

Long-Distance Agreement, Improper Movement and the Locality of AGREE

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- **Main Claim:**
The ban on improper movement is the result of a more general constraint on AGREE.
- **Motivation:**
Restrictions on ϕ -agreement mirror restrictions on movement and interact with them, calling for a unified account.
- **Gist of the Analysis:**
Movement reduces to AGREE + Internal Merge. A general constraint is AGREE is proposed that constrains both ϕ -agreement and movement. The constraint treats the locality of a probe as relative to the height of the head that the probe is on.
- Improper movement is the result of this constraint on AGREE in combination with the fact that different movement types target different positions.

1 Introduction: Improper Movement

- It is well-known that different movement types cannot be freely chained together. The classic example of such a restriction is the ban on improper movement in (1) (Chomsky 1973, 1981, May 1979).

- (1) **CLASSICAL BAN ON IMPROPER MOVEMENT**
An element may not be moved from an \bar{A} - to an A-position.

- (1) rules out derivations like the one in (2). Locality constraints force *who* to move through Spec,C (Chomsky 1973, 1977, 1981, 1986, 2000) and (1) prohibits movement to Spec,T from there.

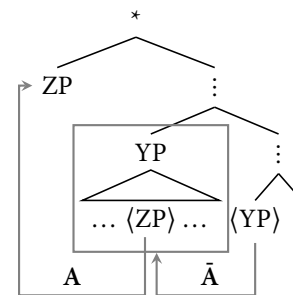
- (2) \downarrow $\begin{array}{c} A \qquad \bar{A} \\ \hline *Who_1 \text{ was believed } [_{CP} t_1 C [_{TP} t_1 \text{ went to the party }]]? \end{array}$

- **Question:**
What is the theoretical status of (1)? It is unlikely to be reducible to locality. After all, movement from Spec,C to Spec,C must be allowed while the much shorter movement from Spec,C to Spec,T is prohibited.
- **Observation:**
There is widespread agreement in the more recent literature on improper movement that (2) is too narrow.

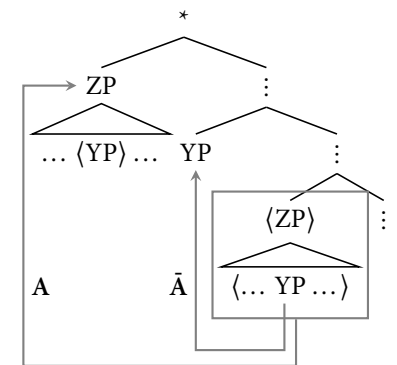
1. **Non-Identity:** The asymmetry also shows up if distinct elements undergo the two respective movement steps (van Riemsdijk & Williams 1981, Williams 2003, Grewendorf 2003, Abels 2007, 2009, Neeleman & van de Koot 2010).

- (3) a. A-extraction out of an \bar{A} -moved constituent is impossible (see (4)).
b. A remnant created by \bar{A} -movement may not be A-moved (see (5));

- (4) *Improper extraction*



- (5) *Improper remnant movement*



(6) *Improper extraction:*
 *Oskar₁ was asked [how likely t₁ to win]₂ it was t₂. [Abels 2007:78]

(7) *Improper remnant movement:*
 *[The driver t₁]₂ was known of which car₁ was awarded t₂ a prize.
 [Abels 2007:77]

2. *Beyond the A/Ā-distinction:* Improper movement generalizes beyond the A/Ā-distinction (Williams 1974, 2003, Müller & Sternefeld 1993, Müller 1995, Abels 2007, 2009, Neeleman & van de Koot 2010). Identical asymmetries hold, for instance, for topicalization and *wh*-movement in German.

(8) *Topicalization and wh-movement in German* (see, e.g., Abels 2007)
 a. A topicalized constituent may not undergo *wh*-movement.
 b. *Wh*-movement out of a topicalized constituent is impossible.
 c. A remnant created by topicalization may not be *wh*-moved.

3. *Locality and height:* The height of the landing site of movement step is inversely correlated with its locality: The higher a position a movement type targets, the less local it is (see especially Williams 1974, 2003). For instance, movement to C is less local than movement to T.

• **Summary:**

These generalizations can be summarized as in (9). Given the descriptive hierarchy of movement types in (9a), the restrictions in (9b) hold.

(9) **GENERALIZED IMPROPER MOVEMENT**

- $\overbrace{\text{A-mvt}}^{\text{Ā-mvt}}$
- a. A-mvt >> scrambling >> wh-mvt >> topicalization
 b. If α >> β in (8),
 (i) a β -moved constituent may not undergo α -movement;
 (ii) a remnant created by β -movement may not be α -moved;
 (iii) α -extraction out of a β -moved constituent is impossible.

• **Central Question:**

What is the nature of the restriction on improper movement in this generalized sense?

• **Standard Answer:**
 It is a constraint on either movement types or structures created by them (May 1979, Chomsky 1981, Müller & Sternefeld 1993, Müller 1995, Abels 2007, 2009, Neeleman & van de Koot 2010).

• **Anwer in this Talk:**

It is the consequence of a more general constraint on the operation AGREE.

• **Structure of the Talk:**

1. I will present novel evidence from Hindi long-distance agreement that shows that ϕ -agreement is subject to essentially the same constraint as improper movement. **Restrictions on improper movement also constrain ϕ -agreement.** This calls for a unified account.
2. I propose a general locality condition on AGREE that yields these effects.
3. Under the assumption that movement reduces to AGREE + Internal Merge (Chomsky 2000, 2001), such a constraint will constrain both movement and agreement. This derives the fact that they pattern alike.

2 The Movement–Agreement Correlation

• **Overview:**

This section will present the crucial evidence in support of the claim that movement and agreement are subject to the same constraint.

- The evidence comes from long-distance agreement (LDA) in Hindi, which interacts with the A/Ā-distinction in illuminating ways.

2.1 Some Background on Hindi Long-Distance Agreement

- A matrix verb in Hindi can agree with the object of an embedded infinitival clause. Such agreement is generally optional and alternates with default agreement:

(10) **Long distance agreement**

a. *Rām-ne* [*roṭī khā-nī*] *cāh-ī*
 Ram-ERG bread.F eat-INF.F.SG want-PFV.F.SG
 ‘Ram wanted to eat bread.’

Default agreement

b. *Rām-ne* [*roṭī khā-nā*] *cāh-ā*
 Ram-ERG bread.F eat-INF.M.SG want-PFV.M.SG
 ‘Ram wanted to eat bread.’

[Mahajan 1989: 237]

- Agreement on the infinitival verb accompanies and requires LDA (Bhatt 2005). Mixing LDA and default agreement is not possible.

- Word order permutations do not affect LDA:

- (11) *kitāb₁ Rām-ne* [*t₁ parh-nī/-nā*] *cāh-ī/-ā*
 book.F Ram-ERG read-INF.F.SG/-INF.M.SG want-PFV.F.SG/-PFV.M.SG
thī/thā
 be.PST.F.SG/be.PST.M.SG
 ‘Ram wanted to read a book.’

2.2 A- vs. Ā-Scrambling in Hindi

- Scrambling in Hindi does not behave as a uniform operation, as Mahajan (1990, 1994) observes.

- **A-scrambling:**

Within finite clauses, scrambling exhibits the perennial properties of A-movement: It is not subject to **WEAK CROSSOVER** and does obviate Principle C violations.

- (12) a. **un-kī₁ bahin sab-ko₁ pyār kar-tī thī*
 their-GEN sister everyone-ACC love do-IPFV.F do.PST.F.SG
 ‘Their₁ sister loved everyone₁.’
 b. *sab-ko₁ un-kī₁ bahin t₁ pyār kar-tī thī*
 everyone-ACC they-GEN sister love do-IPFV.F be.PST.F.SG
 ‘Their₁ sister loved everyone₁.’ [Mahajan 1990: 25–6]

- The same pattern is true for the relation between the direct and the indirect object, as illustrated in (13).

- (13) a. **rājā-ne un-ke₁ pitā-ko sab dāsiyā₁ lautā dī*
 king-ERG they-GEN father-DAT all maids return give.PFV.F.PL
 ‘The king returned all the maids₁ to their₁ father.’
 b. *rājā-ne sab dāsiyā₁ un-ke₁ pitā-ko t₁ lautā dī*
 king-ERG all maids they-GEN father-DAT return give.PFV.F.PL
 ‘The king returned all the maids₁ to their₁ father.’ [Mahajan 1990: 27–8]

- **Ā-scrambling:**

Scrambling across finite clause boundaries, on the other hand, shows Ā-behavior: It is subject to weak crossover restrictions and does not obviate Principle C violations.

- (14) *sab-ko₁ us-kī_{2/*1} bahin-ne soc-ā* [*(ki) Rām-ne t₁*
 everyone-ACC he-GEN sister-ERG think-PFV.M.SG (that) Ram-ERG
dekh-ā]
 see-PFV.M.SG
 ‘His_{2/*1} sister thought that Ram saw everyone₁.’ [Mahajan 1990: 44]

- (15) *kaunsā kuttā₁ us-ke_{2/*1} mālik-ne soc-ā* [*ki Rām-ne t₁*
 which dog.M it-GEN owner-ERG think-PFV.M.SG that Ram-ERG
dekh-ā]
 see-PFV.M.SG
 ‘Which dog₁ did its_{2/*1} owner think that Ram saw?’

- I will follow Mahajan (1990) in assuming that Hindi has A- as well as Ā-scrambling and that finite clauses are opaque for A-scrambling but not Ā-scrambling.

- **Consequence:**

Word order changes within finite clauses are systematically ambiguous: They can be the result of either A- or Ā-movement. The difference with regard to weak crossover, however, can be used as a diagnostic for A-scrambling.

- (16) **COROLLARY**
 If a quantificational element is moved over a constituent containing a coindexed pronoun, this movement must be A-movement.

2.3 A-Scrambling and LDA

- **Section summary:**

A-movement interacts with LDA. If any element A-moves out of the embedded clause, LDA becomes obligatory.

- Once the movement type is controlled for, interactions between movement and LDA appear. The paradigm in (17) demonstrates that A-movement of the embedded object renders LDA with it obligatory.

- (17) a. *us-ke₁ malik-ne* [*kaunsī billī_{2/*1} ghumā-nī/-nā*]
 it-GEN owner-ERG which cat.F walk-INF.F/-INF.M.SG
cāh-ī/-ā?
 want-PFV.F.SG/-PFV.M.SG
 ‘Which cat₁ did its_{2/*1} owner want to walk?’

- b. *kaunsi billi us-ke₂ malik-ne* [*t₁ ghumā-nī/-nā*]
 which cat.F its owner-ERG walk-INF.F/-INF.M.SG
cāh-ī/-ā?
 want-PFV.F.SG/-PFV.M.SG
 ‘Which cat₁ did its₂ owner want to walk?’
- c. *kaunsi billi us-ke₁ malik-ne* [*t₁ ghumā-nī/*-nā*]
 which cat.F its owner-ERG walk-INF.F/*-INF.M.SG
cāh-ī/-ā?*
 want-PFV.F.SG/*-PFV.M.SG
 ‘For which cat *x*, *x*’s owner wanted to walk *x*?’

- Importantly, A-movement of *any* constituent out of the infinitival clause makes LDA obligatory. In (18), it is the indirect object of the embedded object that is A-moved. The embedded direct object itself remains in its base position. Even in this case, it has to obligatorily trigger LDA.

- (18) a. *us-kī₁ mā-ne* [*har bacce-ko₂ film dikhā-nī/-nā*]
 he-GEN mother-ERG every child-DAT movie.F show-INF.F.SG/-INF.M.SG
cāh-ī/-ā
 want-PFV.F.SG/-PFV.M.SG
 ‘His₁ mother wanted to show a movie to every child₂.’
- b. *har bacce-ko₂ us-kī₁ mā-ne* [*t₂ film*
 every child-DAT he-GEN mother-ERG movie.F
dikhā-nī/-nā] *cāh-ī/-ā*
 show-INF.F.SG/-INF.M.SG want-PFV.F.SG/-PFV.M.SG
 ‘His₁ mother wanted to show a movie to every child₂.’
- c. *har bacce-ko₁ us-kī₁ mā-ne* [*t₁ film*
 every child-DAT he-GEN mother-ERG movie.F
dikhā-nī/-nā*] *cāh-ī/*-ā*
 show-INF.F.SG/*-INF.M.SG want-PFV.F.SG/*-PFV.M.SG
 ‘For every child *x*, *x*’s mother wanted to show *x* a movie.’

- The same generalization holds if the A-moved element is the possessor of the embedded object. In (19) it is the possessor of *kitābē* ‘books’ that is A-extracted. As a consequence, the direct object *kitābē* has to control agreement.

- (19) a. *us-kī₁ patnī-ne* [*har lekhak-kī₂ kitābē paṛh-nī/-nā*]
 he-GEN wife-ERG every author-GEN books.F read-INF.F.PL/-INF.M.SG
cāh-ī/-ā
 want-PFV.F.PL/-PFV.M.SG
 ‘His₁ wife wanted to read the books of every author₂.’

- b. *har lekhak-kī₂ us-kī₁ patnī-ne* [*t₂ kitābē paṛh-nī/-nā*]
 every author-GEN he-GEN wife-ERG books.F read-INF.F.PL/-INF.M.SG
cāh-ī/-ā
 want-PFV.F.PL/-PFV.M.SG
 ‘His₁ wife wanted to read the books of every author₂.’
- c. *har lekhak-kī₁ us-kī₁ patnī-ne* [*t₁ kitābē paṛh-nī/*-nā*]
 every author-GEN he-GEN wife-ERG books.F read-INF.F.PL/*-INF.M.SG
cāh-ī/-ā*
 want-PFV.F.PL/*-PFV.M.SG
 ‘For every author *x*, *x*’s wife wanted to read *x*’s books.’

- These data are captured by the following generalization:

(20) **GENERALIZATION 1**

If *any* element A-moves out of the embedded clause, LDA with the embedded object becomes obligatory.

- No analysis of LDA proposed in the literature captures (20). I do contend, however, that an account in terms of restructuring is most promising (Bhatt 2005, Boeckx 2004).

2.4 \bar{A} -Scrambling and LDA

- Section summary:**

\bar{A} -movement does not have an effect on LDA. Moreover, a constituent’s opacity for LDA correlates with whether or not it allows A-subextraction. Its transparency for \bar{A} -extraction is irrelevant.

- As seen above, finite clauses are transparent for \bar{A} -scrambling but opaque for A-movement. They are likewise opaque for LDA into them. Notably, LDA with elements base-generated within finite clauses is impossible even if these elements leave the clause.

- (21) a. *Firoz-ne soc-ā/*-ī* [*ki Monā-ne ghazal*
 Firoz-ERG think-PFV.M.SG/*-PFV.F.SG that Mona-ERG ghazal.F
gā-yī thī]
 sing-PFV.F.SG be.PST.F.SG
 ‘Firoz thought that Mona had sung ghazal.’

- b. *ghazal*₁ *Firoz-ne soc-ā/*-ī* [*ki Monā-ne t*₁
ghazal.F Firoz-ERG think-PFV.M.SG/-PFV.F.SG that Mona-ERG*
gā-yī thī]
 sing-PFV.F.SG be.PST.F.SG
 ‘Firoz thought that Mona had sung ghazal.’

- A second construction that exhibits the same properties are case-marked infinitival clauses.
- We can now draw the conclusions in (22).

(22) **GENERALIZATION 2**

- Constructions that are opaque for ϕ -agreement are also opaque for A-movement.
- \bar{A} -positions are invisible for ϕ -agreement.

2.5 Interim Summary

- Combining (20) and (22) we obtain (23).

(23) **MOVEMENT-AGREEMENT CORRELATION**

- If any element A-moves out of the embedded clause, LDA with the embedded object becomes obligatory.
- Constructions that are opaque for ϕ -agreement are also opaque for A-movement.
- \bar{A} -positions are invisible for ϕ -agreement.

- (23) is strikingly similar to improper movement:

1. (23a):

If a constituent is transparent for A-extraction, it is also transparent for LDA.

2. (23b):

Constituents that are opaque for A-extraction are also opaque for ϕ -agreement.

3. (23c):

\bar{A} -positions cannot feed ϕ -agreement. Of course, these are the positions that also do not feed A-movement.

- **Conclusion:**

The similarity between LDA and improper movement in the generalized sense is unlikely to be a coincidence. A unified analysis is thus called for.

- **The Puzzle:**

Not only do previous accounts of LDA in Hindi not extend to the generalizations in (23) (see, e.g., Davison 1991, Mahajan 1989, Butt 1995, Bhatt 2005, Chandra 2007). Such a unification is also impossible if improper movement is the result of a constraint on movement itself. Because virtually all previous analyses of improper movement have this property (Williams 1974, May 1979, Chomsky 1981, Müller & Sternefeld 1993, Abels 2007, Obata & Epstein 2011, Neeleman & van de Koot 2010), they have nothing to say about (23), an unsatisfactory state of affairs.

- **Proposed Solution:**

Both restrictions on ϕ -agreement as well as movement dependencies are the result of a constraint on AGREE.

3 Proposal: Relativized Probing

- **Background assumption:**

Movement = AGREE + Internal Merge (Chomsky 2000, 2001, 2004)

- **Consequence:**

A constraint on AGREE will restrict ϕ -agreement as well as movement.

(24) **BAN ON IMPROPER AGREE**

Given a functional sequence $fseq = \langle X_1 > X_2 > \dots > X_n \rangle$, such that X_i takes X_{i+1} as its complement,

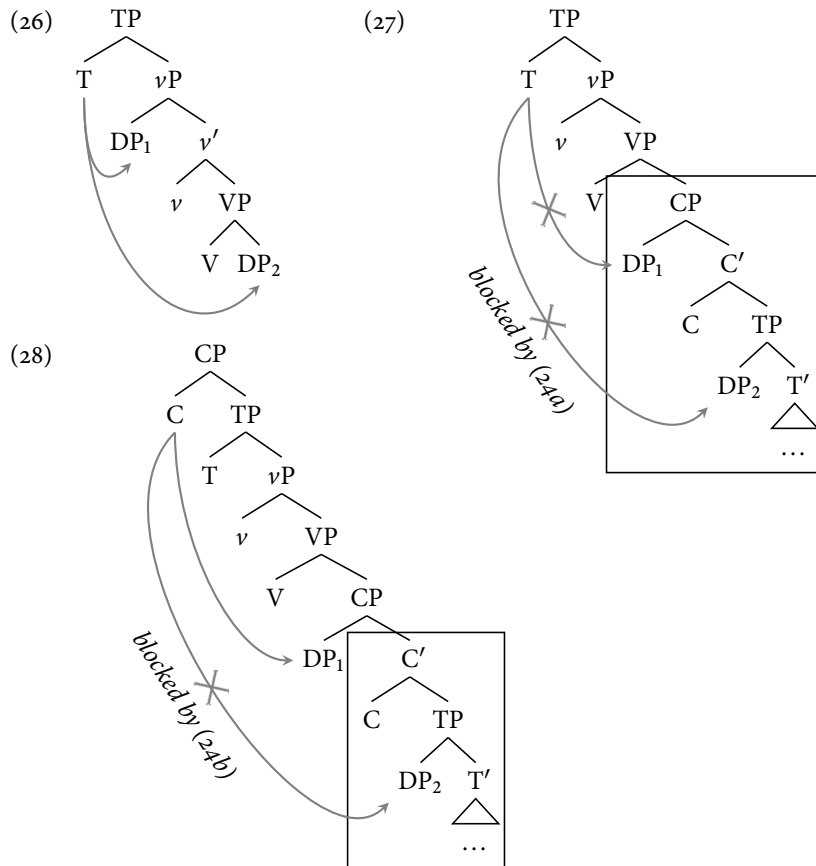
- if $X_k > X_m$, then a node of category X_k is a barrier for probes on X_m ;
- if $X_k = X_m$, then an immediate projection of X_k is a barrier for probes on X_m .

- **Remarks about (24):**

Projections that are ‘larger’ than the projection the probe is on are barriers (by (24a)); projections of equal height are transparent up to the level of the specifier (by (24b)).

(25) $fseq = \langle C > T > v > V \rangle$

- (24) is **relativized**: T is a barrier for probes on v but not for ones on C. It is also **asymmetric**: Probes on C can probe past, e.g., v but the reverse is impossible. Some illustrations of how (24) works are given in (26)–(28).



3.1 Background Assumptions

- **Notation:**
I will notate features that trigger Internal Merge upon AGREE as $[\bullet X \bullet]$ (following Roberts & Roussou 2002, Adger 2003, Heck & Müller 2007). Features that can be valued by pure AGREE are referred to as $[\ast X \ast]$.
 - **The A/ \bar{A} -Distinction:**
A-movement may feed binding while \bar{A} -movement may not.
 - **Implementation:**
Both A- and \bar{A} -scrambling are triggered by a feature $[\bullet \Sigma \bullet]$, which may reside on v or C (Grewendorf & Sabel 1999, Sauerland 1999).
- \Rightarrow Movement to v may feed binding, movement to C must not do so.

(29) Binding is determined cyclically once a vP is completed.

(30) *Features triggering scrambling*

- $C_{[\bullet \Sigma \bullet]}$: scrambling *without* effects on binding
- $v_{[\bullet \Sigma \bullet]}$: scrambling *with* binding effects

- **Structure of finite clauses:**

I will take finite clauses to be CPs. They can have a complementizer and have interrogative force.

- **Structure of non-finite clauses:**

Non-finite clauses are clearly not CPs. They cannot contain a complementizer and lack interrogative force (Dayal 1996). They must, however, necessarily contain a PRO (Davison 2010) and hence a v projection.

\Rightarrow I will take infinitival clauses to be to be ambiguous between a vP and a TP structure (Wurmbrand 2001, see also Bhatt 2005 and Boeckx 2004).

- **Location of ϕ -probe:**

The ϕ -probe $[\ast \phi \ast]$ to reside on T. Following, e.g., Preminger (2011), I will take ϕ -agreement to be obligatory if it is possible.

(31) **ASSUMPTIONS**

- Finite clauses are CPs.
- Infinitival clauses are either vP s or TPs.
- A-scrambling is the result of $[\bullet \Sigma \bullet]$ on v , \bar{A} -scrambling is triggered by $[\bullet \Sigma \bullet]$ on C.
- $[\ast \phi \ast]$ is located on T.
- If AGREE is possible it is forced.

3.2 Application to LDA

- Let us apply this system to the sentence in (32), where the embedded object remains in its base position and LDA is optional.

(32) *Rām-ne [roṭī khā-nī/-nā] cāh-ī/-ā*
 Ram-ERG bread.F eat-INF.F.SG/-INF.M.SG want-PFV.F.SG/-PFV.M.SG
 ‘Ram wanted to eat bread.’

- The embedded clause is ambiguous between a vP and a TP structure. In the former, it is transparent for T’s ϕ -probe, yielding LDA (33). In the latter, it is opaque, leading to default agreement (34).

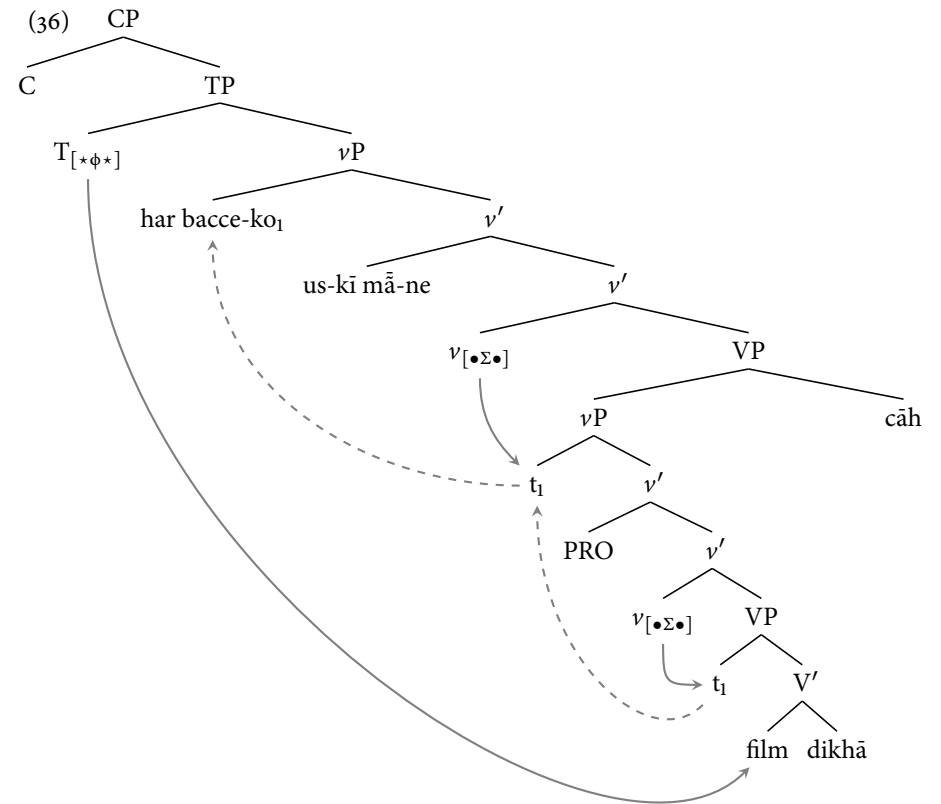
(33) [CP C [TP T_[*φ*] [vP Rām-ne [vP [vP PRO [vP roṭī khā]] cāh]]]]

(34) [CP C [TP T_[*φ*] [vP Rām-ne [vP [TP [T'] [vP PRO [vP roṭī khā]]]]] cāh]]]]
 (blocked by (24b))

- Consider now the sentence in (35). Here the indirect object has A-moved over the matrix subject and LDA is obligatory.

(35) *har bacce-ko₁ us-kī mā-ne [t₁ film dikhā-nī/*-nā]*
 every child-DAT he-GEN mother-ERG movie.F show-INF.F.SG/*-INF.M.SG
cāh-ī/-ā*
 want-PFV.F.SG/*-PFV.M.SG
 'For every child *x*, *x*'s mother wanted to show *x* a movie.'

- Given the assumptions above, this movement step *must* target the matrix vP. It must hence be brought about by AGREE between [•Σ•] on *v* and the moving element. This is impossible if the embedded clause is a TP. To allow the required movement step, then, the infinitival clause in (35) must be a vP.
- As a vP, it will necessarily be transparent for φ-probing from T. LDA is hence obligatory.
- This derivation is schematized in (36), where dashed lines indicate movement and solid lines AGREE.

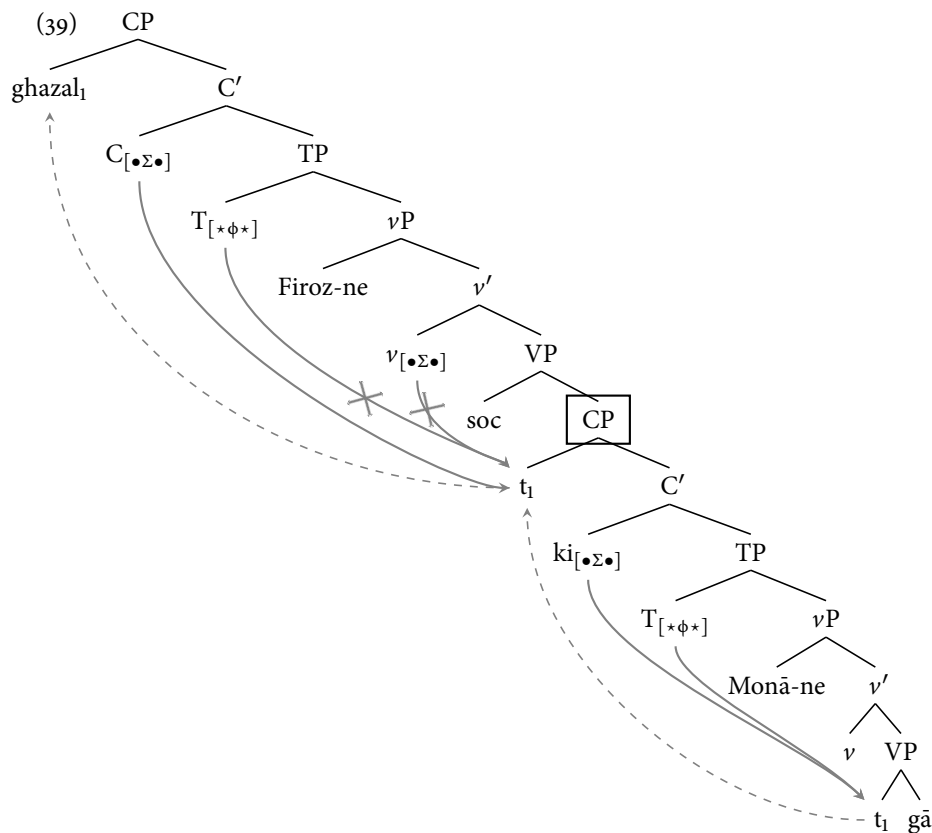


- Upshot:** Sentences that are small enough to be transparent for probes on *v* must necessarily be small enough to be transparent for probes on T because *v* is 'smaller' than T in terms of *fseq*.
- Note:** This implication between transparency for movement and transparency for φ-agreement follows because both are regulated by one and the same constraint, namely (24).
- Remark:** We still have to make sure that PRO in (37) does not intervene for AGREE with the direct object. This can be achieved by stipulating that PRO lacks φ-features:

(37) PRO does not contain a φ-specification.

- Finally, consider finite clauses. We have seen that they disallow LDA into them. Likewise, even nominals that have been moved out of them are unable to control LDA.

(38) *ghazal₁ Firoz-ne soc-ā/*-ī* [*ki Monā-ne t₁*
 ghazal.F Firoz-ERG think-PFV.M.SG/*-PFV.F.SG that Mona-ERG
gā-yī th-ī]
 sing-PFV.F.SG be-PST.F.SG
 'Firoz thought that Mona had sung ghazal.'



- Consequences:**

- Finite clauses are taken to be CPs. It follows that only movement to C is able to escape them. They are too large for movement to *v*. Movement out of finite clauses is necessarily \bar{A} -movement.
- Finite clauses are barriers for probes on T. This derives that LDA with elements inside them cannot trigger LDA.
- Because elements moved out of finite clauses have to land in a C projection, their landing site is not in the c-command domain of T. They can hence not be used to value T's $[\ast\phi\ast]$ -probe.

- Upshot:**

This accounts for the extraction and agreement properties of finite clauses in a uniform manner.

- Conclusion:**

We have now derived the movement–agreement correlation identified above and repeated in (40).

(40) **MOVEMENT–AGREEMENT CORRELATION** (repeated from (23))

- If any element A-moves out of the embedded clause, LDA with the embedded object becomes obligatory.
 ~ *Embedded clauses that are transparent for probes on *v* are necessarily transparent for T's ϕ -probe.*
- Constructions that are opaque for ϕ -agreement are also opaque for A-movement.
 ~ *Clauses that are too large for probes on T will necessarily be too large for probes on *v*.*
- \bar{A} -positions are invisible for ϕ -agreement.
 ~ *\bar{A} -positions are high in the tree, outside of the c-command domain of T.*

3.3 Application to Improper Movement

- The proposal does not only capture the movement–agreement correlation in Hindi, it also derives the ban on improper movement discussed above and repeated in (41).

(41) **GENERALIZED IMPROPER MOVEMENT** (repeated from (9))

- $\overbrace{\hspace{10em}}^{\bar{A}\text{-mvt}}$
- a. A-mvt \gg scrambling \gg wh-mvt \gg topicalization
 - b. If $\alpha \gg \beta$ in (40),
 - (i) a β -moved constituent may not undergo α -movement;
 - (ii) a remnant created by β -movement may not be α -moved;
 - (iii) α -extraction out of a β -moved constituent is impossible.

- For the A/ \bar{A} -distinction this is shown in (42)–(45). In all of these cases A-movement is ruled out because it would have to cross a CP node.

(42) *Who₁ was believed [t₁ went to the party]?

(43) [TP T [_{vP} was believed [CP (who) C [TP (who) T [_{vP} went to the party]]]]]

(44) *[The driver t₁]₂ was known [CP] of which car₁ was awarded t₂ a prize].

(45) *Oskar₁ was asked [CP] [how likely t₁ to win]₂ it was t₂].

- **Conclusion:**
The familiar ban against improper movement falls out of the Ban on Improper AGREE.
- **Remark:**
The effects of the Ban on Improper AGREE are most closely related to the ‘Williams Cycle’ (Williams 1974, 2003), which is stronger than other implementations of improper movement (e.g., Abels 2007).

4 Edge Agreement

- **The Question:**
The condition in (24b) allows AGREE between a probe on some head and the specifier of a projection of equal height. This stipulation is adopted to allow for successive-cyclic movement.

(24) **BAN ON IMPROPER AGREE**

Given a functional sequence $fseq = \langle X_1 > X_2 > \dots > X_n \rangle$, such that X_i takes X_{i+1} as its complement,

- a. if $X_k > X_m$, then a node of category X_k is a barrier for probes on X_m ;
- b. if $X_k = X_m$, then an immediate projection of X_k is a barrier for probes on X_m .

- The main claim of this paper, viz., that (24) constrains movement and ϕ -agreement alike, leads one to expect to see cases of ϕ -agreement with the edge.
- This section is devoted to showing that this expectation is borne out.

4.1 The Problem

- **Observation:**
So far, we have restricted our attention to embedded verbs that are (di)transitive. Except for the case of A-extraction, LDA is optional in these cases.
- Interestingly, LDA is generally **obligatory** with **intransitive** embedded verbs (Bhatt 2005, Davison 2010). Compare (46), where the embedded verb is transitive, with (47), which contains an intransitive verb.

(46) **Transitive verb** \rightarrow LDA optional

Sītā-ne [Ram-ko darvaze khol-ne] di-yā/-ye
 Sita-ERG Ram-DAT door.M.PL open_{tr}-INF.OBL let-PFV.M.SG/-PFV.M.PL
 ‘Sita let Ram open the doors.’

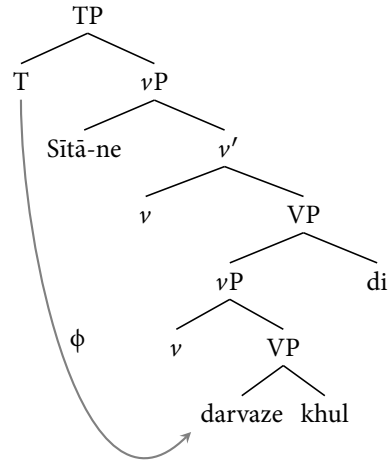
(47) **Intransitive verb** \rightarrow LDA obligatory

a. Sītā-ne [darvaze khul-ne] di-ye/*-yā
 Sita-ERG door.M.PL open_{intr}-INF.OBL let-PFV.M.PL/*-PFV.M.SG
 ‘Sita let the doors be open.’

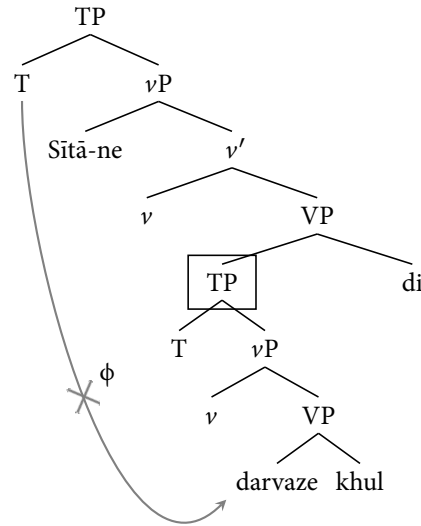
b. Sītā-ne [darvaze khol-e/*-ā jā-ne]
 Sita-ERG doors open_{tr}-M.PL/*-M.SG PASS-INF.OBL
 di-ye/*-yā
 let-PFV.M.PL/*-PFV.M.SG
 ‘Sita let the doors be opened.’

- **Problem:**
The embedded clauses in (47) could have a TP parse. Under such a structure, LDA should be impossible and we should get default agreement. This is wrong.

(48) Structure of (47a) with vP complement



(49) Structure of (47a) with TP complement



- One might be tempted to assume that a TP structure is ruled out for reasons of case assignment (see, e.g., Bhatt 2005). There is good reason to doubt this view, however. Bhatt (2007) provides evidence that the case of the DP can be assigned *within the embedded clause*. If this is correct, nothing prevents a TP structure. The problem persists, then.

4.2 The Proposal

• Analytic idea:

The highest element in vP has to move to Spec,T. In this position, it will be visible for the matrix $[\ast\phi\ast]$ -probe, precisely because of (24b).

(50) T in Hindi has an EPP feature $[\bullet D\bullet]$.

- The EPP feature is non-discriminatory. It can agree with any nominal. By Minimality, it attracts the closest one.
- PRO can be attracted to Spec,T because it contains a categorial [D] specification.

(51) Properties of PRO

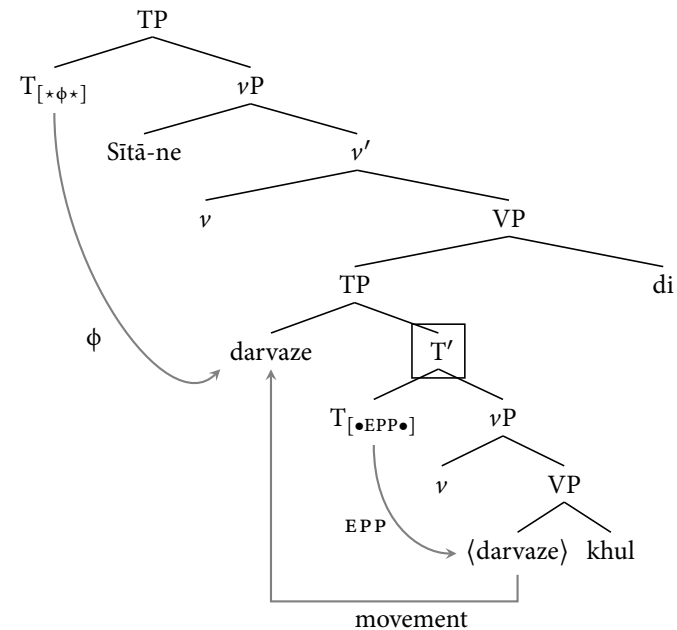
- PRO does not contain a ϕ -specification. (= (37))
- PRO contains a categorial [D]-feature.

• Consequence:

The embedded clause in (47) can have either a vP or a TP structure.

1. Under a vP structure, the DP is necessarily within the search space of matrix T, leading to LDA.
2. Under a TP structure, the embedded object is the only DP available to satisfy T's EPP-feature. It is hence attracted to Spec,TP. In this position, it is visible for matrix T due to edge agreement (24b). This structure thus likewise results in LDA.

(52) Structure of (47a) with TP and edge agreement



- Because LDA obtains in either structure, the strings require LDA.

• Transitive verbs:

If the embedded verb is transitive, it contains two DPs: The object and PRO. Because PRO can move to Spec,TP, a TP parse does not necessarily lead to LDA. As a result, LDA is optional in (46).

• Conclusion:

Crucial for this analysis is that edge agreement is possible for ϕ -probes. It thus pro-

vides evidence for the claim that the locality boundaries restricting movement and ϕ -agreement are the same.

5 Conclusion

- I have argued that the constraint against improper movement is ultimately a constraint on AGREE, which also applies to movement.
- The argument was based on the observation that ϕ -agreement exhibits the same restrictions as, and interacts with, A- and \bar{A} -movement.
- These observations can only be systematically captured if movement and agreement are regulated by a uniform principle.
- I have proposed a general locality restriction on AGREE. The claim underlying this constraint is that the locality of a probe is systematically related to the height of the head it is situated on in the functional sequence. The locality of AGREE, in this system, is relativized.
- The account has been extended to edge agreement, providing further evidence that movement and ϕ -agreement behave alike.
- Improper movement is the result of relativized probing in combination with the fact that different movement types target different positions.

Abels, Klaus (2003). Successive Cyclicity, Anti-Locality, and Adposition Stranding. Ph.D. thesis, University of Connecticut, Storrs, Connecticut.

Abels, Klaus (2007). Towards a Restrictive Theory of (Remnant) Movement. In: *Linguistic Variation Yearbook 7*, ed. by Jeroen van Craenenbroeck & Johan Rooryck, Amsterdam: John Benjamins, pp. 53–120.

Abels, Klaus (2009). Some Implications of Improper Movement for Cartography. In: *Alternatives to Cartography*, ed. by Jeroen van Craenenbroeck, Berlin: de Gruyter, pp. 325–359.

Adger, David (2003). *Core Syntax: A Minimalist Approach*. Oxford: Oxford University Press.

Bhatt, Rajesh (2005). Long Distance Agreement in Hindi-Urdu. *Natural Language and Linguistic Theory* 23: 757–807.

Bhatt, Rajesh (2007). Unaccusativity and Case Licensing, Handout of talk at McGill University.

Boeckx, Cedric (2004). Long-Distance Agreement in Hindi: Some Theoretical Implications. *Studia Linguistica* 58: 23–36.

Butt, Miriam (1995). *The Structure of Complex Predicates in Urdu*. Stanford, California: CSLI Publications.

Chandra, Pritha (2007). (Dis)Agree: Movement and Agreement Reconsidered. Ph.D. thesis, University of Maryland, College Park.

Chomsky, Noam (1973). Conditions on Transformations. In: *A Festschrift for Morris Halle*, ed. by Stephen Anderson & Paul Kiparsky, New York: Academic Press, pp. 232–286.

Chomsky, Noam (1977). On Wh-Movement. In: *Formal Syntax*, ed. by Peter Culicover, Tom Wasow & Adrian Akmajian, New York: Academic Press, pp. 71–132.

Chomsky, Noam (1981). *Lectures on Government and Binding*. Dordrecht: Foris.

Chomsky, Noam (1986). *Barriers*. Cambridge, Mass.: MIT Press.

Chomsky, Noam (1995). *The Minimalist Program*. Cambridge, Mass.: MIT Press.

Chomsky, Noam (2000). Minimalist Inquiries: The Framework. In: *Step by Step: Essays in Syntax in Honor of Howard Lasnik*, ed. by Roger Martin, David Michaels & Juan Uriagereka, Cambridge, Mass.: MIT Press, pp. 89–155.

Chomsky, Noam (2001). Derivation by Phase. In: *Ken Hale: A Life in Language*, ed. by Michael Kenstowicz, Cambridge, Mass.: MIT Press, pp. 1–52.

Chomsky, Noam (2004). Beyond Explanatory Adequacy. In: *Structures and Beyond. The Cartography of Syntactic Structures, Vol. 3*, ed. by Adriana Belletti, Oxford: Oxford University Press, pp. 104–131.

Davison, Alice (1991). Feature Percolation and Agreement in Hindi/Urdu, Ms., University of Iowa.

Davison, Alice (2010). Remarks on Long-Distance Agreement and Restructuring, Ms., University of Iowa.

Dayal, Veneeta (1996). *Locality in Wh-Quantification: Questions and Relative Clauses in Hindi*. Dordrecht: Kluwer.

Grewendorf, Günther (2003). Improper Remnant Movement. *Gengo Kenkyo: The Journal of the Linguistic Society of Japan* 123: 47–94.

Grewendorf, Günther & Joachim Sabel (1999). Scrambling in German and Japanese. *Natural Language and Linguistic Theory* 17: 1–65.

Grohmann, Kleanthes (2003). *Prolific Domains: On the Anti-Locality of Movement Dependencies*. Amsterdam: John Benjamins.

Heck, Fabian & Gereon Müller (2007). Extremely Local Optimization. In: *Proceedings of the 34th Western Conference on Linguistics (WECOL 34)*, ed. by Erin Brainbridge & Brian Agbayani, Fresno: California State University, pp. 170–183.

Mahajan, Anoop (1989). Agreement and Agreement Phrases. In: *Functional Heads and Clause Structure*, ed. by Itziar Laka & Anoop Mahajan, Cambridge, Mass.: MIT, MIT Working Papers in Linguistics 10, pp. 217–252.

Mahajan, Anoop (1990). The A/A-bar Distinction and Movement Theory. Ph.D. thesis, MIT, Cambridge, Mass.

Mahajan, Anoop (1994). Towards a Unified Theory of Scrambling. In: *Studies on Scrambling: Movement and Non-Movement Approaches to Free Word-Order Phenomena*, ed. by Norbert Corver & Henk van Riemsdijk, Berlin: de Gruyter, pp. 301–330.

May, Robert (1979). Must Comp-to-Comp Movement be Stipulated? *Linguistic Inquiry* 10: 719–725.

Müller, Gereon (1995). *A-bar Syntax: A Study in Movement Types*. Berlin: de Gruyter.

Müller, Gereon & Wolfgang Sternefeld (1993). Improper Movement and Unambiguous Binding. *Linguistic Inquiry* 24: 461–507.

Neeleman, Ad & Hans van de Koot (2010). A Local Encoding of Syntactic Dependencies and Its Consequences for the Theory of Movement. *Syntax* 13: 331–372.

Obata, Miki & Samuel David Epstein (2011). Feature-Splitting Internal Merge: Improper Movement, Intervention, and the A/A' Distinction. *Syntax* 14: 122–147.

Preminger, Omer (2011). Agreement as a Fallible Operation. Ph.D. thesis, MIT, Cambridge, Mass.

Roberts, Ian & Anna Roussou (2002). The Extended Projection Principle as a Condition for the Tense-Dependency. In: *Subjects, Expletives, and the EPP*, ed. by Peter Svenonius, Amsterdam: John Benjamins, pp. 125–156.

Sauerland, Uli (1999). Erasability and Interpretation. *Syntax* 3: 161–188.

van Riemsdijk, Henk & Edwin Williams (1981). NP Structure. *The Linguistic Review* 1: 171–218.

Williams, Edwin (1974). Rule Ordering in Syntax. Ph.D. thesis, MIT, Cambridge, Mass.

Williams, Edwin (2003). *Representation Theory*. Cambridge, Mass.: MIT Press.

Wurmbrand, Susanne (2001). *Infinitives: Restructuring and Clause Structure*. Berlin: Mouton de Gruyter.