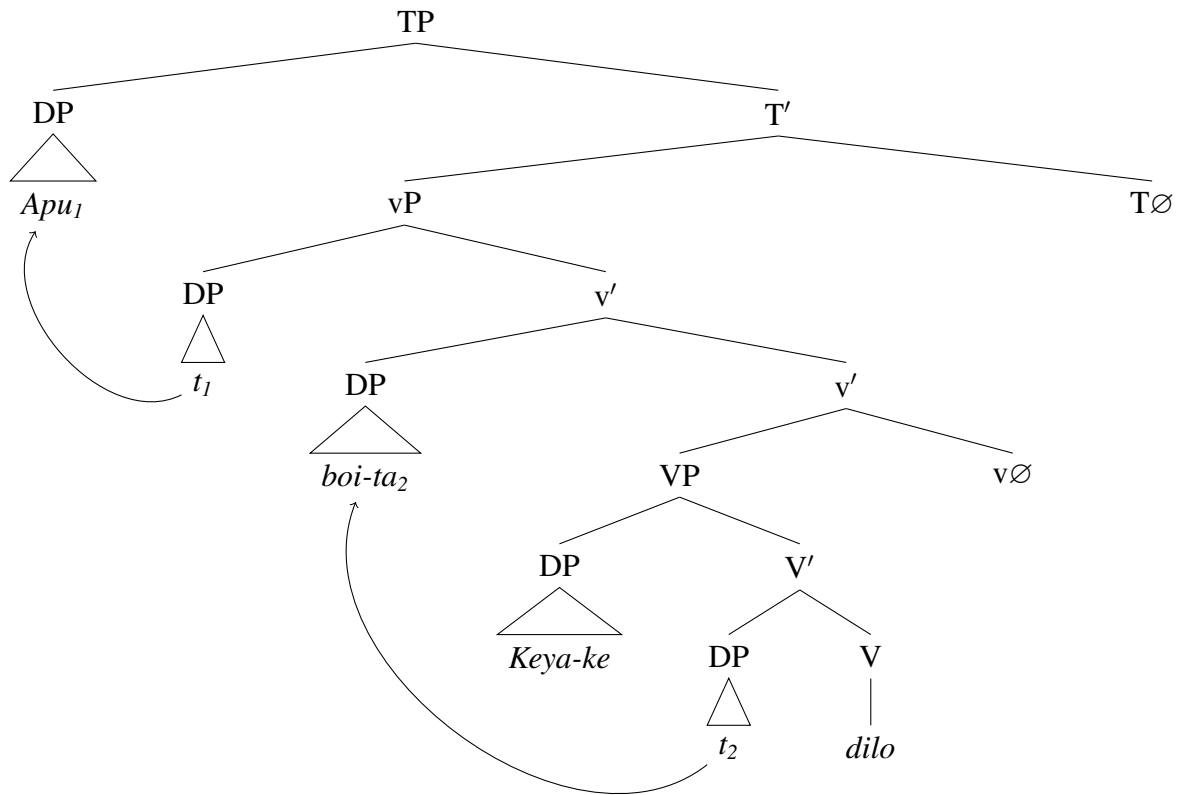
Using similar data, Sato & Goto (2014) demonstrate that vP-internal scrambling in Japanese also has A-properties. Furthermore, they show that vP-internal scrambling in Japanese is unambiguously A-movement and cannot be A'-movement. An equivalent construction demonstrates that this is also true in Bangla, 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   **t$_1$** alap-kora-lo]
          Joy.NOM   **each-other-GEN-with** Rani-and-Abhi-ACC **t$_1$** 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)

```
                              TP
                 ┌─────────────┴──────────────┐
                DP                            T′
                △                    ┌─────────┴──────────┐
              Apu₁                  vP                    T∅
                          ┌─────────┴─────────┐
                         DP                   v′
                         △          ┌──────────┴──────────┐
                         t₁        DP                     v′
                                   △           ┌──────────┴────────┐
                                 boi-ta₂       VP                  v∅
                                        ┌───────┴────────┐
                                       DP               V′
                                       △         ┌───────┴──────┐
                                     Keya-ke     DP             V
                                                 △              │
                                                 t₂            dilo
```

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).

8

(15) **_Weak crossover obviation_**

    a.   o-r$_1$ 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-ek$_1$ baccha-ke** o-r$_1$ ma   **t$_1$** dekh-lo
         every   **child-ACC** 3SG-GEN mother.NOM **t$_1$** 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-er$_1$ bon-ra_ **_Anup-ar-Pratap-ke$_1$_**   *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-ke$_1$_** *[ake-oper-er$_1$ bon-ra]* *t$_1$ daak-lo*
         Anup and Pratap-ACC Each other's sister- PL **t$_1$** call-PST
         'Anup and Pratap, each other's sisters called t$_1$.'

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

(17)
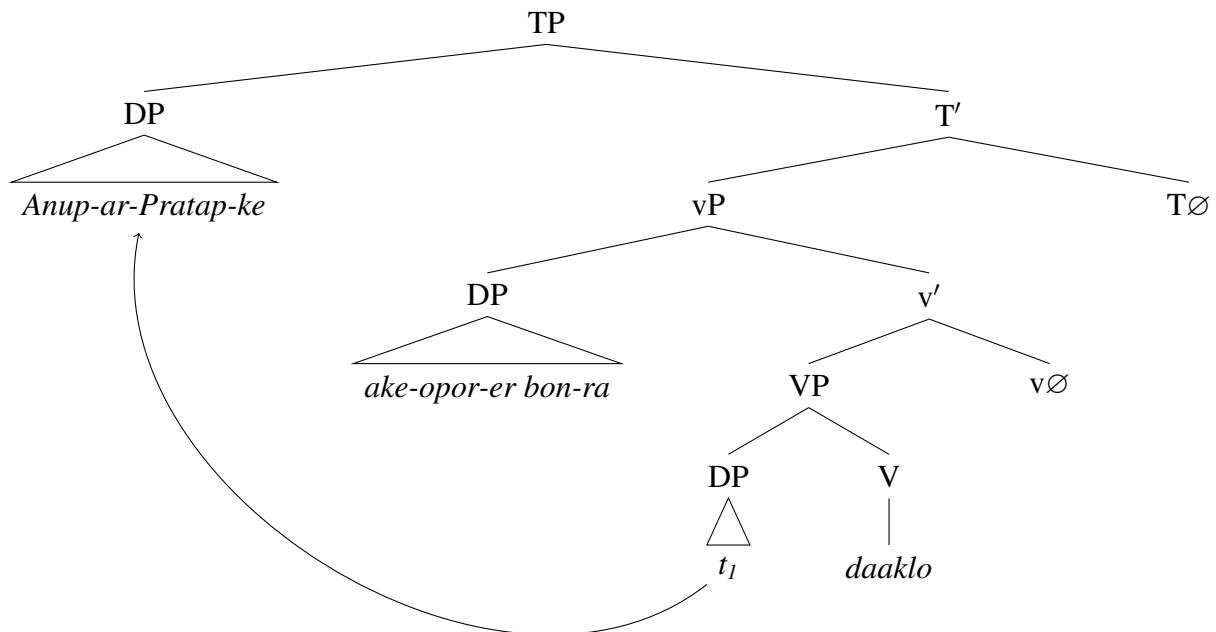
   *Anup-ar-Pratap-ke ake-opor-er bon-ra daaklo* 'Anup and Pratap, each other's sisters called t$_1$.'

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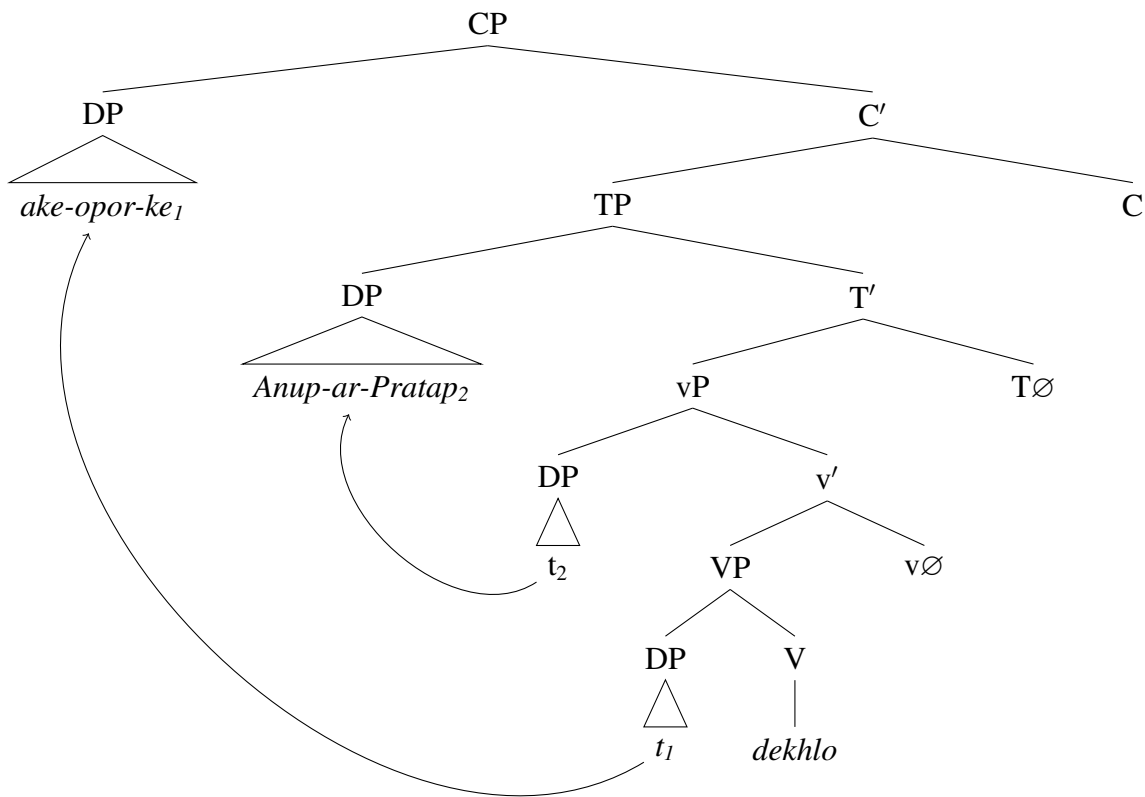
ake-opor-ke Anup-ar-Pratap marlo 'Each other, Anup and Pratap saw t₁

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   [$_{TP}$ **t$_1$** dekh-te] chai-lo
           Keya-ACC Apu.NOM   **t$_1$** see-INF want-PST

          'Keya, Apu wanted to see t$_1$.'

(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 **t$_1$** dekh-e-che]
           everyone-ACC Apu.NOM think-PST   that Keya **t$_1$** see-PRF-PRS

          'Everyone, Apu thought that Keya had seen t$_1$.'

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-ek$_2$ 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-ek$_1$ baccha-ke** [o-r$_1$ ma]   [$_{TP}$ **t$_1$** dekh-te] chai-lo
           every   child-ACC 3SG-GEN mother.NOM   **t$_1$** see-INF want-PST

          'For every child x, x's mother wanted to see x.'

(23) **Reciprocal binding**

    a. [*ake-oper-er$_1$ bon-ra] [$_{TP}$ **Anup-ar-Pratap-ke$_1$**   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-ke$_1$** [ake-oper-er$_1$ bon-ra] [$_{TP}$ **t$_1$** dekh-te] chai-lo

        Anup-and-Pratap-ACC Each other's sister- PL   **t$_1$** see-INF want-PST

        'Anup and Pratap, each other's sisters wanted to see t$_1$.'

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

(24)
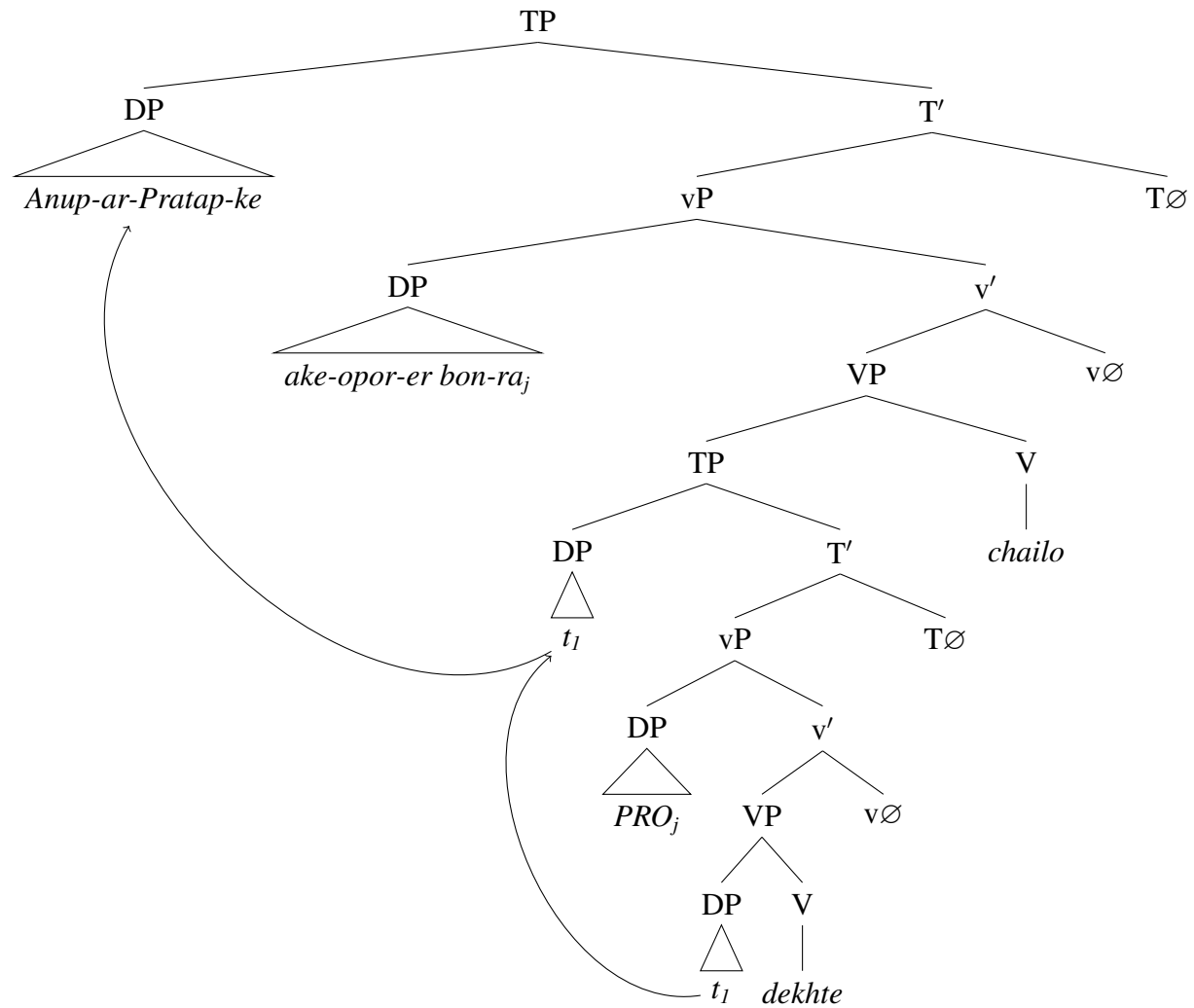
Anup-ar-Pratap ke ake-opor-er bon-ra dekhte chailo
'Anup and Pratap, each other's sisters wanted to see t$_1$.

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

12

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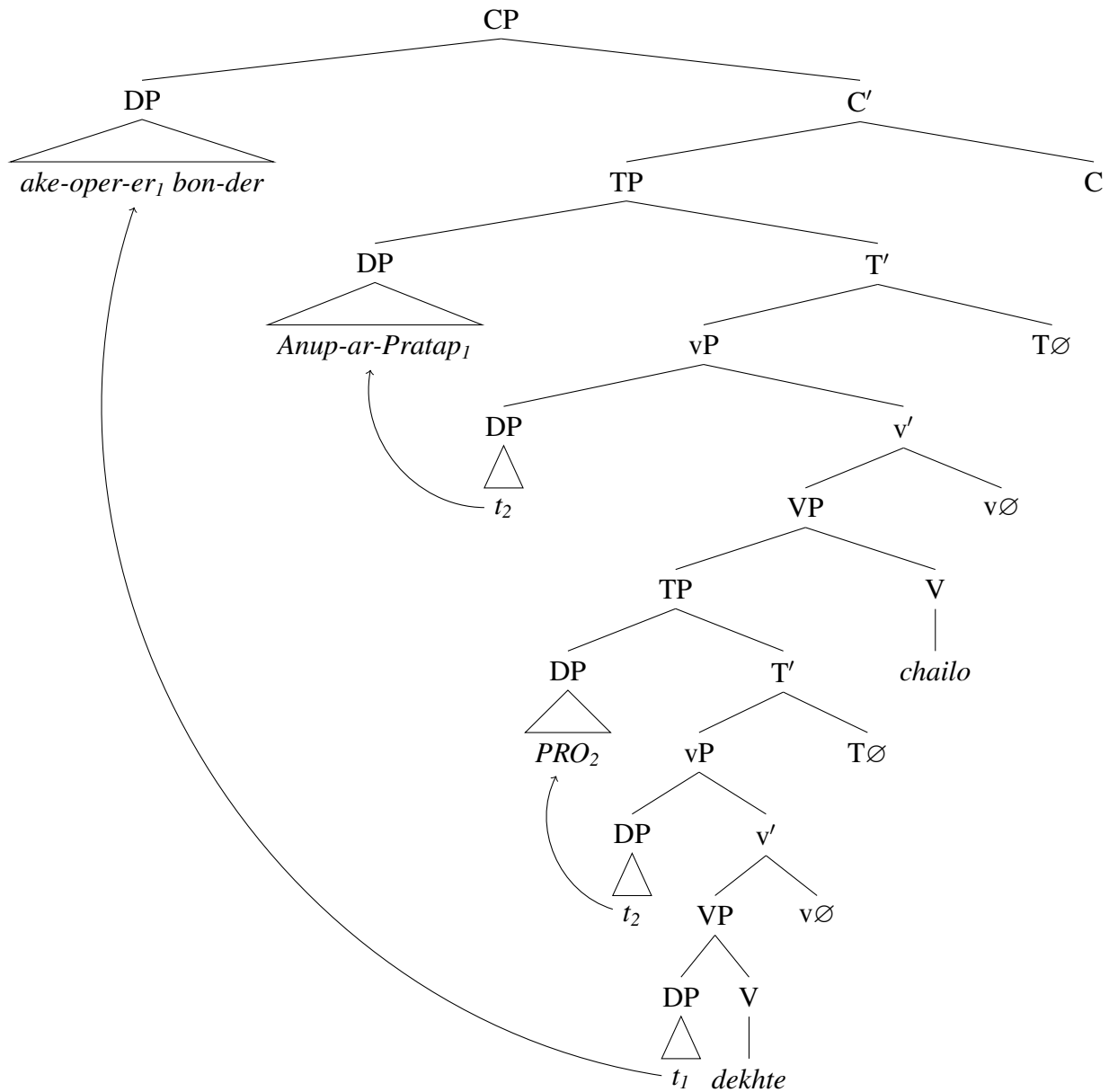
Ake-opor-er bon-der Anup-ar-Pratap dekhte chailo
'Each other's sisters, Anup and Pratap wanted to see.'

13

(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.   [$_o$-r$_{1/*2}$ ma]   bhab-lo   [$_{CP}$ je Anup   **prot-ek$_2$ 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-ek$_2$ baccha-ke** [$_o$-r$_{1/*2}$ ma]   bhab-lo   [$_{CP}$ je Anup t_1
         every   child-ACC 3SG-GEN mother.NOM think-PST   that Anup.NOM t_1
         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-er$_1$ 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-ke$_1$**   ake-oper-er$_1$ bon-ra   bhab-lo   [$_{CP}$ je Keya t_1
         Anup-and-Pratap-ACC each other's sister-PL think-PST   that Keya.NOM t_1
         dekh-e-che]
         see-PRF-PRS
         'Anup and Pratap, each other's sisters thought that Keya had seen t_1.'

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.

14

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-ke$_1$ [o-r$_1$ biye-r   shomoy **t$_1$** dekh-te]
      Keya.NOM want AUX   every   girl-ACC 3SG-GEN wedding-GEN time   **t$_1$** 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 **t$_1$** pod-e niy-e-chi]
        1SG.NOM want   **book-CLF** say-INF   that 1SG **t$_1$** read take-PRF-PRS
        '*I want to **the book** say that I have read t$_1$.'

   c. [$_{CP}$ **boi-ta**   ami   chai [$_{TP}$ bol-te [$_{CP}$ je ami **t$_1$** pod-e niy-e-chi]
        book-CLF 1SG.NOM want   say-INF   that 1SG **t$_1$** read take-PRF-PRS
        '**The book** I want to say that I have read t$_1$.'

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.   **t₁** Joy-ke boi-ta   di-lo   **Rani**
              t₁ Joy-ACC book-CLF give-PST Rani.NOM
              'To Joy gave book, Rani.'
         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.'

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-r$_{1/*2}$ ma]   bhab-lo   [$_{CP}$ je Anup   **prot-ek$_2$ 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-ek$_2$ baccha-ke** [o-r$_2$ ma]   bhab-lo   [$_{CP}$ je Anup   **t$_1$**
            every   child-ACC 3PL-GEN mother.NOM think-PST   that Anup.NOM **t$_1$**
            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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OBJECT MARKERS ARE REFLEXES OF MOVEMENT IN SHEKGALAGADI

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Abstract. In this paper, I propose that object markers (OMs) in Shekgalagadi are reflexes of object movement to a right-dislocated position. I present prosodic and morphological evidence of dislocation and argue that OMs influence interpretation more than corresponding nominal objects in ditransitive constructions. I also explore the pronominal "force" of OMs (Buell 2008:2) and whether DPs can only be dislocated if they are specific, or whether interpretation of specificity is dependent on their position at LF (Baker & Kramer 2018; Diesing 1992). I show that a speaker's interpretation of a sentence containing an indefinite object DP changes depending on whether the object remains in-situ or is moved to the dislocated position, and that the dislocated position allows a specific reading. I conclude by proposing that movement to a dislocated position is A-bar movement.

Keywords. Object marking; Double object constructions; A'-movement; Agreement; Object dislocation

1 Introduction

Bantu languages are highly agglutinative with rich verbal morphology and nominal agreement systems (Kisseberth & Odden 2003; Van der Wal 2022). Bantu verbal complexes encode predicative information in predictable "slots" (Güldemann 2003). Nominal agreement typically takes the form of prefixes on a verb stem and shows ϕ-features, such as person, number, and gender (Van der Wal 2022). Subject (SM) and object (OM) markers have different syntactic functions across Bantu languages, and may co-occur with a nominal argument in the same clause, potentially signaling agreement, or as a pronominal clitic with no co-referential nominal (Zeller 2014:348). Determining whether a subject or object marker is an agreement morpheme or an incorporated pronoun is difficult given its wide cross-linguistic variation and theories that account for confounding surface-level evidence, such as pro-drop for agreement markers that occur without a nominal DP, and clitic doubling for markers that occur in the same clause as their corresponding nominal DP (Baker & Kramer 2018; Riedel 2009; Rizzi 1986; Marten & Kula 2012).

In this paper, I propose that object markers (OMs) in Shekgalagadi are reflexes of object movement to a right-dislocated position. I also explore the pronominal "force" of OMs[1] (Buell 2008:2) and whether DPs can only be dislocated if they are specific, or whether interpretation of specificity is dependent on their position at LF (Baker & Kramer 2018; Diesing 1992). I focus on object marking because, compared to subject marking, object marking is "more restricted in its distribution and much less uniform across Bantu [languages]" (Riedel 2009:41). I begin by discussing typological and agreement properties of Shekgalagadi that are relevant to the current study and introduce Agree, which is parameterized to have upward probing in this language (Section 2). I

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[1] I use Buell's (2008) term "force" to illustrate that an OM may be interpreted as a pronoun used in place of a DP that has already been introduced in the discourse.

present prosodic and morphological evidence to show that nominal objects that have a corresponding OM are right-dislocated, and show that these right-dislocated objects have flexible ordering in ditransitive constructions. Given these facts, I propose that movement to this position is triggered by an EPP feature on a head that is a complement to TP, and that the movement is based on an anti-focus[2] feature on the object DP, which accounts for apparent locality violations in ditransitive constructions (Section 3). I then explore the syntax-semantics interface to explain the pronominal force that OMs have in Shekgalagadi by testing indefinite DPs that have overt ϕ-features in object positions (Section 4). I conclude by proposing that movement to the dislocated position may be A-bar movement given the need for reconstruction for variable binding, interpret results from other tests for A-bar movement, which are inconclusive, and summarize my analysis that OMs are reflexes of movement to a dislocated position (Section 5).

The data presented in this paper were elicited from a Shekgalagadi speaker, Kamogelo Mokgosi, who lives in Ncamasere, Botswana. He speaks the under-described Tjhauba variety of Shekgalagadi. In the first few elicitation sessions I asked him to translate sentences from English into Shekgalagadi. In later sessions I constructed my own Shekgalagadi sentences and asked him to judge the grammaticality of them. I provided contexts for each sentence to better understand how to interpret them. For example, when eliciting *Mosadi obidihayo* 'The woman gives it to them', I prompted him with "What does the woman do with the food and the dogs?" During grammaticality judgements, I used paradigms of examples to investigate where OMs may be used. These included adding and removing OMs from elicited sentences and using the conjunctive and disjunctive (labeled as DJ in the following examples) forms of verbs. Elicitations were conducted over Zoom and are publicly accessible with open access in the Shekgalagadi corpus in the Endangered Languages Archive (Everson 2023).

2 Properties of Agreement in Shekgalagadi

Verb stems in Shekgalagadi (ISO 639-3 xkv, Sotho-Tswana) consist of a verb root followed by a prefinal slot, which encodes tense, aspect, and mood (TAM) and extensions (which are used to form, for example, the applicative, passive, and reciprocal forms of Bantu verbs), and a final vowel that also encodes TAM (Güldemann 2003; Eberhard et al. 2022; Lukusa & Monaka 2008). The stem can be preceded by prefixes that encode subject and object marking[3], as well as additional TAM morphemes[4]. Shekgalagadi verbal complexes have obligatory subject-marking regardless of the presence of a nominal subject, as evidenced by the ungrammaticality of (1-c). Object marking is seemingly optional, since an OM can co-occur with a nominal object, as in (1-e); be absent in the presence of a nominal object, as in (1-a); or be present in the absence of a nominal object, as in (1-d).

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[2] Anti-focus is a feature that marks the discourse status of a DP (Zeller 2014; Cheng & Downing 2009). A DP marked with anti-focus does not introduce new information in the discourse.

[3] In the following examples, SMs are represented by a number. This represents the agreement class of the subject. OMs are glossed with a number, which is the object's agreement class, followed by OM.

[4] Pre-stem TAM morphemes are slotted between the SM and OMs (Crane 2009).

(1) a. mo-sadi   o-gy-a   bi-gyo
         1-woman 1-eat-FV.PRES 8-food
         'The woman eats food.'
     b. o-gy-a   bi-gyo
         1-eat-FV.PRES 8-food
         'She (cl 1) eats food.'
     c. *mo-sadi gy-a   bi-gyo
         1-woman eat-FV.PRES 8-food
         Intended: 'The woman eats food.'
     d. mo-sadi   o-bi-gy-ayo
         1-woman 1-8.OM-eat-DJ.PRES
         'The woman eats it (cl 8).'
     e. mo-sadi   o-bi-gy-ayo   bi-gyo
         1-woman 1-8.OM-eat-DJ.PRES 8-food
         'The woman eats it (cl 8), food.'

When SMs and OMs co-occur with a nominal DP, they show ϕ-feature agreement (in gender and number) with their corresponding DP. In the agreement operation, or Agree, a head probes for a DP goal that can satisfy its unvalued features (Chomsky 2000). Baker (2008) argues that Bantu languages are parameterized to have upward Agree probing. (2) demonstrates how the verbal complex in (1-a) receives agreement. Since the subject has moved to a position higher in the structure than the probe on T, it can value T's ϕ-feature. The object remains in-situ in a low position, therefore making it not eligible for feature valuation.

(2)
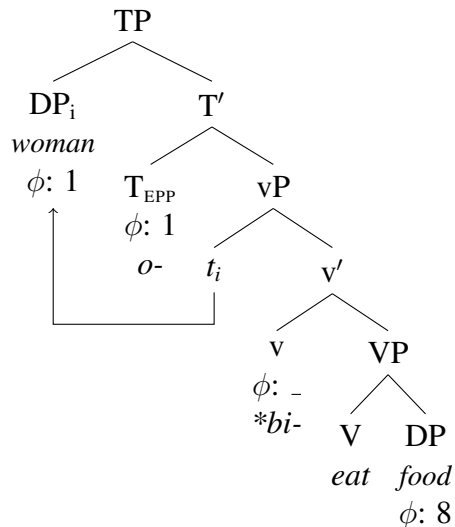
The function of OMs in Bantu languages is heavily discussed in typological and comparative research (Downing & Marten 2019; Van der Wal 2022; Baker & Kramer 2018). Downing & Marten theorize that there are 3 diachronic stages of an OM's function:

- Stage I: Purely anaphoric, can appear and co-refer with dislocated DP (sometimes classified as an incorporated pronominal clitic (Bresnan & Mchombo 1987; Bresnan & Moshi 1990)).

- Stage II: Anaphoric and agreement, can occur alone or with a co-referential DP, obligatorily present.

- Stage III: Purely agreement, cannot appear alone (2019:278).

Working under this generalization, it would seem that a language like Shekgalagadi, which has 'optional' object marking, would have purely anaphoric OMs. However, as Rizzi (1986) observes in Italian, an OM without a corresponding DP may still be an exponent of agreement with a null *pro* that has ϕ-features but no phonological realization. A better theory of this seemingly optional object marking, which I will use to analyze Shekgalagadi OMs in this paper, is that Agree and EPP are linked in Bantu languages (Carstens 2005; Pietraszko 2023) and OMs are reflexes of object movement to a dislocated position (Zeller 2014). This object can either be an overt nominal object or null *pro*. In both instances, the OM has the "force" of a pronominal clitic, meaning that it is anaphoric (Buell 2008:2).

3   Object Markers Agree with Dislocated Objects

Understanding the structure of a sentence with OMs and nominal objects in the same clause is imperative to the hypothesis presented here. To show that nominal objects with corresponding OMs are dislocated, I use prosodic and morphological evidence (Section 3.1) in addition to adjunct-like flexibility in nominal object ordering (Section 3.2). I then provide two theories of object movement to explain the relationship between OMs and nominal objects (Section 3.3).

3.1   Prosodic and Morphological Evidence of Dislocation

In Sotho-Tswana languages, as well as other Southern Bantu languages like Zulu, certain tenses have verbal morphology that encode conjunctive (conjoint, or short) or disjunctive (disjoint, or long) verb forms (Zeller 2014; Downing & Marten 2019; Creissels 1996; McCormack 2008). In Zulu, the conjoint form "is only possible...when the verb is followed by vP-internal material" (Zeller 2014:352), while the disjoint form indicates that there are no other vP-internal constituents. Example (3) demonstrates the conjoint form of the verb 'fall' with an overt object DP.

(3)   ke-b-a   ∅-buka]$_{vP}$
        1SG-drop-FV.PRES 9-book]$_{vP}$
        'I am dropping the book.'

Examples (4) and (5) demonstrate that, in the present tense, Shekgalagadi disjoint verbs have the suffix *-ayo-/-ago-*. The argument that nominal objects in constructions with disjoint verb forms are not in vP's domain is further supported by a prosodic break at the edge of vP. For example, in (5), there is a prosodic break between the verb and the object.

(4)   ke-i-b-ago
        1SG-9.OM-drop-DJ.PRES
        'I am dropping it (cl 9).'

(5) ke-i$_i$-b-ago   ]$_{vP}$ ∅-buka$_i$
     1SG-9.OM-drop-DJ.PRES]$_{vP}$ 9-book
     'I am dropping it, the book.'

Example (6) shows that a sentence-final verb cannot be in the conjoint form. There is no OM in a transitive sentence with the conjoint verb form.

(6) *ke-i-b-a
     1SG-9.OM-drop-FV.PRES
     Intended: 'I am dropping it (cl 9).'

In contrast with the above examples, in example (7), the speaker interprets a sentence with an OM, the conjoint verb form, and a vP-internal nominal object as adding a surplus constituent. The intended meaning of 'I am dropping the book' is not a valid interpretation. I constructed this sentence and Kamogelo mentioned that it was a sentence that "no Shekgalagadi speaker would say that way" with the intended meaning of 'drop,' but given that he could still interpret a meaning (and he didn't deem it ungrammatical, as with other sentences), I have marked it with #.

(7) #ke-i$_i$-b-a t_i ∅-buka$_{*i/j}$]$_{vP}$ *pro*$_i$
     1SG-9.OM-drop–FV.PRES t_i 9-book   ]$_{vP}$ *pro*$_i$
     'I am putting it (cl 9) on the book./*I am dropping the book.'

This interpretation of (7) shows that an OM can't correspond to a vP-internal object, showing that objects must be right-dislocated, as in (5).

3.2   Ditransitive Verbs Show Flexible Object Ordering

Shekgalagadi is a symmetric object marking language (Van der Wal 2022). Indirect objects (IOs) and direct objects (DOs) are targets for agreement, as the examples in (8) show. The Shekgalagadi verbal complex supports up to 3 OMs (Crane 2009). In ditransitives, IO and DO can be dislocated and can be swapped, but OM order is fixed for an intended interpretation. Example (8-a) shows that a verb can support both OMs for the IO and DO, and that the DO OM precedes the IO OM. (8-b) shows that it is possible to have one dislocated nominal object and one *pro* and maintain the intended interpretation. Examples (8-c) and (8-d) demonstrate that the ordering of the dislocated nominal objects doesn't effect the interpretation of the sentence, but (8-e) shows that reordering the OMs does.

(8) a. mo-sadi   o-bi-ba-h-ayo
         1-woman 1-8.OM-2.OM-give-DJ.PRES
         'The woman gives it (cl 8) to them (cl 2).'
     b. mo-sadi   o-bi-ba-h-ayo   ]$_{vP}$ bo-manchwe
         1-woman 1-8.OM-2.OM-give-DJ.PRES]$_{vP}$ 2a-ostrich
         'The woman gives it (cl 8) to them (cl 2), the ostriches.'
     c. mo-sadi   o-bi-ba-h-ayo   ]$_{vP}$ bi-gyo bo-manchwe
         1-woman 1-8.OM-2.OM-give-DJ.PRES]$_{vP}$ 8-food 2a-ostrich
         'The woman gives it (cl 8) to them (cl 2), the food to the ostriches.'

    d.   mo-sadi   o-bi-ba-h-ayo $]_{vP}$ bo-manchwe bi-gyo
          1-woman 1-8.OM-2.OM-give-DJ.PRES $]_{vP}$ 2a-ostrich   8-food
          'The woman gives it (cl 8) to them (cl 2), the ostriches the food.'
    e.   #mo-sadi o-ba-bi-h-ayo $]_{vP}$ bo-manchwe bi-gyo
          1-woman 1-2.OM-8.OM-give-DJ.PRES $]_{vP}$ 2a-ostrich   8-food
          'The woman gives it (cl 8) them (cl 2), the ostriches to the food.'

Examples (8-c) and (8-d) seemingly contradict a widely observed pattern in languages that allow multiple OMs, which is that "the order of object markers is the mirror image of the order of the corresponding overt NPs following the verb" (Marten & Kula 2012:15). Marten & Kula also discuss a set of Tswana examples similar to (8-c) and (8-e), and argue that "the order of object markers in Tswana is not strictly determined, but structurally free (although possibly associated with differences in pragmatic interpretation). It could still be argued that this is a mirror image in some sense, since the order of post-verbal full NPs is structurally unrestricted in Tswana as well, but this could also be taken to show that the order of neither object NPs nor object markers is strictly fixed" (2012:15). In their paper, however, they do not consider examples where the OM order and overt DP order are not mirror images, as in example (8-c). I hypothesize that (8-c) and (8-d) still conform to Marten & Kula's mirror generalization, and that the OMs in Shekgalagadi mirror the base-generated positions of the object DPs. Future work includes investigating the underlying structure of multiple dislocated DPs.

    Ditransitive constructions also create an environment to test for locality restrictions on object dislocation. The canonical word order in Shekgalagadi is S V ((IO) DO). According to the theory of Agree as proposed by Chomsky (2000), a head will agree with its most local (structurally closest c-commanded) target. Example (9) demonstrates that an IO (in this case, a null pronoun), which is more local to the verb, is dislocated and object-marked, which is expected under this theory. However, (10) shows that the DO, which is not the most local DP, may also be dislocated and object-marked.

(9)   mo-sadi   o-mo-h-a t_i bi-gyo $]_{vP}$ *pro$_i$*
        1-woman 1-1.OM-give-FV.PRES t_i 8-food $]_{vP}$ *pro$_i$*
        'The woman gives him (cl 1) food.'

(10)   mo-sadi   o-bi-h-a   mo-lola t_i $]_{vP}$ *pro$_i$*
        1-woman 1-8.OM-give-FV.PRES 1-man t_i $]_{vP}$ *pro$_i$*
        'The woman gives it (cl 8) to the man.'

To account for this apparent locality violation, movement must be driven by a feature on a DP rather than locality alone. In the following subsection, I discuss the mechanics of object dislocation. I explore two proposed theories of object dislocation in a related language, Zulu, and apply them to Shekgalagadi data.

3.3 The Mechanics of Object Dislocation

Zeller (2014) proposes that objects originate in a low structural position and move to a position higher than vP, enabling upward Agree probing. His proposal includes a category (labeled as X)

between vP and T to house the moved object, as shown in (11).

(11)   Proposed structure from Zeller (2014) (AF = Anti-Focus):

```
                              TP
                  ┌───────────┴───────────┐
                DPᵢ                       T′
                 I              ┌──────────┴──────────┐
              φ: 1SG          T_EPP                   XP
                              φ: 1sg        ┌──────────┴──────────┐
                               ke-         X′                    DPⱼ
                                      ┌─────┴─────┐              book
                                   X_EPP+AF       vP            φ: 9
                                    φ: 9      ┌────┴────┐        +AF
                                     i-      tᵢ         v′
                                                   ┌────┴────┐
                                                   v        VP
                                                        ┌────┴────┐
                                                        V        tⱼ
                                                       drop
```
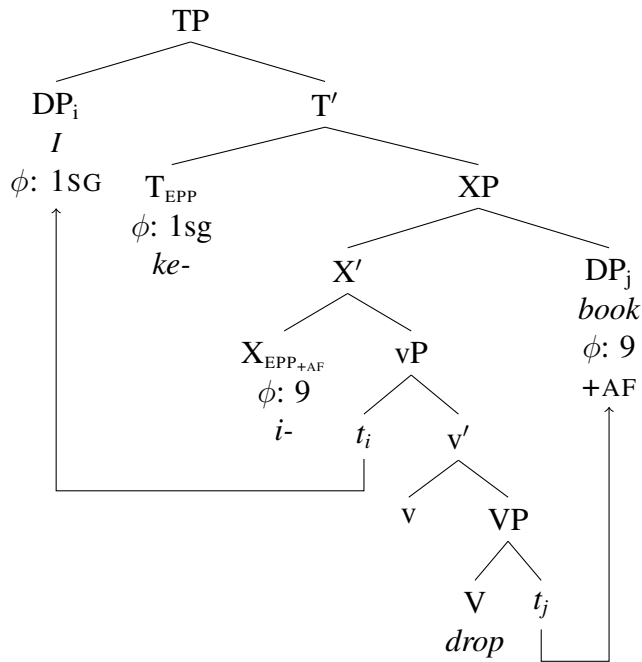
While this proposal provides the necessary structure to allow agreement with an object DP, it requires an order of operations to ensure that the subject DP occupies SpecTP before object dislocation occurs, since the dislocated object position is higher than the base-generated subject position. For this reason, I adopt Pietraszko's (2023) proposed structure instead, shown in (12).

(12)   Proposed structure from Pietraszko (2023:34):

```
                              XP
                 ┌─────────────┴─────────────┐
                X′                           DPⱼ
          ┌──────┴──────┐                   book
          X            TP                   φ: 9
        EPP_AF    ┌─────┴─────┐             +AF
                 DPᵢ          T′
                  I      ┌────┴────┐
                φ: 1SG   T         vP
                        EPP    ┌───┴───┐
                       φ: 1SG  tᵢ      v′
                        ke-        ┌───┴───┐
                                   v       VP
                                  φ: 9  ┌──┴──┐
                                   i-   V    tⱼ
                                       drop
```
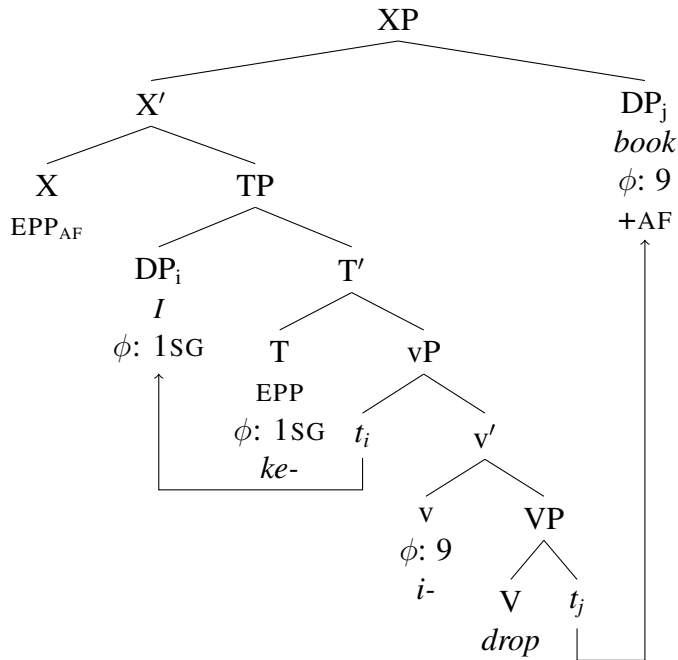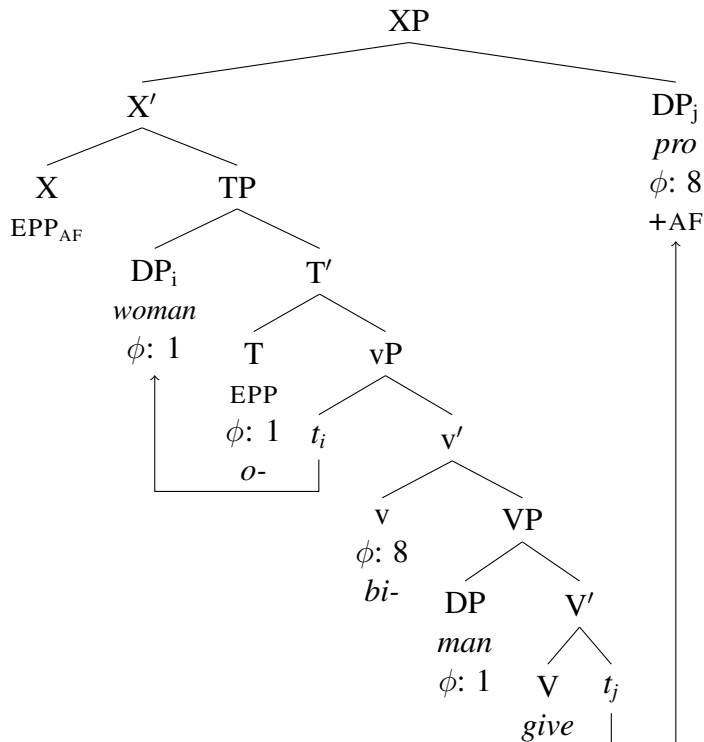
This AF-probing analysis allows the apparent minimality violation in sentence (10), in which a DO object-marks across a nominal IO. The tree in (13) adapts Pietraszko's (2023) proposed structure to a ditransitive verb with an OM and dislocated DO.

(13)   Tree for sentence (10):

```
                              XP
                 ┌─────────────┴─────────────┐
                X′                           DPⱼ
          ┌──────┴──────┐                   pro
          X            TP                   φ: 8
        EPP_AF    ┌─────┴─────┐             +AF
                 DPᵢ          T′
                woman    ┌────┴────┐
                φ: 1     T         vP
                        EPP    ┌───┴───┐
                       φ: 1    tᵢ      v′
                        o-         ┌───┴───┐
                                   v       VP
                                  φ: 8  ┌──┴──┐
                                   bi-  DP    V′
                                       man  ┌──┴──┐
                                       φ: 1 V    tⱼ
                                           give
```

The sentences in example set (8) show that multiple objects may be dislocated. In this scenario, the order of OMs matters for interpretation, while the order of corresponding nominal objects may mirror the OMs, as expected, or be in the inverse order. This sets Shekgalagadi apart from related languages like Zulu, in which only the IO can control agreement when both objects are dislocated (Pietraszko 2023:36). In Shekgalagadi, the EPP feature and the ϕ-agreement probe are both insatiable (Pietraszko 2023; Deal 2015). The flexibility in dislocated object ordering is difficult to account for in Pietraszko's (2023) movement-based theory. Perhaps the SpecXP position contains an unordered set of DPs that have been dislocated. Under this hypothesis, dislocated DOs and IOs are structurally equivalent and can be pronounced in any order.

The observable prosodic break between vP-internal material and dislocated objects mentioned in Section 3.1 and the flexibility in dislocated nominal object ordering in 3.2 suggest that OMs, or structures that allow object agreement, affect the interpretation of a sentence. Exploring the interface between syntax and semantics may enhance the current theory and account for the flexibility observed here. In the following section, I discuss the relationship between object position at LF and a speaker's interpretation of specificity. I propose that dislocated objects lead to a pronominal interpretation of OMs and show that types of nominals that are not as straightforwardly referential can be dislocated and trigger agreement on the verb (Baker & Kramer 2018).

4   The Pronominal Force of OMs is Derived from Structural Position

An underlying property of OMs that is relevant to the current study is their interpretation as pronouns at LF. The current working theory in this paper is that OMs are reflexes of object movement. However, it seems that only objects that can be interpreted as specific are eligible for this type of movement. Baker & Kramer hypothesize that "less than fully referential nominals" cannot be doubled by OMs, and argue that Amharic OMs are pronominal clitics partially because of this specificity interpretation (2018:1037). While the previous sections have made it clear that objects move from their base-generated site to the right-dislocated position, this issue of specificity should still be explored as a possible constraint.

It is likely that this observable phenomenon in which object-marked DPs are interpreted as specific is due to their structural position that allows them to Agree, rather than a feature on the DPs themselves. According to Diesing, vP "corresponds to the nuclear scope and forms the domain of existential closure" (1992:377), meaning that indefinite DPs that remain within vP at LF are interpreted as non-specific. Baker & Kramer also use this observation to diagnose the function of OMs in Amharic, as nominal objects may remain in-situ and still be doubled by corresponding pronominal clitics (2018). The arguments presented in the current study align well with this hypothesis, since movement to a dislocated position removes DPs from this existential domain, allowing moved DPs to be interpreted as specific. This also naturally explains why *pro* is always dislocated; *pro* always has the anti-focus feature, since it is a dropped pronoun. Evidence from related language Zulu also supports the hypothesis that "focused, indefinite, and bare nouns cannot be right-dislocated" (Buell 2008:10).

In this section I will show that Diesing's (1992) hypothesis accounts for the way Shekglagadi nominals are interpreted, and that the post-movement object position is what feeds an interpretation

of specificity. The types of nominals that I will use to explore this hypothesis are those which Baker & Kramer identify as "less than fully referential": universally quantified DPs (Section 4.1); indefinite NPs (Section 4.2); and interrogative DPs (Section 4.3)[5] (2018:1037).

4.1 Universally Quantified DPs

It appears that universally quantified DPs can move to the dislocated position, leaving a quantifier in-situ. Example (15) demonstrates how the nominal object in (14) can be represented by *pro* and moved to the dislocated position. The conjoint verb form suggests that the quantifier is stranded in (15), leaving it within vP. *pro* must be base-generated low to value the ϕ-features on the quantifier, then moved to a dislocated position to value the ϕ-features in the verbal complex.

(14)   ba-gya di-awu j-othe   ]$_{vP}$
        2-eat   10-fish 10.QUANT-all]$_{vP}$
        'They (cl 2) eat all the fish.'

(15)   ba-di-gya t_i j-othe   ]$_{vP}$ *pro$_i$*
        2-10.OM-eat t_i 10.QUANT-all]$_{vP}$ *pro$_i$*
        'They (cl 2) eat them (cl 10) all.'

The interpretation in (15) could still possibly be a specific reading, as if to say "They eat them all, the fish that were available to eat" rather than a generic reading of "They eat them all, the fish in the world." This flexibility in interpretation is accounted for by Diesing's (1992) theory that vP-external DPs may receive both specific and non-specific interpretations. To complete the paradigm, (16) shows how the quantified phrase with a nominal object can be fully dislocated, and (17) shows that a quantified phrase with *pro* can also be fully dislocated.

(16)   ba-di-gy-ago   ]$_{vP}$ hombe di-awu j-othe
        2-10.OM-eat-DJ]$_{vP}$ today   10-fish 10.QUANT-all
        'They (cl 2) eat them (cl 10) today, all the fish.'

(17)   ba-di-gy-ago   ]$_{vP}$ hombe *pro* j-othe
        2-10.OM-eat-DJ]$_{vP}$ today   *pro* 10.QUANT-all
        'They (cl 2) eat them (cl 10) all today.'

It is possible that the speaker's interpretation of specificity would change based on a configuration like (16) (specific due to high structural position) compared to (14) (non-specific due to low structural position), but these readings were not distinguishable during elicitations. Further examples and a larger speaker sample would improve this analysis.

---

[5] Reflexive anaphors, a fourth type explored in Baker & Kramer's paper, are excluded from the present analysis, since these constructions are formed by adding the prefix *-i-* in the OM position, and this morpheme is in complementary distribution with OMs (Lukusa & Monaka 2008:144)

4.2 Indefinite NPs and NPIs

A better test of the specificity constraint is indefinite NPs. Indefinite NPs are difficult to elicit in Shekgalagadi since there is no morphological distinction between "the dog" and "a dog." NPIs provide a good testing environment for indefinite NPs (Riedel 2009; Buell 2008). Example (18) shows that NPIs have ϕ-features, as they trigger agreement when in the subject position.

(18) di-itchwa di-pe   ase-di-bwal-e   mo-lola
      10-dog   10-any NEG-10.OM-see-FV.PST 1-man
      'No dogs saw the man.'[6]

It is evident that NPI quantifiers cannot be stranded like the quantifier in (15). First, consider example (19), which shows the quantifier "any" in the object position:

(19) ase ba-bwal-e   di-itchwa di-pe
      NEG 2-see-FV.PST 10-dog   10-any
      'They (cl 2) didn't see any dogs.'

Comparing (15) (stranded universal quantifier) to (20), the NPI quantifier "any" may appear without a nominal DP, but there is no OM in the verbal complex, which shows that there is no corresponding dislocated *pro*. Therefore, it seems that *pro* and the quantifier remain in-situ:

(20) ase ba-bwal-e   *pro* di-pe]$_{vP}$
      NEG 2-see-FV.PST *pro* 10-any]$_{vP}$
      'They (cl 2) didn't see any (cl 10).'

The negation morpheme is not part of the NPI, as shown in (21). (21) also shows that an OM and null *pro* changes the interpretation to a reference to specific animals.

(21) ase ba-di-bwal-e
      NEG 2-10.OM-see-FV.PST
      Intended: 'They (cl 2) didn't see any (cl 10, non-specific).'
      Interpreted: 'They (cl 2) didn't see them (cl 10, referring to specific animals people were looking for).'

An OM and a dislocated NPI phrase yields an ungrammatical sentence. This is likely due to the specificity interpretation that dislocated objects receive, and in (22), a reading where the DP is specific isn't possible.

(22) *ase ba-di-bwal-e   di-pe
      NEG 2-10.OM-see-FV.PST 10-any
      Intended: 'They (cl 2) didn't see any (cl 10).'
      Interpretation[7]: "They have seen them, nothing."

---

[6] The past tense doesn't have morphological markers signifying conjoint or disjoint forms. It is possible that there is a tonal distinction, as proposed by Chebanne et al. (1997).

[7] Kamogelo gave this interpretation and said that it is not an acceptable sentence because the OM is referring to something that doesn't exist.

Buell notes that "the fact that some NPIs are clearly VP-external further shows that bare nouns must remain inside the VP not in order to be licensed by negation, but due to some other property such as indefiniteness, non-givenness, or focus" (2008:10). As observed by Diesing (1992), the structural position of a DP determines its definite or indefinite interpretation, and NPIs in Shekgalagadi that can't be interpreted as specific appear to not be eligible for movement to the dislocated, structurally high position.

4.3   Interrogatives

Shekgalagadi interrogatives are DPs that clearly have ϕ-features, as they trigger subject agreement. (23) and (24) show this agreement, and demonstrate that the ϕ-features are those that are inherent to the lexical items "who" and "what (sg)" respectively.

(23)   ke   anyi **yo**   **o**-go-relesh-el-ayo
       COP who 1.LINK 1-2SG.OM-cook-APPL.DJ
       'Who cooks for you?'
       Lit: 'Who is it that he/she cooks for you?'

(24)   ke   enyi **she**   **shi**-gy-a ma-bele   mo-tshimo-ng
       COP what 7.LINK 7-eat-FV 6-sorghum 18-field-LOC
       'What is eating the sorghum in the fields?'
       Lit: 'What is it that it (cl 7) eats the sorghum in the fields?'

Interrogative object DPs may remain in-situ, as shown in (25) and (26). In (26), as with the similar declarative example (7), the OM is interpreted as an additional constituent rather than as co-referential with the nominal object interrogative DP.

(25)   o-relesh-el-a   anyi ∅-nama
       2SG-cook-APPL-FV who 9-meat
       'Who do you cook meat for?'
       Lit: 'You cook who meat?'

(26)   #o-shi-gya   enyi
       2SG-7.OM-eat what
       'What part do you eat of it (cl 7)?/*What (cl 7) do you eat?'

Interrogative constructions may involve clefting question words in Shekgalagadi. This process moves the content of the question into a relative clause, similar to Chichewa (McCormack 2008:109). Clefted interrogative nominals have corresponding OMs, as in (27)-(29). (27) and (28) show a singular and plural pairing of the interrogative that is the equivalent of 'what' in English. (29) shows that the OM must be present in the relative clause for grammaticality.

(27)　ke **enyi** she　　mo-sadi　o-**shi**-go-h-ayo
　　　COP what 7.LINK 1-woman 1-7.OM-2SG.OM-give-DJ
　　　'What (cl 7) is it that the woman is giving you?'
　　　Lit: 'What is it that the woman is giving you it (cl 7)?'

(28)　ke **enyi** ze　　mo-sadi　o-**bi**-go-h-ayo
　　　COP what 8.LINK 1-woman 1-8.OM-2SG.OM-give-DJ
　　　'What (cl 8) is it that the woman is giving you?'
　　　Lit: 'What are these that the woman is giving you them (cl 8)?'

(29)　*ke **enyi** ze　　mo-sadi　o-∅-go-h-ayo
　　　COP what 8.LINK 1-woman 1-∅-2SG.OM-give-DJ
　　　Intended: 'What (cl 8) is it that the woman is giving you?'

(27) and (28) suggest that clefted wh-words are base-generated in the complement of V and dislocated (for agreement with v). Alternatively, it is possible that clefted wh-words are base-generated in the clefted position, and the OM is agreeing with *pro* in a dislocated position. This is supported by example (30), in which a nominal object occupies this position while maintaining the intended interpretation.

(30)　ke **enyi** she　　mo-sadi　o-**shi**-go-h-ayo　　**shi-lo**
　　　COP what 7.LINK 1-woman 1-7OM-2SG.OM-give-DJ 7-thing
　　　'What (cl 7) is the thing that the woman is giving you?'
　　　Lit: 'What is it that the woman is giving you the thing (cl 7)?'

Given the above examples and discussion about interpretation of specificity being designated by an object's structural position, it's possible that a sentence like (30) would be uttered in a context where the speaker watched a woman give an object to the listener, and the speaker is asking for clarification on what it is (knowing that she gave the listener something). Eliciting more examples with proper contexts would be necessary to further diagnose this interpretation.

　　Through these constructions involving "less than fully referential nominals," I've shown that OMs in Shekgalagadi are agreement morphemes and not incorporated pronominal clitics due to their dependency on anti-focused nominal and null objects moving to a right-dislocated position. I've also argued that Diesing's (1992) hypothesis that structurally low DPs are interpreted as focused or non-specific, while higher (dislocated) DPs take on a specific reading, holds for Shekgalagadi data.

5　Discussion

In this paper, I have argued that OMs are reflexes of object movement to a dislocated position, which is driven by an insatiable EPP feature on a head higher than T that probes for DP_{+AF}, but I haven't made any claims about what type of movement is involved. I wrap up this analysis by presenting evidence that movement to the dislocated position is A-bar movement. I also present coordinated phrase movement to show a property of agreement that hasn't been explored yet here.

5.1 A-Bar Movement

Until now, I have not diagnosed the type of movement involved in this theory. From my elicitations on universally quantified DPs, I discovered that DOs that are bound by universally quantified IOs may still be interpreted as bound when dislocated. Example (31) shows this binding.

(31)   ke-bi-h-a $\emptyset$-itchwa$_i$ i-ngwe ni   i-ngwe]$_{vP}$ hombe bi-gyo z-ayo$_i$.
      1SG-8.OM-give-FV 9-dog   9-some COORD 9-some]$_{vP}$ today   8-food 10-9.POSS.PRO
      'I am giving it to each dog today, its food.'

Reconstruction is required to make the DO 'its food' refer to each dog, since 'its food' is an anaphor DP that must be bound. In (31), this DP is outside of the binding domain of 'each dog' after movement to the dislocated position. Reconstruction for binding is a property of A-bar movement, suggesting that object right-dislocation in Shekgalagadi is A-bar movement. I attempted to further prove fact this by showing that a DO bound by an IO can be dislocated. I elicited the sentences in (32)-(34) by asking the speaker to translate "I showed Theo a video of himself." In English, the IO ("Theo") would bind an anaphor in the DO ("a video of himself"). In Shekgalagadi, an equivalent sentence is made using the possessive pronoun.

(32)   ke-shup-egezize   Theo$_i$ $\emptyset$-video y-agwe$_i$.
      1SG-show-APPL.PST Theo 9-video 9-1.POSS.PRO
      'I showed Theo his video.'

(33)   ke-mo$_i$-e-shup-egeziz-ego   ]$_{vP}$ hombe $\emptyset$-video y-agwe$_i$.
      1SG-1.OM-9.OM-show-APPL.PST-DJ]$_{vP}$ today   9-video 9-1.POSS.PRO
      'I showed him it (cl 9) today, his video.'

(34)   ke-e-shup-egezize   Theo$_i$]$_{vP}$ hombe $\emptyset$-video y-agwe$_i$.
      1SG-9.OM-show-APPL.PST Theo]$_{vP}$ today   9-video 9-1.POSS.PRO
      'I showed Theo it (cl 9) today, his video.'

It is clear that "his video" is a possessive construction and not an anaphor, since it can be used sentence-initially, as in (35).

(35) $\emptyset$-video y-agwe   ya-wa.
      9-video 9-1.POSS.PRO 9-fall
      'His video (just now) dropped.'[8]

While this test is inconclusive, it does not invalidate the observation made in Section 4.1. The fact that quantified IOs may bind dislocated DOs warrants further investigation of A-bar object movement in Shekgalagadi.

---

[8] Subject markers in Shekgalagadi have different forms that "co-occur with various markers of tense, aspect, and mood" (Crane 2009:232). This marker is the immediate past class 9 SM. This also might explain why the verb doesn't have a morpheme signifying a disjoint construction, since not all tenses have this form.

5.2 Applying the Movement Theory to Coordinated Phrases

So far, I have shown that OMs agree with dislocated objects, seemingly in the order of dislocation (IOs first, then DOs in ditransitives). Because of this, OM agreement seems to happen at the same time as movement (Pietraszko 2023; Carstens 2005). Contrary to this observation, one type of movement operation creates two possible agreement targets: coordinated phrase movement. A verb may show agreement with the entire coordinated phrase or just the first conjoint. When agreeing with an entire coordinated phrase consisting of two or more nouns in different noun classes, as in (36), the agreement OM will take the form of class 2 (for coordination with an animate noun) or 8 (for coordination between 2 inanimate nouns, as in (37)).

(36)   ke-but-a   mo-hakga ni   le-helo]$_{vP}$
        1SG-break-FV 3-knife   COORD 5-broom]$_{vP}$
        'I am breaking the knife and the broom.'

(37)   ke-bi-but-ago   ]$_{vP}$ *pro*
        1SG-8.OM-break-DJ]$_{vP}$ *pro*
        'I am breaking them (cl 8, prompted by: "What is happening to the broom and the knife?").'

Shekgalagadi also allows agreement with the first element in a coordinated phrase, as in (38). In this instance, the coordinated phrase must be moved to the dislocated object position, as shown by the ungrammaticality of example (39). As discussed in Section 3.1, the conjoint verb form signifies that the coordinated phrase remains in-situ.

(38)   ke-le$_i$-but-ago   ]$_{vP}$ le-helo$_i$ ni   mo-hakga
        1SG-5.OM-break-DJ]$_{vP}$ 5-broom COORD 3-knife
        'I am breaking it (cl 5), the broom and the knife.'

(39)   *ke-le$_i$-buta   le-helo$_i$ ni   mo-hakga]$_{vP}$
        1SG-5.OM-break 5-broom COORD 3-knife   ]$_{vP}$
        'I am breaking it (cl 5), the broom and the knife.'

The first element in a coordinated phrase may be *pro*, shown in example (40). A coordinated phrase with *pro* cannot remain in-situ, which is shown in example (41). In comparison to example (17) in which a quantifier can be stranded, it seems that coordinated phrases cannot be stranded by the first conjunct. The sentence in (41) could be derived if this were possible, since *pro* could be dislocated, but coordinated phrases appear to be islands in Shekgalagadi.

(40)   ke-le-but-ago   ]$_{vP}$ *pro* ni   mo-hakga
        1SG-5.OM-break-DJ]$_{vP}$ *pro* COORD 3-knife
        'I am breaking it (cl 5) and the knife.' (prompted by: "What are you doing to the broom?")

(41) *ke-but-a   ni   mo-hakga]$_{vP}$
      1SG-break-FV COORD 3-knife   ]$_{vP}$
      Intended: 'I am breaking it (cl 5) and the knife.' (prompted by: "What are you
      doing to the broom?")

While the first conjoint is a valid agreement target, the second is not. The ungrammaticality of
(42), in which the agreement on the verb matches the second nominal conjunct, and (43), in which
the second conjunct is replaced by *pro*, demonstrate this asymmetry.

(42) *ke-mo$_i$-but-ago   ]$_{vP}$ le-helo$_i$ ni   mo-hakga
      1SG-3.OM-break-DJ]$_{vP}$ 5-broom COORD 3-knife
      'I am breaking it (cl 3), the broom and the knife.'

(43) *ke-mo$_i$-but-ago   ]$_{vP}$ le-helo$_i$ ni   *pro*
      1SG-3.OM-break-DJ]$_{vP}$ 5-broom COORD *pro*
      'I am breaking it (cl 3), the broom and it.'

Example (44) shows that the entire coordinated phrase must be dislocated, and a single conjunct
cannot be moved. Therefore, if the first conjunct has the +AF feature, then this feature is projected
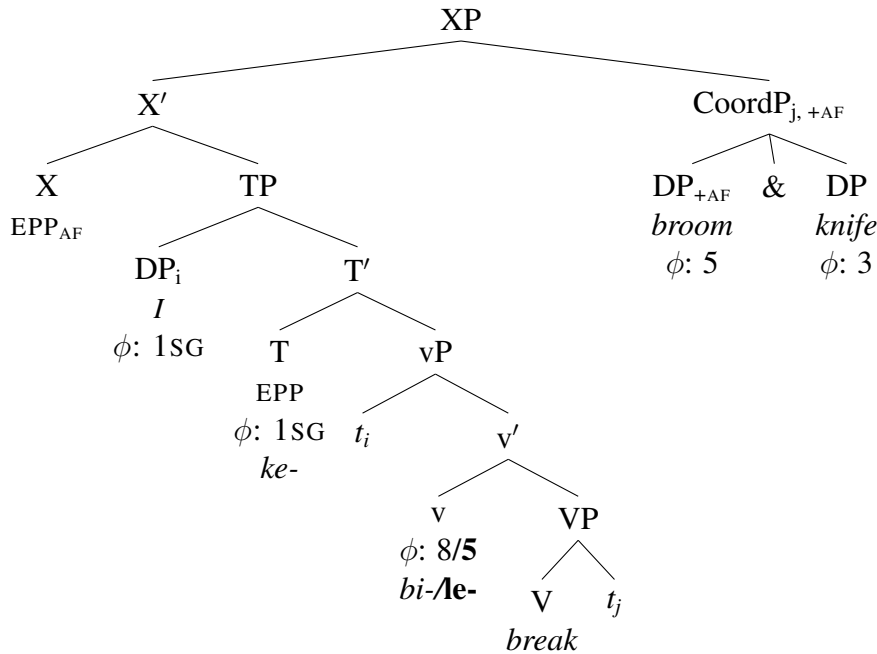to the coordinated phrase level.

(44) *ke-le-but-a   ni   mo-hakga]$_{vP}$ *pro*
      1SG-5.OM-break-FV COORD 3-knife   ]$_{vP}$ *pro*
      Intended: 'I am breaking it (cl 5) and the knife.' (prompted by: "What are you
      doing to the broom?")

The puzzle here is that a dislocated coordinated phrase may have a corresponding OM that agrees
with either the first conjoint, as in (38), or the whole phrase, as in (45). The OM choice is the only
surface-level difference between the two sentences. The interpretation of (45) is that the speaker
decided to clarify what they were talking about after using the OM to refer to both objects. Again,
there is a prosodic break at the edge of vP.

(45) ke-bi$_i$-but-ago   ]$_{vP}$ le-helo$_i$ ni   mo-hakga
      1SG-8.OM-break-DJ]$_{vP}$ 5-broom COORD 3-knife
      'I am breaking them (cl 8), the broom and the knife.'

There is clearly a pragmatic reason for why a speaker would choose one OM over the other, and
I've decided to not account for this in the movement theory I've adopted. However, it is important
to show that agreement may occur with a conjunct of a coordinated phrase, which does not c-
command the probing head, as in (46). In this tree, the probing head has to continue to probe
after it has found a possible agreement target, CoordP, and stop probing before it finds a third
possible target, the second conjoint. One possible theory for this behavior is that the coordination
morpheme is an impenetrable boundary for Agree. Another is that, in some contexts, the phrase is
interpreted as prepositional phrase "x with y" rather than conjunctive phrase "x and y", since 'ni'
is used in both phrases.

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(46)   Tree for (38):

```
                                      XP
                   ┌──────────────────┴──────────────────┐
                   X′                                  CoordP_{j, +AF}
            ┌──────┴──────┐                         ┌─────┼─────┐
            X            TP                      DP_{+AF}  &   DP
         EPP_{AF}    ┌────┴────┐                  broom       knife
                    DP_i      T′                  φ: 5        φ: 3
                     I     ┌───┴───┐
                   φ: 1SG  T       vP
                          EPP   ┌──┴──┐
                         φ: 1SG t_i   v′
                          ke-      ┌──┴──┐
                                   v    VP
                                 φ: 8/5  ┌─┴─┐
                                 bi-/le- V   t_j
                                       break
```

5.3   Conclusion

Section 2 provided evidence that nominal objects that have a corresponding OM are moved to a right-dislocated position. Section 3.3 showed how this movement is triggered by EPP feature that probes for a DP with +AF, which accounts for Locality violations for DOs that object-mark across nominal, in-situ IOs. I adopted Pietraszko's proposed structure for this dislocated position (2023), as shown in (12) and (13). In Section 4 I discussed the observation that OMs have the force of pronouns, and argued that this force is due to structural position (Diesing 1992) rather than a feature on a DP (Baker & Kramer 2018).

Future work on this topic should also explore a wider variety of object DPs. Nominal properties interface with object-marking differently cross-linguistically, such as animacy (Bresnan & Moshi 1990), θ-role (e.g. Theme, Benefactive) (Marten & Kula 2012), and object relatives (Marten & Kula 2012; Zeller 2014). A more comprehensive study would also include tone. Other Sotho-Tswana languages have grammatical tone (see Chebanne et al. 1997 for Setswana and Khoali 1991 for Sesotho), and this may provide further phonological evidence of dislocation. Finally, continuing to investigate the limitations of EPP and Agree is necessary due to the agreement possibilities that came to light during my investigation of coordinated phrases. I have not developed a sound theory for why agreement sometimes continues to probe after finding CoordP, but stops after the first conjunct. It is possible that there are other types of structures that can be dislocated that show similar agreement properties.

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AGREEMENT RESOLUTION IN CONJOINED SUBJECTS IN SETSWANA*

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Abstract.   This paper examines the agreement resolution patterns observed in Setswana conjoined subjects with both equal and conflicting phi features. Previous work identifies a preference for resolutions rules that rely on semantic features when both conjuncts have either human referents or non-human referents. In the case of conjoined subjects with differing human-value referents, speakers resolve the conflict through comitative adjunct constructions. This work tests these claims by modulating the gender and animacy of coordinate subject complexes. The data collected demonstrates an additional available resolution rule that relies on the syntactic values (gender class) of the conjuncts that triggers agreement based on a shared plural gender class. It also suggests that coordination of a human and a non-human conjunct can be allowed when they share the same animacy values and is not restricted to human/non-human.

Keywords. Coordination; Gender resolution; Syntax; Bantu languages

1 Introduction

Coordination work on languages with rich inflectional systems, such as Setswana, has heavily focused on describing and understanding the agreement patterns in coordinate complexes with conjuncts that have conflicting phi features (person, number, gender). These conflicts are resolved through resolution rules that determine what agreement form will be triggered by a coordinate noun phrase. The focus of this research paper is to investigate the agreement resolution strategies available to speakers in coordinated nominal structures and the elements that seem to influence them, whether they be syntactic in nature of semantically-based. These resolution rules are investigated through nominal additive coordination by modulating the gender and animacy of the conjuncts. The paper is organized as follows. Section 1 gives an overview of coordination and any relevant terms. Section 2 gives an overview of coordinator patterns and coordinators in Setswana. Section 3 relates to resolution rules in conjoined subjects and the agreement patterns they follow. Section 4 summarizes previous sections and addresses further avenues for research.

1.1 Coordination

A coordinating construction consists of two or more coordinands (also called coordinated phrases or coordinate complexes). Their coordinated status may be indicated by coordinators, which can be expressed as either particles or affixes. The basic patterns of coordination are the following: asyndetic, which consists of the juxtaposition of the coordinands, monosyndetic, which involves a single coordinator, and bisyndetic coordination, which involves two coordinators (Haspelmath

et al. 2004). In monosyndetic and bisyndetic coordination, there are four logically possible positions of the coordinators, these are listed in Table 1.

Table 1. Coordination patterns and coordinator positions

Asyndetic	**A B**	
Monosyndetic	**A co-B**	(prepositive, on second coordinand)
	A-co B	(postpositive, on first coordinand)
	A B-co	(postpositive, on second coordinand)
	co-A B	(prepositive, on first coordinand)
Bisyndetic	**co-A co-B**	(prepositive)
	A-co B-co	(postpositive)
	A-co co-B	(mixed)
	co-A B-co	(mixed)

1.2   Language Background

Setswana (ISO 639-3 tsn), or Tswana, is a tonal language spoken in Botswana, South Africa, and Namibia. It belongs to the Bantu language group and Sotho-Tswana family. It is closely related to the Sotho languages, such as Southern Sesotho. Setswana has a rich inflectional system, dominated by an extensive set of noun classes: groups of nouns which share class markers on verbs, adjectives, pronominal forms, and the nouns themselves. The major genders of the language are the following: 1-2 (*mosadi* mʊ̀-sádɪ́ woman pl. *basadi* bà-sádɪ̀), 3-4 (*motse* mʊ̀-tsì village pl. *metse* mì-tsì), 5-6 (*lee* lì-ɪ́ egg pl. *mae* mà-ɪ́), 7-8/10 (*selepe* sɛ̀-lɛ́pɛ́ axe pl. *dilepe* dì-lɛ́pɛ́), 9-8/10 (*podi* pʊ́dɪ́ goat pl. *dipodi* dì-pʊ́dɪ̀), 11-6 (*losea* lʊ̀-síá baby pl. *masea* mà-síá), 11-8/10 (*loso* lʊ̀-sɔ̀ spoon pl. *dintsho* dì-ǹtshɔ̀), and 14-6 (*bothata* bʊ̀-thátá problem pl. *mathata* mà-thátá) (Creissels 2016).

1.3   Methodology

The Setswana data presented in the following sections are based on elicitation sessions conducted with a native speaker informant over the course of three months as part of a graduate field methods class. The consultant is a 21-year-old from Phitshane Molopo, in southern Botswana. She speaks both Setswana and English at home. In 2022, she moved to the United States to pursue an engineering degree at the University of Rochester in Rochester, New York. The elicitation sessions entail a list of sentences specifically about coordination and focuses mainly on resoution strategies when coordinating coordinands of different noun classes. The elicited constructions vary significantly across the range of relevant coordination patterns: subject agreement, multiple additive nominal coordination, adjectival coordination, comitatives, etc. It was not possible to go in depth into the analysis any of the topics at hand. There is a significant lack of verb phrase and clausal data.

2   Additive Coordination in Setswana

Additive coordination, also known as 'conjunctive coordination' or 'conjunction', is the most frequently occurring type of coordinate construction. It refers to the construction of a plural referent

individual having the referents of the coordinated NPs as individual parts. Conjunction strategies in Setswana are category-sensitive, meaning that coordinators don't always link any and all syntactic categories: noun phrases, verb phrases, clauses, adjective phrases, prepositional phrases, etc.

2.1 Nominal Additive Coordination

Nominal additive coordinate constructions make use of a single coordinator *lì-* 'and', as seen in (1). Creissels (2016) references the rules of tonal sandhi that 'ensure a clear-cut distinction between word-internal boundaries and boundaries between adjacent words' to identify the coordinator *lè-* as a proclitic. Its status as a proclitic that attaches to the second coordinand demonstrates that Setswana makes use of monosyndetic coordination for nominal additive coordination. Specifically, we see evidence of monosyndetic coordination of the pattern medial prepositive A co-B.

(1)   mʊ̀-ńná lí-nʃ̂à   bá t͡sàmɛ́ilɛ̀   mɔ̀ t͡sɛ̀kʷɛ̀ŋ
        1-man CONJ-9.dog 2.SM travel.PRF.CJ LOC 9.forest
        'The man and the dog traveled the forest.'

2.1.1 Multiple additive coordination

Multiple additive coordination involves constructions with multiple coordinands, i.e. more than two. In the case of multiple nominal additive coordination in Setswana, literature suggests that the coordination structures require the coordinator *lè-* be repeated before each non-initial coordinand (Creissels 2016). However, in examples (2-b) and (3) from the data elicited from our speaker we can observe coordinator omission, where all but the last coordinator are eliminated. These findings differ from Creissels' since, when asked about the acceptability and grammaticality of example (2-a), the speaker deemed the construction grammatical but unnatural given its redundancy.

(2)   a.   rì-bóɲì   dì-táù **lí**-dì-nárí   lí-dí-t͡ɕλɬôːù
                1PL-see.PRF.CJ 8-lion CONJ-8-buffalo CONJ-8-elephant
                'We saw lions, buffaloes, and elephants.'   (Creissels 2016)
    b.   rì-bóɲì   dì-táù dì-nárí   lí-dí-t͡ɕλɬôːù
                1PL-see.PRF.CJ 8-lion 8-buffalo CONJ-8-elephant
                'We saw lions, buffaloes, and elephants.'

(3)   kì-rátá   dì-ńʃà dì-kát͡sɛ̀ lì-dì-kûdʊ̀
        1SG-like.CJ 8-dog 8-cat   CONJ-8-turtle
        'I like dogs, cats, and turtles.'

2.2 Adjectival Additive Coordination

In regards to attributive adjectives, the general rule is that their coordination constructions are obligatorily introduced by an attributive linker that is determined by noun class and become ungrammatical without it (4-b). One of the possible strategies for adjectival coordination is juxtaposition, as seen in (4-a), meaning that there is no overt conjunction marker. Otherwise, they make use of coordinator *xàpè* 'and' (4-c) and *íbìlé* 'as well as' (5-a).

(4) a. mù-ńná jó   mù-tílélé jó   tìîlɛ́[1]
       1-man 1.ATTR 1-tall   1.ATTR strong
       'A tall, strong man.'

    b. *mù-ńná mù-tílélé tìîlɛ́[1]
       1-man   1-tall   strong
       'A tall, strong man.'

    c. mù-ńná jó   mù-tílélé χápɛ̀ jó   tìîlɛ́[1]
       1-man 1.ATTR 1-tall   CONJ 1.ATTR strong
       'A tall and strong man.'

    d. *mù-ńná jó   mù-tílélé lí   jó   tìîlɛ́[1]
       1-man 1.ATTR 1-tall   CONJ 1.ATTR strong
       'A tall and strong man.'

Elicited data suggests that the adjectival coordinator is sensitive to semantic features (specifically positive attitude or evaluation). If the coordinated adjectives refer to mutually compatible characteristics of the referent of the head, the selected coordinator can be either *χápɛ̀*, used in any adjectival construction, or *íbìlɛ́*, used specifically in this case. Creissels (2016), only identifies the coordinator *íbìlɛ́* as an interclausal linker and is not as a coordinator for adjectival constructions, as opposed to these findings observed in (5).

(5) a. ńʃà   ɛ́   tònà χápɛ̀ ɛ́   n̂tsʰú[1]
       9.dog 9.SM 9.big CONJ 9.SM 9.black
       'The dog is big and black.'

    b. ńʃà   ɛ́   tònà íbìlɛ́   ɛ́   n̂tsʰú[1]
       9.dog 9.SM 9.big and-in-addition 9.SM 9.black
       'The dog is big and black.'

In the case of (5), the adjectives *tònà* 'big' and *n̂tsʰú*[1] 'black' both refer to physical properties of the subject, allowing the selection of *íbìlɛ́* as the conjunction marker, as seen in (5-b). Similarly, the adjectives *mù-ntɬɛ́* 'beautiful' and *mù-tílêlɛ́* 'tall' in (7-b), both refer to positive physical properties of the referent, whereas the adjectives *mù-ntɬɛ́* 'beautiful' and *bùtɬâlɛ́*[1] 'smart', although both positive, refer to different types of characteristics of the referent (intellect vs physical appearance) and therefore cannot make use of the coordinator *íbìlɛ́*, as seen in (6-b).

(6) a. nàlɛ́dí ó   mù-ntɬɛ́   χápɛ̀ ó   bùtɬâlɛ́[1]
       Naledi 1.SM 1-beautiful CONJ 1.SM smart
       'Naledi is beautiful and smart.'

    b. *nàlɛ́dí ó   mù-ntɬɛ́   íbìlɛ́ ó   bùtɬâlɛ́[1]
       Naledi 1.SM 1-beautiful CONJ 1.SM smart
       'Naledi is beautiful and smart.'

---

[1] These adjectives do not overtly show agreement with the nouns they modify since they constitute examples of an emerging word class functionally and syntactically similar to the adjective class inherited from Proto-Bantu, but with different morphological properties (Creissels 2014).

(7)   a.   nàlɛ́dí ó   mʊ̀-ntɫɛ́   íbìlɛ́ ó   mʊ̀-tílêlɛ́
           Naledi 1.SM 1-beautiful CONJ 1.SM 1-tall
           'Naledi is beautiful and tall.'
      b.   nàlɛ́dí ó   mʊ̀-ntɫɛ́   χápɛ̀ ó   mʊ̀-tílêlɛ́
           Naledi 1.SM 1-beautiful CONJ 1.SM 1-tall
           'Naledi is beautiful and tall.'

2.3   VP and Clausal Additive Coordination

The coordination of verb phrases and infinitive or complement clauses makes use of interclausal linkers that express additive coordination. We can again observe both *χápɛ̀* as a coordinator in verbal phrases coordination strategies (8-a) and *li* 'and'. In addition to coordinator *mmi* 'and', which is used in additive VP coordination as well as adversative coordination (9).

Table 2. Setswana additive coordinators for VPs and clauses

Coordinator	VPs	Complement Clauses
lí		(10-b)
χápɛ̀	(8-a)	(10-c)
m̀mí	(8-b)	

Example (8) demonstrates the possible constructions for VP coordination with both available coordinators.

(8)   a.   kì-rátá   tʰèɔ́ χápɛ̀ kì-rátá   nálêdì
           1SG-like.CJ Theo CONJ 1SG-like.CJ Naledi
           'I like Theo and Naledi.'

           Lit. 'I like Theo and I like Naledi.'
      b.   kì-rátá   tʰèɔ́ m̀mí kì-tɫótɫá   nálêdì
           1SG-like.CJ Theo CONJ 1SG-respect.CJ Naledi
           'I like Theo and respect Naledi.'

           Lit. 'I like Theo and I respect Naledi.'

(9)   kì-rátá   tʰèɔ́ m̀mí χá kì-rátá   nálêdì
      1SG-like.CJ Theo CONJ NEG 1SG-like.CJ Naledi
      'I like Theo but hate Naledi.'

      Lit. 'I like Theo and I don't like Naledi.'

The conjunction marker *χápɛ̀* seen in (10-a) and (10-c) is limited to the coordination of verbal phrases pertaining to a single subject. Example (11-b) illustrates a misuse of the conjunction marker since the two clauses have distinct subjects ('he' and 'she'), compare with (11-a) where *lí* is used. Unlike with VP coordination (example (8-a)), the coordinator *χápɛ̀* can only be used in clausal coordination if present with the complementizer *χʊ́rì*, as seen in example (11-c).

(10)   a.   kì-ítsí   χʊ́rì ó-búá   má-àká χápὲ ó-à-ûːts̑ʷà
             1SG-know.CJ that 1-tell.CJ 6-lie   CONJ 1-DJ-steal
             'I know that he lies and steals.'

       b.   kì-ítsí   χʊ́rì ó-búá   má-àká lí-χʊ́rì   ó-à-ûːts̑ʷà
             1SG-know.CJ that 1-tell.CJ 6-lie   CONJ-that 1-DJ-steal
             'I know that he lies and steals.'

             Lit. 'I know that he lies and that he steals.'

       c.   kì-ítsí   χʊ́rì ó-búá   má-àká χápὲ-χʊ́rì ó-à-ûːts̑ʷà
             1SG-know.CJ that 1-tell.CJ 6-lie   CONJ-that 1-DJ-steal
             'I know that he lies and steals.'

             Lit. 'I know that he lies as well as that he steals.'

       d.   *kì-ítsí   χʊ́rì ó-búá   má-àká lí   ó-à-ûːts̑ʷà
             1SG-know.CJ that 1-tell.CJ 6-lie   CONJ 1-DJ-steal
             'I know that he lies and steals.'

(11)   a.   kì-ítsí   χʊ́rì ó-tìílὲ[1] lí-χʊ́rì   έnὲ χá á-tììà[1]
             1SG-know.CJ that 1-strong CONJ-that she NEG 1-strong
             'I know that he is strong and she is weak.'

             Lit. 'I know that he is strong and that she is weak.'

       b.   *kì-ítsí   χʊ́rì ó-tìílὲ[1] χápὲ έnὲ χá á-tììà[1]
             1SG-know.CJ that 1-strong CONJ she NEG 1-strong
             'I know that he is strong and she is weak.'

       c.   kì-ítsí   χʊ́rì ó-tìílὲ[1] χápὲ-χʊ́rì έnὲ χá á-tììà[1]
             1SG-know.CJ that 1-strong CONJ   she NEG 1-strong
             'I know that he is strong and she is weak.'

3   Subject Agreement with Conjoined NPs

Coordination work on languages with rich inflectional systems, such as Setswana, has heavily focused on describing and understanding the agreement patterns in coordinate complexes with conjuncts that have conflicting phi features (person, number, gender). These conflicts are resolved through resolution rules that determine what agreement form will be triggered by a coordinate noun phrase (Givón 1970). Corbett (1991) identified three general types of resolution patterns that languages may adopt: semantic, syntactic, and agreement with one conjunct. Semantic resolution rules rely on the semantic features of the conjuncts (e.g. natural gender, animacy) and syntactic resolution rules rely on the syntactic features of the conjuncts (e.g. grammatical gender).

In regards to the gender resolution rules for conjoined subjects, Cole (1955) proposes the two following rules that select the target gender class triggered by the conjoined subject on a purely semantic basis:

- if both coordinands have human referents, the conjoined subject governs class 2 agreement (30-a), this is presumably because it is most often used with plural human referents;

- if both coordinands have non-human referents, the conjoined subject governs class 8 agreement (32-a), which can sometimes be referred to as the 'thing' class.

These resolution rules hold true regardless of the order of the conjuncts unlike other Bantu languages, such as Ndebele (Moosally 1998) which shows a strong preference for agreement with the closest conjunct. In the following Ndebele example, the conjuncts both have different gender class values (1/2 and 5/6). The 5/6 plural is grammatical as the form in (12-a) where the 5/6 conjunct is closest to the verb, but not in (12-c) where the order of conjuncts is reversed, demonstrating that the linear position of the conjuncts is an important factor in agreement resolution patterns for that language (Moosally 1998).

(12)   a.   Aba-lungu   lama-bhunu   a-yahleka.
            1/2pl-white_man CONJ.5/6pl-Afrikaaner 5/6pl-laughing
            'The Englishmen and the Afrikaaners are laughing.'
       b.   *Ama-bhunu   laba-lungu   a-yahleka.
            5/6pl-Afrikaaner CONJ.1/2pl-white_man 5/6pl-laughing
            'The Afrikaaners and the Englishmen are laughing.'
       c.   Ama-bhunu   laba-lungu   ba-yahleka.
            5/6pl-Afrikaaner CONJ.1/2pl-white_man 1/2pl-laughing
            'The Afrikaaners and the Englishmen are laughing.'   (Moosally 1998)

In contrast, the following two examples illustrate how the resolution rules apply to conjoined subjects in Setswana. Example (13) has coordinands that belong to distinct gender classes, *losia* 'baby' (class 11) and *mosadi* 'woman' (class 1), but share semantic features such as animacy [+] and humanness [+]. Therefore, when the conjuncts are combined into a coordinate complex they trigger agreement with the 'human' class 2. Class 2 remains as the agreement class whether *losia* 'baby' is the first (30-a) or the second (31-a) coordinand in the construction. Example (14) demonstrates the same behaviour but with two gender-distinct coordinands that share animacy [-] values. The coordinands *lefelo* 'broom' (class 7) and *selepe* 'axe' (class 5) trigger 'thing' agreement class 8. Again, regardless of the position of either coordinand the agreement class remains as class 8.

(13)   a.   lò-síá lí-mù-sádɩ́   bá   bà-tônà
            11-baby CONJ-1-woman 2.SM 2-big
            'The baby and the woman are big.'
       b.   mù-sádɩ́ lí-lò-síá   bá   bà-tônà
            1-woman CONJ-11-baby 2.SM 2-big
            'The woman and the baby are big.'

(14)   a.   lè-fɛ́lɔ́ lí-sè-lɛ́pɛ́   dɩ́   dì-tônà
            5-broom CONJ-7-axe 8.SM 8-big
            'The broom and the axe are big.'
       b.   sè-lɛ́pɛ́ lí-lè-fɛ́lɔ́   dɩ́   dì-tônà
            7-axe   CONJ-5-broom 8.SM 8-big
            'The axe and the broom are big.'

The basic generalization for subject position coordinate structures in Setswana is that they must

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trigger plural agreement; singular agreement is not acceptable. An example of a grammatical coordinate construction can be observed in example (15-a) and, correspondingly, its ungrammatical counterpart can be observed in example (15-b). Both nouns *ncha* 'dog' and *beke* 'bag' belong to class 9 which we know forms plurals in class 8 and do not share animacy values (refer to introduction for the full list of genders in Setswana).

(15) a. ńʃà   lí-békɛ̀   dí   nɛ́ dí   látɬɛ́χìlɛ́ mɔ̀-t͡sɛ̀kʷɛ̂-ŋ̀
          9.dog CONJ-9.bag 8.SM PST 8.SM lost   18-forest-LOC
          'The dog and the bag were lost in the forest.'
      b. *ńʃà   lí-békɛ̀   ɛ́   nɛ́ ɛ́   látɬɛ́χìlɛ́ mɔ̀-t͡sɛ̀kʷɛ̂-ŋ̀
          9.dog CONJ-9.bag 9.SM PST 9.SM lost   18-forest-LOC
          'The dog and the bag were lost in the forest.'

The requirement of plural agreement holds in all cases of conjoined subject coordination, with the notable exception of constructions that are rendered comitatively to express the intended coordinate reading. These comitative constructions will be discussed in Section 3.3 and are limited to constructions with referents that have non-compatible animacy values.

In addition to the aforementioned resolution rules, Cole (1955) addresses an alternative agreement resolution strategy based on syntax rather than semantics. He argues that in the case where coordinands belong to the same class in the plural, the shared plural class can be selected as the agreement gender instead of the 'human' class 2 or 'thing' class 8 as stated by the default resolution rules. Creissels (2016) verifies this claim but notes that speakers tend to prefer the resolution rules that have a purely semantic basis, regardless of the gender of the coordinands and a shared plural class. He argues that semantic agreement takes precedence over morphological agreement. Given both proposals, the following sections will explore the available resolution rules, syntactic and semantic, by modulating both animacy and gender class of conjuncts in Setswana coordinate complexes.

3.1   Same Class, Same Animacy

As previously stated, the literature identifies semantically-based resolution rules as the default resolution strategy for coordinate complex agreement with conjuncts of the same gender class and animacy value. The question at hand is: does this hold true in every case and every gender class? Are there instances in which syntactically-based resolution rules would be preferred by a speaker? To begin to answer these questions, we look into every possible pair of same class and same animacy conjuncts to identify which agreement gender classes are allowed when acting as a conjoined subject. Table 4 below summarizes the findings by marking which gender agreement is triggered at the intersection of each pair.

Table 3. Agreement gender classes in coordinate complexes with same-class and same-animacy conjuncts

Gender classes SG(PL) of first coordinand

Gender classes SG(PL) of second coordinand	1(2)	2	3(4)	4	5(6)	6	7(8)	8	9(8)	11(6)	11(8)	14(6)
1(2)	2 (16-a) *1 (16-b) *8											
2		2 (17)										
3(4)			4 (18-b) 8 (18-a) *3 (18-c)									
4				4 (19-b) 8 (19-a)								
5(6)					8 (20-a) *2 (20-d) *6 (20-c) *5 (20-b)							
6						6 (22-b) 2 (22-a)						
7(8)							8 (23-a) *7 (23-b)					
8								8 (24-a)				
9(8)									8 (25-a) *9 (25-b)			
11(6)										?		
11(8)											8 (26-a) *11 (26-b)	
14(6)												8 (27-a) *6 (27-c) *14 (27-b)

Beginning with a pair of class 1 conjuncts, *monna* 'man' and *mosadi* 'woman', which pluralize into class 2 (Table 4), we observe that they trigger gender class 2 when conjoined and in subject position (16). It is difficult to establish whether this agreement class is selected via semantic or via syntactic means since both patterns would have the same surface structure. Syntactically, class 1 referents do pluralize to class 2. However, conjuncts that share the semantic animacy value of humanness also trigger gender class 2 agreement. In the case of two conjuncts of class 2, such as *banna* 'men' and *basadi* 'women', we can observe the same pattern. The two conjuncts trigger agreement class 2 when conjoined but can trigger gender agreement via semantic or syntactic means.

Table 4. Nouns in class 1 SG and class 2 PL

singular		agreement class	plural		agreement class
mò-ńná	'man'	1	bà-ńná	'men'	2
mò-sádí	'woman'	1	bà-sádí	'women'	2

(16) a. mʊ̀-ŋ́ná lí-mʊ̀-sádí   bá   bà-tɔ̂nà
        1-man   CONJ-1-woman 2.SM 2-big
        'The man and the woman are big.'
     b. *mʊ̀-ŋ́ná lí-mʊ̀-sádí   ʊ́   mʊ̀-tɔ̂nà
        1-man   CONJ-1-woman 1.SM 1-big
        'The man and the woman are big.'

(17) bà-ŋ́ná lí-bà-sádí   bá   bà-tɔ̂nà
     2-man CONJ-2-woman 2.SM 2-big
     'The men and the women are big.'

For the pair of gender class 3 nouns *mosi* 'smoke' and *mogale* 'rope', that form plurals in class 4 (Table 5) we can observe more flexibility with the accepted resolution strategies. Both conjuncts are inanimate objects, meaning that they will trigger agreement class 8 (18-a) by means of a semantic resolution rule. However, the coordinate complex is also able to trigger agreement class 4 based on the plural class of the conjuncts, as seen in (18-b). This is the only other observed instance, besides (29-b) which involves classes 5 and 11, where two conjuncts in singular form trigger their shared plural gender class, following a syntactic resolution agreement rule. All other recorded examples of a coordinate complex triggering the plural gender class of its conjuncts required the conjuncts to be in their plural form before coordination. An example of this type of construction can be seen in (19-b).

Table 5. Nouns in class 3 SG and class 4 PL

singular		agreement class	plural		agreement class
mʊ̀-sí	'smoke'	3	mɛ̀-sí	'smokes'	4
mʊ̀-χálɛ́	'rope'	3	mɛ̀-χálɛ́	'ropes'	4

(18) a. mʊ̀-sí lí-mʊ̀-χálɛ́ dí   dì- n̂tsʰɔ̀
        3-smoke CONJ-3-rope 8.SM 8-black
        'The smoke and the rope are black.'
     b. mʊ̀-sí lí-mʊ̀-χálɛ́ ɛ́   mɛ̀-n̂tsʰɔ̀
        3-smoke CONJ-3-rope 4.SM 4-black
        'The smoke and the rope are black.'
     c. *mʊ̀-sí lí-mʊ̀-χálɛ́ ʊ́   mʊ̀-n̂tsʰɔ̀
        3-smoke CONJ-3-rope 3.SM 3-black
        'The smoke and the rope are black.'

(19) a. mɛ̀-sí lí-mɛ̀-χálɛ́ dí   dì-n̂tsʰɔ̀
        4-smoke CONJ-4-rope 8.SM 8-black
        'The smokes and the ropes are black.'

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b. mὲ-sí lí-mὲ-χálέ ɛ́ mὲ-n̂tsʰɔ̀
4-smoke CONJ-4-rope 4.SM 4-black
'The smokes and the ropes are black.'

Moving on to conjuncts with gender class 5 which pluralize to class 6 (Table 6), we can observe pairs that allow syntactic based resolution rules and pairs that do not. As opposed to the class 4 examples discussed above, two class 5 conjuncts, *leswana* 'spoon' and *lee* 'egg' , cannot trigger agreement of their shared plural gender class (class 6) (20-c). The only available resolution strategy for this pair of nouns is the semantic resolution rule that triggers 'thing' class agreement 8 (20-a) given that both conjuncts are inanimate entities. This behavior supports the claim that semantic agreement takes precedence over syntactic agreement (Creissels 2016).

Table 6. Nouns in class 5 SG and class 6 PL

singular		agreement class	plural		agreement class
lὲ-sʷáná	'spoon'	5	mà-sʷáná	'spoons'	6
lὲ-ɛ́	'egg'	5	mà-ɛ́	'eggs'	6
lὲ-sɔ́lέ	'soldier'	5	mà-sɔ́lέ	'soldiers'	6
lὲ-pɔ́dísí	'policeman'	5	mà-pɔ́dísí	'policemen'	6

(20) a. lὲ-sʷáná lí-lὲ-ɛ́ dí mɔ̀-tàfùlê-ɩ̀
5-spoon CONJ-5-egg 8.SM 18-table-LOC
'The spoon and the egg are on the table.'
b. *lὲ-sʷáná lí-lὲ-ɛ́ lέ mɔ̀-tàfùlê-ɩ̀
5-spoon CONJ-5-egg 5.SM 18-table-LOC
'The spoon and the egg are on the table.'
c. *lὲ-sʷáná lí-lὲ-ɛ́ á mɔ̀-tàfùlê-ɩ̀
5-spoon CONJ-5-egg 6.SM 18-table-LOC
'The spoon and the egg are on the table.'
d. *lὲ-sʷáná lí-lὲ-ɛ́ bá mɔ̀-tàfùlê-ɩ̀
5-spoon CONJ-5-egg 2.SM 18-table-LOC
'The spoon and the egg are on the table.'

For a class 5 conjunct pair with human referents, *lesole* 'soldier' and *lepodisi* 'policeman', both the semantic and the syntactic resolution rules are available depending on the conjuncts' number feature. The coordinate complex built from the singular conjuncts, *lesole li lepodisi* 'the soldier and the policeman', would only trigger agreement based on the [human/animate] semantic feature of the conjuncts (21-a) and agreement on their shared plural class would be ungrammatical. On the other hand, the coordinate complex that stems from the pluralized form of the conjuncts, *masole li mapodisi* 'the soldiers and the policemen', allows the additional syntactic resolution which triggers agreement based on their shared plural class.

(21) a. lὲ-sɔ́lέ lí lὲ-pɔ́dísí bá bà-tɔ̂nà
      5-soldier and 5-policeman 2.SM 2-big
      'The soldier and the policeman are big.'

   b. *lὲ-sɔ́lέ lí lὲ-pɔ́dísí á mà-tɔ̂nà
      5-soldier and 5-policeman 6.SM 6-big
      'The soldier and the policeman are big.'

(22) a. mà-sɔ́lέ lí mà-pɔ́dísí bá bà-tɔ̂nà
      6-soldier and 6-policeman 2.SM 2-big
      'The soldiers and the policemen are big.'

   b. mà-sɔ́lέ lí mà-pɔ́dísí á mà-tɔ̂nà
      6-soldier and 6-policeman 6.SM 6-big
      'The soldiers and the policemen are big.'

For class 7 nouns that pluralize into gender class 8 (Table 7), animacy values become crucial to differentiate between syntactic and semantic resolution strategies, specifically for conjuncts that have animacy [-] values and humanness [-]. This parallels the ambiguity issue encountered with class 1 referents that pluralize into class 2. The difficulty lies in that both class 2 and class 8 are the two designated classes for agreement resolution based on semantic features. Therefore conjuncts that originally pluralize into either of the two classes will render an identical coordinate complex with an identical surface structure regardless of the resolution strategy employed. Taking the pair of class 7 inanimate conjuncts *sekipa* 'shirt' and *selepe* 'axe', we can observe that the only grammatical coordinate construction shows class 8 agreement (33-d).

Table 7. Nouns in class 7 SG and class 8 PL

singular		agreement class	plural		agreement class
sὲ-kípá	'shirt'	7	dì-kípá	'shirts'	8
sὲ-lέpέ	'axe'	7	dì-lέpέ	'axes'	8

(23) a. sὲ-kípá lí-sὲ-lέpέ dí dì-tɔ̂nà
      7-shirt CONJ-7-axe 8.SM 8-big
      'The shirt and the axe are big.'

   b. *sὲ-kípá lí-sὲ-lέpέ sέ sὲ-tɔ̂nà
      7-shirt CONJ-7-axe 7.SM 7-big
      'The shirt and the axe are big.'

(24) a. dì-kípá lí-dì-lέpέ dí dì-tɔ̂nà
      8-shirt CONJ-8-axe 8.SM 8-big
      'The shirt and the axe are big.'

   b. *dì-kípá lí-dì-lέpέ sέ sὲ-tɔ̂nà
      8-shirt CONJ-8-axe 7.SM 7-big
      'The shirt and the axe are big.'

Just as was mentioned above with class 7 nouns that pluralize into class 8, class 9 nouns that pluralize into class 8 (Table 8) will have an ambiguity issue when analyzing their resolution strategies during conjunction. Since they naturally pluralize into 'thing' class 8, any coordinate complex with two class 8 nouns that have animate [-] and humanness [-] values will lead to resolution strategies with the same surface coordinate structure, regardless of syntax and semantics. In any case, we have observed only grammatical constructions that trigger class 8 agreement (25-a).

Table 8. Nouns in class 9 SG and class 8 PL

singular		agreement class	plural		agreement class
ńʃà	'dog'	9	dì-ńʃà	'dogs'	8
káts͡ὲ	'cat'	9	dì-káts͡ὲ	'cats'	8

(25) a. ńʃà lí-káts͡ὲ dí dì-tônà
         9.dog CONJ-9.cat 8.SM 8-big
         'The dog and the cat are big.'
      b. *ńʃà lí-káts͡ὲ έ tônà
         9-dog CONJ-9-cat 9.SM big
         'The dog and the cat are big.'

Since nouns in class 11 pluralize into class 8 (Table 9), we can observe the same ambiguity problem as the aforementioned class 9 nouns. Either resolution strategy, be it syntactic or semantic, would eventually lead to a class 8 agreement for any pair of nouns with an animate [-] and humanness [-] value. Similarly, we have only observed grammatical constructions with class 11 conjoined subjects that trigger class 8 agreement (26-a).

Table 9. Nouns in class 11 SG and class 8 PL

singular		agreement class	plural		agreement class
lʊ̀-nálá	'nail'	11	dì-nálá	'nails'	8
lʊ̀-náɔ́	'foot'	11	dì-náɔ́	'feet'	8

(26) a. lʊ̀-nálá lí-lʊ̀-náɔ́ dí dì-tônà
         11-nail CONJ-11-foot 8.SM 8-big
         'The nail and the foot are big.'
      b. *ńʃà lí-káts͡ὲ lʊ́ lʊ̀-tônà
         11-nail CONJ-11-foot 11.SM 11-big
         'The nail and the foot are big.'

Finally, with pairs of nouns in class 14 that pluralize into gender class 6 (Table 10), we again observe the semantic resolution strategy being the only strategy available if the conjuncts remain in their singular form (27-a). However, if the conjuncts are in their plural form (class 6) they gain

the additional syntactic resolution rule that triggers agreement in that same class. This can be observed with the nouns *borotho* 'bread (sg)' and *boroke* 'pants (sg)' which, once pluralized into *marotho* 'bread (pl)' and *maroke* 'pants (pl)', can agree with the appropriate agreement class based on animacy values (27-a) or keep their plural class 6 agreement (27-c).

Table 10. Nouns in class 14 SG and class 6 PL

singular		agreement class	plural		agreement class
bʊ̀-rɔ́tʰɔ́	'bread'	14	mà-rɔ́tʰɔ́	'breads'	6
bʊ̀-rɔ́kʷɛ́	'pants (sg)'	14	mà-rɔ́kʷɛ́	'pants (pl)'	6

(27) a. bʊ̀-rɔ́kʷɛ́ lí-bʊ̀-rɔ́tʰɔ́   dí   dì-tônà
          14-pants CONJ-14-bread 8.SM 8-big
          'The pants (sg) and the bread are big.'

     b. *bʊ̀-rɔ́kʷɛ́ lí-bʊ̀-rɔ́tʰɔ́   bʊ́   bʊ̀-tônà
          14-pants   CONJ-14-bread 14.SM 14-big
          'The pants (sg) and the bread are big.'

     c. *bʊ̀-rɔ́kʷɛ́ lí-bʊ̀-rɔ́tʰɔ́   á   mà-tônà
          14-pants   CONJ-14-bread 6.SM 6-big
          'The pants (sg) and the bread are big.'

(28) a. mà-rɔ́kʷɛ́ lí-mà-rɔ́tʰɔ́   dí   dì-tônà
          6-pants   CONJ-6-bread 8.SM 8-big
          'The pants (pl) and the breads are big.'

     b. mà-rɔ́kʷɛ́ lí-mà-rɔ́tʰɔ́   á   mà-tônà
          6-pants   CONJ-6-bread 6.SM 6-big
          'The pants (pl) and the breads are big.'

3.2   Different Class, Same Animacy

In the case of coordinate complexes with same-class conjuncts that have different animacy values, it is unclear whether animacy values are sensitive to humanness or not. In example (29-b), we observe an instance of two nouns belonging to different noun classes (*lè-pɔ́dísí* 'policeman' and *lʊ̀-síá* 'baby', class 5 and class 6 respectively) having two gender resolution strategies available for coordination constructions while sharing the same animacy value (both are animate and human referents). One acceptable strategy is based on their [human] animacy values (29-a) and the other one is based on their shared plural class (29-b). This supports the claim that, in certain cases, when two coordinands share the same plural class they may trigger that agreement class when coordinated. Moreover, it does not provide evidence to support Creissel's claim that semantic agreement takes precedence over morphological agreement. If anything, it seems that both are equally relevant in a speaker's agreement resolution strategies.

Table 11. Nouns with human referents from mixed gender classes and shared plural class

singular		agreement class	plural		agreement class
lɛ̀-pɔ́dísí	'policeman'	5	mà-pɔ́dísí	'policemen'	6
lʊ̀-síá	'baby'	11	mà-síá	'babies'	6

(29)   a.   lɛ̀-pɔ́dísí   lí-lʊ̀-síá   bá   bà-tônà
              5-policeman CONJ-11-baby 2.SM 2-big
              'The policeman and the baby are big.'

        b.   lɛ̀-pɔ́dísí   lí-lʊ̀-síá   á   mà-tônà
              5-policeman CONJ-11-baby 6.SM 6-big
              'The policeman and the baby are big.'

In the case of mixed-class coordinands that do not share a plural class, the only acceptable constructions are those which depend on the coordinands' semantic features. Constructions with either of the nouns' respective plural classes are not allowed. We can observe this through the coordination of the two nouns with human referents (*lʊ̀-síá* 'baby' class 11 and *mʊ̀-sádí* 'woman' class 1) found in Table 12, which do not allow constructions with agreement class 6 (30-c). The only acceptable construction is that which triggers 'human' agreement class 2, as seen in examples (30-a) and (31-a).

Table 12. Nouns with human referents from mixed gender classes and no shared plural class

singular		agreement class	plural		agreement class
lʊ̀-síá	'baby'	11	mà-síá	'babies'	6
mʊ̀-sádí	'woman'	1	bà-sádí	'women'	2

(30)   a.   lʊ̀-síá lí-mʊ̀-sádí   bá   bà-tônà
              11-baby CONJ-1-woman 2.SM 2-big
              'The baby and the woman are big.'

        b.   *lʊ̀-síá lí-mʊ̀-sádí   ó   mʊ̀-tônà
              11-baby CONJ-1-woman 1.SM 1-big
              'The baby and the woman are big.'

        c.   *lʊ̀-síá lí-mʊ̀-sádí   á   mà-tônà
               11-baby CONJ-1-woman 6.SM 6-big
              'The baby and the woman are big.'

        d.   *lʊ̀-síá lí-mʊ̀-sádí   lʊ́   lʊ̀-tônà
               11-baby CONJ-1-woman 11.SM 11-big
              'The baby and the woman are big.'

(31)   a.   mʊ̀-sádɪ́ lí-lʊ̀-síá   bá   bà-tônà
              1-woman CONJ-11-baby 2.SM 2-big
              'The woman and the baby are big.'

        b.   *mʊ̀-sádɪ́ lí-lʊ̀-síá   ó   mʊ̀-tônà
              1-woman CONJ-11-baby 1.SM 1-big
              'The baby and the woman are big.'

        c.   *mʊ̀-sádɪ́ lí-lʊ̀-síá   á   mà-tônà
              1-woman CONJ-11-baby 6.SM 6-big
              'The baby and the woman are big.'

        d.   *mʊ̀-sádɪ́ lí-lʊ̀-síá   lʊ́   lʊ̀-tônà
              1-woman CONJ-11-baby 11.SM 11-big
              'The baby and the woman are big.'

In the case of mixed-class coordination with non-human referents, we can observe a preference for a semantic resolution rule, the same as as mixed-class coordination with human referents. The acceptable agreement patterns for the coordination of the nouns found in Table 13 (*lè-fɛ́lɔ́* 'broom' and *sè-lépé* 'axe', class 5 and 7 respectively) are listed in examples (32) and (33). Since these two nouns do not share an agreement class in their plural forms, the only acceptable coordination construction is that which triggers the 'thing' agreement class 8, as seen in examples (32-a) and (33-a).

Table 13. Nouns with non-human referents from mixed gender classes and no shared plural class

singular		agreement class	plural		agreement class
lè-fɛ́lɔ́	'broom'	5	mà-fɛ́lɔ́	'brooms'	6
sè-lépé	'axe'	7	dì-lépé	'axes'	8

(32)   a.   lè-fɛ́lɔ́ lí-sè-lépé   dɪ́   dì-tônà
              5-broom CONJ-7-axe 8.SM 8-big
              'The broom and the axe are big.'

        b.   *lè-fɛ́lɔ́ lí-sè-lépé   lɛ́   lì-tônà
              5-broom CONJ-7-axe 5.SM 5-big
              'The broom and the axe are big.'

        c.   *lè-fɛ́lɔ́ lí-sè-lépé   á   mà-tônà
              5-broom CONJ-7-axe 6.SM 6-big
              'The broom and the axe are big.'

        d.   *lè-fɛ́lɔ́ lí-sè-lépé   sɛ́   sè-tônà
              5-broom CONJ-7-axe 7.SM 7-big
              'The broom and the axe are big.'

(33)   a.   sè-lépé lí-lè-fɛ́lɔ́   dɪ́   dì-tônà
              7-axe   CONJ-5-broom 8.SM 8-big
              'The axe and the broom are big.'

b.   *sɛ̀-lɛ́pɛ́ lí-lɛ̀-fɛ́lɔ́   lɛ́   lì-tônà
             7-axe   CONJ-5-broom 5.SM 5-big
             'The axe and the broom are big.'

c.   *sɛ̀-lɛ́pɛ́ lí-lɛ̀-fɛ́lɔ́   á   mà-tônà
             7-axe   CONJ-5-broom 6.SM 6-big
             'The axe and the broom are big.'

d.   *sɛ̀-lɛ́pɛ́ lí-lɛ̀-fɛ́lɔ́   sɛ́   sɛ̀-tônà
             7-axe   CONJ-5-broom 7.SM 7-big
             'The axe and the broom are big.'

Additionally, we observe that the relative order of the two coordinands has no significance for the agreement resolution strategies available for each constructions. As seen in example (32-a), where the first coordinand is *lefelo* 'broom' followed by *selepe* 'axe', and example (33-a), where the first coordinand is 'axe' followed by 'broom'.

3.3   Different Class, Different Animacy

Resolution rules based on semantic features specifically describe the expected behavior of a pair of conjuncts that share animacy and humanness values (Cole 1955). It is unclear what resolution strategies are available for pairs with mixed animacy values. Creissels (2016) suggests that coordination constructions with a human coordinand and a non-human coordinand are disallowed, since resolution rules for different animacy coordinate complexes are based solely on the human animacy values of referents (Creissels 2016). He demonstrates how speakear bypass this limitation by rendering the second coordinand as a comitative adjunct. It seems any constructions with a non-human coordinands, regardless of animacy [+] value (e.g. animals, plants), will also be rendered comitatively (34-b).

(34)   a.   *mʊ̀-ɳ́ná lí-nʃ̂à   bá   wɛ̀ːt͡sɛ́   mɔ̀-nòkɛ̂-ɪ̀ŋ
              1-man   CONJ-9-dog 2.SM fall.PRF.CJ 18-river-LOC
              'The man and the dog fell into the river.'   (Creissels 2016)

       b.   mʊ̀-ɳ́ná ó   wɛ̀ːt͡sɛ́   mɔ̀-nòkɛ́-ɪ̀ŋ   lí-ɳ̂ʃà
              1-man   1.SM fall.PRF.CJ 18-river-LOC COM-9-dog
              'The man and the dog fell into the river.'
              Lit. 'The man fell into the river with the dog.'   (Creissels 2016)

While data from our speaker confirms the need for comitative adjuncts in coordination constructions that involve the union of an inanimate (animacy [-]) and an animate (animacy [+]) conjunct (35-c), our findings differ from those by Creissels (2016), suggesting that coordination restrictions on different animacy constructions are based on general animacy values instead of specific human/humanness animacy values. In other words, constructions [animal/human] are allowed for our speaker. Example (34-a) (Creissels 2016) is deemed ungrammatical by his speaker but is an acceptable construction in our data (35-a).

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(35) a. mʊ̀-ńná lɪ́-ńʃà bá wɛːt͡sɛ́ mɔ̀-nòkɛ̂-ŋ̀
1-man CONJ-9-dog 2.SM fall.PRF.CJ 18-river-LOC
'The man and the dog fell into the river.'

b. *mʊ̀-ńná lɪ́-bɛ́ːkɛ̀ bá wɛːt͡sɛ́ mɔ̀-nòkɛ̂-ŋ̀
1-man CONJ-9-bag 2.SM fall.PRF.CJ 18-river-LOC
'The man and the bag fell into the river.'

c. mʊ̀-ńná ó wɛːt͡sɛ́ mɔ̀-nòkɛ́-ŋ̀ lɪ́-bɛ̂ːkɛ̀
1-man 1.SM fall.PRF.CJ 18-river-LOC COM-9-bag
'The man and the bag fell into the river.'
Lit. 'The man fell into the river with the bag.'

As observed in (35-c), the comitative marker *lɪ́* is the same marker used to express conjunction, as seen in (35-a), making Setswana what Stassen (2000) describes as a 'WITH-language'. To understand the difference between the conjunctive marker and the comitative marker, Abdoulaye (2004) describes the distinct semantic entailments of the two constructions. In the case where *lɪ́* is used in nominal additive coordination, coordinand A and coordinand B suggests that both A and B are equally in control of the action, but not necessarily simultaneously or in the same place, whereas when *lɪ́* is used in comitative constructions, it suggests that A and B are in the same place and their involvement is simultaneous, but it does not suggest that they are equally in control. Thus, in the case of (35-c) we would deduce that the man and the bag fell into the river at the same time and together. When asked to judge the entailment supposition, the speaker confirmed that it would be impossible to have separate the events of A (the man falling into the river) and B (the bag falling into the river).

4 Conclusion

This paper presented Setswana's additive coordination strategies and coordinators. Any findings that differed from the literature were noted, such as multiple additive coordination of NPs not requiring the coordinator to be repeated before each conjunct and the use of coordinator *ibile* 'as well as' in adjectival coordinate constructions. Regarding agreement resolution strategies, both semantic-based and syntactically-based strategies were tested by modulating the animacy and class of the conjuncts. An important finding from the data is that the syntactic agreement resolution rules seem to appear more frequently in coordinate complexes whose conjuncts are in plural form before being conjoined. Furthermore, we presented evidence that conjoined subjects with different humanness values do not necessarily trigger comitative adjuncts. We illustrated examples in which conjuncts with the same animacy value but differing humanness value (e.g. human-animal) are able to form a coordinate complex. Future avenues for research include eliciting coordinate complexes with conjuncts that share gender class but differ in animacy values, paying particular attention to how sensitive the animacy restrictions seem to be. In addition, gathering acceptability judgements for coordinate complexes that allow for both syntactic and semantic agreement resolutions strategies would shed light on the hierarchies, if any, of said resolution strategies.

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