

# On the Role of Movement in Hindi/Urdu Long-Distance Agreement\*

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## 1. Introduction

Like several other languages Hindi/Urdu exhibits *long-distance agreement* (LDA) between a matrix verb and the object of an embedded infinitival clause (Mahajan 1989, Davison 1991, Butt 1995, Bhatt 2005, Chandra 2007). In most cases LDA is optional and in free variation with masculine singular default agreement. The two sentences in (1) provide an example. In (1a) both the matrix verb *cāh* ‘want’ and the embedded verb *khā* ‘eat’ agree with the embedded object *roṭī* ‘bread.’ In (1b), by contrast, both verbs show default agreement. At least in the dialect of Hindi/Urdu that I will focus on, LDA on the matrix verb entails and is entailed by agreement with the infinitival verb. In other words, it is impossible to have agreement on only the embedded or only the matrix verb (though see Butt 1995 for a diverging dialect).

- (1) 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.’  
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]

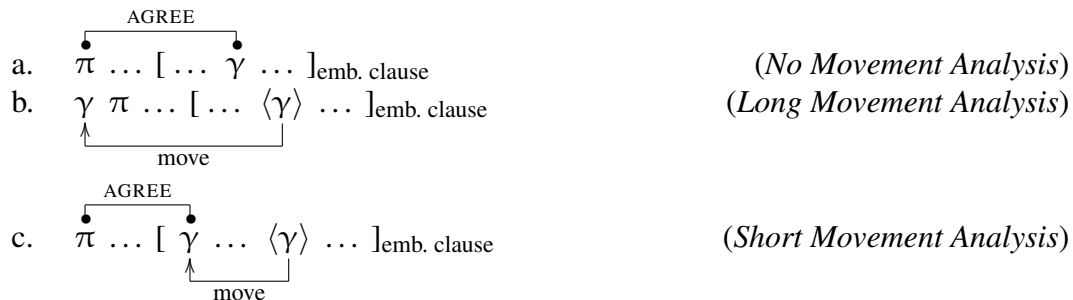
The central question of this paper is whether the derivation of LDA in (1a) depends of movement of the agreement trigger, and if so, what properties the landing site of this movement has. A number of positions have been taken in the literature. First, it has been suggested that the embedded object may trigger LDA from its base position (Davison 1991,

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Butt 1995, Boeckx 2004, Bhatt 2005). Under this analysis, schematized in (2a), movement of the object is independent of LDA. I will henceforth refer to it as the *No Movement Analysis*. Second, LDA may be treated as requiring movement of the object into the matrix clause (Mahajan 1989, Chandra 2007). Because under this analysis the object has to leave the embedded clause, I will label this the *Long Movement Analysis*. It is sketched in (2b). Third, LDA may be taken to depend on object movement to the edge of the embedded clause (Polinsky and Potsdam 2001 for Tsez and Bobaljik and Wurmbrand 2005 for Hindi/Urdu). This account, dubbed the *Short Movement Analysis* here, is similar to the Long Movement Analysis in that LDA is dependent on object movement but it diverges from the latter in that this movement need not necessarily leave the embedded clause. This line of analysis is illustrated in (2c).

(2) *Schematization* ( $\pi$ : agreeing verbal head;  $\gamma$ : agreement controller)



In this paper I will present new evidence that supports the Short Movement Analysis in (2c) over the two alternatives. A central finding is that only A-movement interacts with LDA while  $\bar{A}$ -movement does not. Once the well-known differences between A- and  $\bar{A}$ -movement are utilized to specifically track A-movement, effects of movement on LDA become evident. We find that LDA becomes obligatory if the embedded object has A-moved to either the edge of the embedded clause or higher and that default agreement becomes required if the object has not undergone A-movement. This generalization is stated in (3).

(3) *Empirical generalization*

A-scrambling of the embedded object to the edge of the embedded clause or higher is necessary and sufficient for LDA.

It is worth noting that, at least at first glance, there is no interaction between object movement and LDA. If the embedded object is scrambled over the matrix subject, LDA remains optional, as shown in (4).<sup>1</sup> I will argue that these findings support the Short Movement Analysis with the additional restriction that the movement step in (2c) has to be A-movement. If a movement step is ambiguous with respect to its A- vs.  $\bar{A}$ -nature, there is no surface effect on LDA, as attested by (4).

<sup>1</sup>Recall that LDA on the matrix verb entails agreement on the embedded verb and vice versa. Mixing the agreement values is not possible in (4).

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- (4) kitāb<sub>1</sub> Rām-ne [t<sub>1</sub> 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.’

As discussed in greater detail in section 4, the data discussed here have the following theoretical consequences: First, the operations establishing agreement must be able to establish agreement between matrix T and an element at the edge of the embedded clause. It can hence not be strictly local (in the sense of, e.g., Spec-head). This can be viewed as evidence for Chomsky’s (2000, 2001) operation AGREE. Second, since LDA requires movement, AGREE must be myopic, its search space in the embedded clause confined to its edge. Third, AGREE with T must be limited to elements in A-position. Fourth, AGREE must be obligatory. If a configuration allows AGREE, AGREE must take place.

## 2. A- and $\bar{A}$ -Scrambling in Hindi/Urdu

Mahajan (1990) demonstrates that, descriptively, there exist two types of scrambling in Hindi/Urdu. While scrambling within finite clauses exhibits regular properties of A-movement, including the absence of weak crossover effects and obviation of Principle C violations, scrambling out of finite clauses shows  $\bar{A}$ -behavior. It is subject to weak crossover and does not undo Principle C violations incurred in the launching site. To illustrate, consider the contrast between (5) and (6). (5a) demonstrates that within a finite clause a quantificational nominal may be moved over a pronoun it binds. Furthermore, (5b) shows that such binding is unavailable in the absence of movement due to the lack of c-command. If a finite clause boundary intervenes, by contrast, such movement is impossible, as demonstrated by (6). If the pronoun receives a referential interpretation, i.e., if it is not coindexed with the moved element, the string in (6) is grammatical. Exactly the same state of affairs holds of the relation between pronouns embedded in indirect objects and quantificational direct objects (see Mahajan 1990).

- (5) a. **sab-ko<sub>1</sub>** **un-kī<sub>1</sub>** bahin t<sub>1</sub> pyār kar-tī thī  
 everyone-ACC they-GEN sister love do-IPFV.F be.PST.F.SG  
 ‘Their<sub>1</sub> sister loved everyone<sub>1</sub>.’  
 b. \***us-kī<sub>1</sub>** bahin **sab-ko<sub>1</sub>** pyār kar-tī thī  
 he-GEN sister everyone-ACC love do-IPFV.F do.PST.F.SG  
 ‘Their<sub>1</sub> sister loved everyone<sub>1</sub>.’ [Mahajan 1990: 25–6]
- (6) \***sab-ko<sub>1</sub>** **us-kī<sub>1</sub>** bahin-ne soc-ā [(ki) Rām-ne t<sub>1</sub>  
 everyone-ACC he-GEN sister-ERG think-PFV.M.SG (that) Ram-ERG  
 dekh-ā]  
 see-PFV.M.SG  
 ‘His<sub>1</sub> sister thought that Ram saw everyone<sub>1</sub>.’ [Mahajan 1990: 44]

I will follow Mahajan's (1990) view that Hindi employs both A- and  $\bar{A}$ -scrambling and that finite clauses are islands for A- but not  $\bar{A}$ -scrambling. This means that scrambling within finite clauses may in principle be either A- or  $\bar{A}$ -movement. The interpretive effects of A-movement just mentioned may be drawn into service to distinguish between them: If a quantificational noun phrase is moved over a pronoun it binds, this movement has to be A-movement. The remainder of this paper uses this test to probe the effect of A-movement on LDA. In a nutshell, we find that A-scrambling

### 3. A-Scrambling and LDA

This section lays out the empirical evidence that motivates the generalization in (3) above. The argument comprises two parts. First, I will investigate structure that receive an interpretation that requires the embedded object to undergo A-movement. The second part is constituted by structures in which A-scrambling is impossible for independent reasons. We find that in the former case LDA becomes obligatory while in the latter it is impossible.

#### 3.1 Obligatory A-Scrambling

I will first focus on constructions with a quantificational NP in the embedded clause and a pronoun in the matrix clause. Consider the paradigm in (7):

- (7) a. **us-ke**<sub>1/\*2</sub> malik-ne **har billi**<sub>2</sub> ghumā-nī/-nā  
 it-GEN owner-ERG every cat.F walk-INF.F.SG/-INF.M.SG  
 cāh-ī/-ā  
 want-PFV.F.SG/-PFV.M.SG  
 'Its<sub>1/\*2</sub> owner wanted to walk every cat<sub>2</sub>.'
- b. **har billi**<sub>1</sub> **us-ke**<sub>2</sub> malik-ne t<sub>1</sub> ghumā-nī/-nā  
 every cat.F its owner-ERG walk-INF.F.SG/-INF.M.SG  
 cāh-ī/-ā  
 want-PFV.F.SG/-PFV.M.SG  
 'Its<sub>2</sub> owner wanted to walk every cat<sub>1</sub>.'
- c. **har billi**<sub>1</sub> **us-ke**<sub>1</sub> malik-ne t<sub>1</sub> ghumā-nī/???-nā  
 every cat.F its owner-ERG walk-INF.F.SG/???-INF.M.SG  
 cāh-ī/???-ā  
 want-PFV.F.SG/???-PFV.M.SG  
 'Its<sub>1</sub> owner wanted to walk every cat<sub>1</sub>.'

In (7a) the quantificational direct object of the embedded clause remains in a position below the matrix subject, which contains the pronoun. Only a referential interpretation of the pronoun is possible, due to the lack of c-command. In this configuration, LDA is optional. The structure in (7b) differs from (7a) in that the embedded object *har billi* 'every cat' has been scrambled above the matrix subject *uske malik-ne* 'his owner-ERG.' Crucially, however, the pronoun retains a referential interpretation just as in (7a). Contrast this with (7c). Here the object has been moved over the matrix subject, but it binds the pronoun. This

interpretation is unavailable in (7a). Under this interpretation, default agreement becomes severely degraded and LDA the only option.

Given the background distinction between A- and  $\bar{A}$ -movement laid out in section 2, the structure in (7c) requires A-movement of *har billī* ‘every cat,’ while the structures in (7a) and (7b) are compatible with it but do not require it. We have seen that  $\bar{A}$ -movement, but not A-movement, is subject to weak crossover. The movement step in (7c) crosses a coindexed pronoun. That the result is nevertheless grammatical entails that the object must have undergone A-movement, because  $\bar{A}$ -movement would have resulted in a crossover violation. By contrast, neither (7a) nor (7b) constitute a weak crossover constellation because in neither case is the pronoun coindexed with the quantificational noun phrase (and since, of course, the object does not cross the pronoun in (7a) to begin with). Consequently, while (7a) and (7b) are *compatible* with A-movement of the object they do not *require* it. The surface string underdetermines the underlying structure. (7a) could have been produced by chain-invariant A-scrambling of *har billī* ‘every cat,’ chain-invariant  $\bar{A}$ -scrambling or no scrambling at all. Likewise, the word order permutation in (7b) may be the result of either A- or  $\bar{A}$ -scrambling. In this sense, both (7a) and (7b) are structurally ambiguous in a way in which (7c) is not.<sup>2</sup>

The presence or absence of this structural ambiguity with respect to whether A-movement has applied is tied to whether LDA is required or optional. In (7c) both A-movement of the embedded object as well as LDA are obligatory. In (7a) and (7b)—which may involve A-movement but need not—LDA is optional. This suggests a correlation between A-movement and LDA. The data in (7) are accounted for if A-movement of the embedded object into the matrix clause necessarily leads to LDA. This first part of the empirical generalization motivated here is stated in (8):

(8) *Subgeneralization A*

A-scrambling of the embedded object into the matrix clause renders LDA obligatory.

This generalization provides a rather clear indication that A-movement and LDA cannot be completely segregated and hence casts doubts on the No Movement Analysis in (2a), which by definition severs LDA from movement. Any effect of movement on LDA is unexpected under this analysis, in contrast to (8). The data in (7) hence support a movement-based account of LDA, coupled with the additional assumption that agreement *must* be established if it *can* be (i.e., if A-movement has taken place).<sup>3</sup> The data in (7) do not, however, allow us to distinguish between the Long Movement Analysis in (2b) and the Short Movement Analysis in (2c). This is because the A-movement step in (7c) necessarily leaves the embedded clause. The crucial question is whether A-movement *within the embedded clause* has the same effect on LDA or not. In the remainder of this section I will demonstrate that it does.

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<sup>2</sup>It is important to note here that the implication between a bound reading of the pronoun and the application of A-movement is unidirectional. While a bound reading may only be produced by A-movement (given the weak crossover restriction on  $\bar{A}$ -movement), the inverse does not hold. A-movement does not necessarily result in a bound reading of a pronoun. The absence of a such a bound reading hence does not disambiguate the structure.

<sup>3</sup>See Preminger (2011) for recent discussion. I consider this assumption uncontroversial given the ungrammaticality of, e.g., \**John love Mary*.

The sentences in (9) can be used to probe this issue. Here the embedded verb is ditransitive. The indirect object contains a pronoun and the direct object is quantificational.

- (9) a. Rām-ne **us-ke**<sub>1/\*2</sub> baccō-ko **har billī**<sub>2</sub> dikhā-nī/-nā  
 Ram-ERG he-GEN children-DAT every cat show-INF.F.SG/-INF.M.SG  
 cāh-ī/-ā  
 want-PFV.F.SG/-PFV.M.SG  
 ‘Ram wanted to show every cat<sub>2</sub> to its<sub>1/\*2</sub> children.’
- b. Rām-ne **har billī**<sub>1</sub> **us-ke**<sub>2</sub> baccō-ko t<sub>1</sub> dikhā-nī/-nā  
 Ram-ERG every cat.F it-GEN children-DAT show-INF.F.SG/-INF.M.SG  
 cāh-ī/-ā  
 want-PFV.F.SG/-PFV.M.SG  
 ‘Ram wanted to show every cat<sub>1</sub> to its<sub>2</sub> children.’
- c. Rām-ne **har billī**<sub>1</sub> **us-ke**<sub>1</sub> baccō-ko t<sub>1</sub> dikhā-nī/???-nā  
 Ram-ERG every cat.F it-GEN children-DAT show-INF.F.SG/???-INF.M.SG  
 cāh-ī/???-ā  
 want-PFV.F.SG/???-PFV.M.SG  
 ‘Ram wanted to show every cat<sub>1</sub> to its<sub>1</sub> children.’

The structure of the paradigm in (9) is parallel to the one in (7). In (9a) the quantificational object *har billī* ‘every cat’ remains in a position below the indirect object *uske baccō-ko* ‘its children-DAT.’ Due to the lack of c-command the direct object may not bind the pronoun. LDA is optional. In (9b) *har billī* ‘every cat’ has been moved to a position above the indirect object but, crucially, the pronoun contained in the latter retains a non-bound interpretation. LDA is not affected and remains optional. Finally, in (9c) the direct object has undergone movement to a position c-commanding the pronoun and now the former binds the latter. In this case, LDA is no longer optional but obligatory.

The pattern in (9) allows us to distinguish between the Long Movement Analysis (2b) and the Short Movement Analysis (2c). The reasoning is as follows: Because the *string* in (9c) requires LDA, every possible parse of this string must require LDA as well. The string in (9c) is structurally ambiguous and compatible with a variety of parses. All that is required to obtain the desired bound reading of the pronoun is that *har billī* ‘every cat’ moves to an A-position c-commanding the pronoun. The landing site of this movement step may in principle be contained within the embedded clause or in the matrix clause. The mere surface string underdetermines the structure. For the argument to go through it is sufficient that there is a parse of (9c) in which the direct object remains inside the embedded clause. Such parse is an option because, in contrast to (7c), the pronoun is itself contained inside the embedded clause so that *har billī* need not necessarily leave the embedded clause. A shorter scrambling stop—to a position immediately c-commanding the indirect object—suffices. If there were a parse that allowed for default agreement, LDA would be optional in (9c). It is not. It follows, then, that the parse of (9c) that involves movement of the direct object *within the embedded clause* must require LDA as well. This generalization is stated in (10).

(10) *Subgeneralization B*

A-scrambling of the embedded object to the edge of the embedded clause renders LDA obligatory.

(10) supports the Short Movement Analysis over the Long Movement Analysis. According to the Long Movement Analysis, LDA is only triggered by movement of the embedded object into the matrix clause. Movement within the embedded clause is hence predicted not to interact with LDA. Consequently, after the direct object has moved over the indirect object in (9c), licensing the bound reading of the pronoun, it should be free to either remain inside the embedded clause (resulting in default agreement) or to subsequently scramble into the matrix clause (yielding LDA). The Long Movement Analysis thus predicts LDA to be optional in (9c). As we have seen, this is incorrect. The Short Movement Analysis, on the other hand, treats movement of the direct object to the edge of infinitival clause as sufficient for LDA. Under the auxiliary assumptions, alluded to above, that LDA is obligatory if it is possible, the Short Movement Account captures the generalization in (10). I conclude, then, that the data in (7) and (9) favor the Short Movement Analysis over the two alternatives.

The argument above relies on the assumption that A-movement within infinitival clauses is at least an option. There is some evidence that this is indeed the case. To demonstrate this, we consider infinitival clauses in subject rather than object position. It can be shown that subject clauses in Hindi/Urdu are islands for A- as well as  $\bar{A}$ -extraction. Importantly, a quantificational direct object in the subject clause may bind a pronoun embedded in the indirect object if the former precedes the latter:<sup>4</sup>

- (11) [har billī<sub>1</sub> us-ke<sub>1</sub> baccō-ko t<sub>1</sub> dikhā-nā] ajīb bāt hai  
every cat.F it-GEN children-DAT show-INF.M.SG weird thing be.3.SG  
'Showing every cat<sub>1</sub> to its<sub>1</sub> children is weird.'

Given the bound interpretation in (11), we know that *har billī* 'every cat' must have undergone A-movement. Because subject clauses are islands for extraction, this A-movement step must take place *within the subject clause*. It follows, then, that A-movement within infinitival clauses in subject position is an option. I know of no evidence to the effect that infinitival clauses in subject position have an internal structure different from such clauses in object position. I hence conclude that A-movement within infinitival clauses in object position is likewise possible. This observation secures the argument based on (9c) above.

### 3.2 Impossible Scrambling

The evidence brought forth in section 3.1 shows that LDA becomes obligatory if the embedded object undergoes A-movement to either the edge of the embedded clause or higher. I have argued that this observation supports the Short Movement Analysis. In this section I will present evidence for a second prediction emerging from movement-based approaches to LDA in Hindi/Urdu. Since under movement-based accounts LDA

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<sup>4</sup>Subject clauses in Hindi/Urdu never display LDA. The infinitival verb in (11) may hence only bear default agreement. The matrix verb agrees with the subject clause.

requires prior movement of the direct object, these accounts predict LDA to be impossible if movement of the object is barred for independent reasons. The No Movement Analysis, by contrast, makes no such prediction. Since LDA is established independent of movement, the ability of the direct object to undergo movement should have no discernible effect on LDA. In this section I will show that the prediction of the movement-based analyses is borne out.

Dayal (2003, 2011) observes that direct objects that are part of an idiom resist scrambling. This is illustrated by the contrast in (12) with the idiomatic VP *makkhī mār-nā* ‘to waste time’ (*lit.* ‘to kill flies’). While an idiomatic reading is easily available if *makkhī* ‘fly’ remains in its base position in (12a), this interpretation becomes marginal if it undergoes scrambling as illustrated by (12b), which is grammatical only under a literal reading of the VP.<sup>5</sup> Since (12b) involves a mere word order shift, which may be brought about by both A- and  $\bar{A}$ -scrambling, we can conclude that idiomatic objects resist both types of scrambling.

- (12) a. Rām makkhī mār-tā hai  
 Ram fly.F kill-IPFV.M.SG be.3SG  
 ‘Ram wastes time.’  
 b. ??makkhī Rām t mār-tā hai  
 fly.F Ram kill-IPFV.M.SG be.3SG  
 ‘Ram wastes time.’

The distinct predictions of movement-based and movement-independent analyses of LDA may be tested by embedding the idiom *makkhī mār-nā* in a construction that generally allows LDA. The result is shown in (13).<sup>6</sup> LDA is strongly dispreferred under the idiomatic reading.<sup>7</sup> LDA is well-formed only under a literal reading of *makkhī mār-nā* ‘kill flies.’

- (13) Rām-ne Mohan-ko ghar-mē baiṭh-e makkhī mār-ne di-yā /  
 Ram-ERG Mohan-DAT home-in sit-PFV fly.F kill-INF.OBL give-PFV.M.SG  
 ??dī  
 ??give.PFV.F.SG  
 ‘Ram let Mohan kill flies sitting at home.’

The degradedness of LDA in (13) provides a compelling argument against the No Movement Analysis. Under this analysis, the fact that idiomatic objects cannot undergo scrambling *and* do not trigger LDA is a coincidence. Movement-based approaches, on the other hand, derive one property from the other and hence provide a more explanatory account. The generalization uncovered in this section is stated in (14):

<sup>5</sup>For general discussion and analysis of this phenomenon see Dayal (2011).

<sup>6</sup>In (13) I use the permissive construction involving the matrix verb *de-nā* ‘let.’ Using the matrix verb *cāh-nā* ‘want’ instead yields the same contrast. As Rajesh Bhatt (p.c.) has pointed out to me, there is semantic clash between the agentivity induced by *cāh-nā* and the inherent inagentivity of *makkhī mār-nā* ‘kill time.’ To avoid this confounding factor I use the permissive here.

<sup>7</sup>It is important to notice that *makkhī* may in principle trigger agreement even under an idiomatic reading. If (12a) is changed to perfective aspect the subject receives ergative marking and the verb agrees with the object *makkhī*. The inability of *makkhī* to control agreement in (13) can hence not be attributed to general agreement properties of idiomatic noun phrase.



- (14) *Subgeneralization C*  
Movement of the embedded object is necessary for LDA.

### **3.3 Interim Summary**

The previous subsection have presented evidence that, taken together, motivates the generalization in (3). We have seen that whenever there is independent interpretive evidence that the embedded object has A-moved to either the matrix clause or the edge of the embedded clause, LDA becomes obligatory. If there is evidence that such movement has not taken place (as in the case of idioms), LDA is excluded. LDA is optional only in structures that are ambiguous with respect to whether A-scrambling has taken place or not, i.e. if the surface string can be produced by either A-scrambling,  $\bar{A}$ -scrambling or no scrambling at all.

- (3) *Empirical generalization*  
A-scrambling of the embedded object to the edge of the embedded clause or higher is necessary and sufficient for LDA.

The generalization (3) is straightforwardly accounted for under the Short Movement Analysis if it is additionally assumed that agreement must be established whenever it can be. Both the No Movement Analysis as well as the Long Movement Analysis fail to capture the entire range of examples seen above. The Short Movement Account is hence preferable for purely empirical reasons.

## **4. Theoretical Implications**

A number of theoretical conclusions can be drawn from the data presented above and the emerging empirical generalization in (3). First, we have seen based on (7c) and (9c) that LDA becomes obligatory if there is interpretive evidence that A-movement of the embedded object has taken place. If it is only word order that is affected (as in (4), (7b) and (9b)), LDA is not affected. In the latter case, the object may have undergone either A- or  $\bar{A}$ -movement whereas in the former it has to be A-movement. This suggests that A-movement interacts with agreement while  $\bar{A}$ -movement does not. Specifically, the operation AGREE may only see elements in A-position, as stated in (15).<sup>8</sup>

- (15) *Visibility condition on  $\phi$ -AGREE*  
 $\phi$ -AGREE may only target elements in A-position.

Second, the data in (9c) provides evidence that movement of the edge of the embedded clause interacts with LDA just like movement into the matrix clause. This entails that matrix T may probe into the edge of the embedded clause and undergo AGREE with elements in the edge. Moreover, to account for the obligatory absence of LDA if the object is unable to

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<sup>8</sup>There is some evidence for (15) outside of the realm of movement. As emphasized by Davison (1991), verb agreement in Hindi may target subjects as well as objects if they are not overtly case-marked. Adjuncts, on the other hand, never trigger agreement even if they do not bear an overt case marker. This is captured by (15).

scramble and hence obligatorily remains in its base position (recall (13)), it is necessary that AGREE is subject to a locality restriction that renders the object's base position invisible for matrix T.<sup>9</sup> This restriction is stated in (16).<sup>10</sup>

(16) *Edge condition*

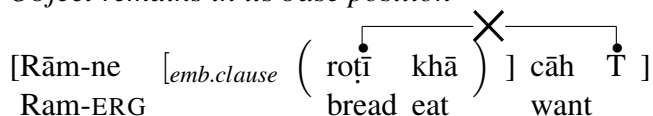
Only the edge of the embedded clause is visible for the matrix T probe.

Finally, as already alluded to above, it must be ensured that AGREE is obligatory if it is possible. In other words, if there is a goal within the search space of matrix T, AGREE is mandatory. It is only in the absence of an accessible goal that default agreement arises.<sup>11</sup>

(17) If AGREE is possible, it is forced.

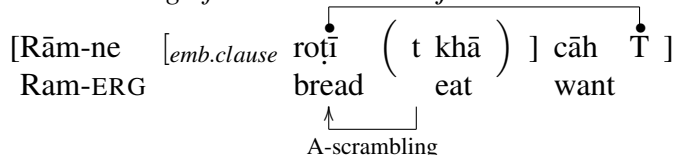
These assumptions give rise to the following schematized derivations. If the embedded object remains in its base position, it is outside the search space of the matrix  $\phi$ -probe (due to (16)) and default agreement results:

(18) *Object remains in its base position*



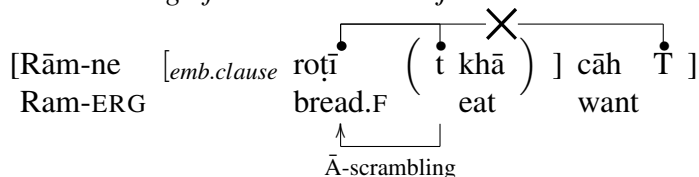
If the object A-moves to the edge of the embedded clause or higher, it is visible for matrix T and  $\phi$ -agreement has to be established (due to (17)). In this configuration, LDA is obligatory:

(19) *A-scrambling of the embedded object*



If the embedded object  $\bar{A}$ -moves,  $\phi$ -AGREE is impossible because both the launching site as well as the landing site are inaccessible for matrix T (due to (16) and (15), respectively).

(20)  *$\bar{A}$ -scrambling of the embedded object*



<sup>9</sup>Notice that this locality restriction on AGREE cannot be reduced to Relativized Minimality since the base generation site of the embedded object is invisible regardless of whether or not there is a higher accessible goal (contra, e.g., Bošković 2007).

<sup>10</sup>More work is necessary to establish what exactly the edge of the embedded clause is. (9c) suggests that every A-position above the base generation site of the indirect object is part of the edge of the embedded clause.

<sup>11</sup>See Preminger 2011 for a more detailed discussion of this view. (17) is independently required for simple clauses, too. Here default agreement is only possible if there is no accessible verbal argument.

LDA is obligatory in (19) and impossible in (18) and (20). The surface optionality of LDA is epiphenomenal: A string like (4) can be parsed as involving either A-movement or  $\bar{A}$ -movement of the direct object. In the first case (i.e., (19)) LDA is forced, in the second case (i.e., (20)) it is ruled out. Since the surface string is compatible with several parses, the impression of optionality results. The same line of reasoning applies to, e.g., (9a). Here the surface string likewise underdetermines the structural position of *har billī* ‘every cat’. If it is parsed as remaining in its base position, default agreement results. If, on the other hand, it is construed as having A-moved into the matrix clause (along with the indirect object), LDA arises. On the surface, we find optionality. Whenever a surface string is not ambiguous with respect to its underlying structure, the optionality breaks down: If scrambling is ruled out, as in the case of idioms, only the structure in (18) is viable and LDA is impossible. If a string receives a bound interpretation of a pronoun, which requires A-scrambling, the parse in (19) is the only option, yielding obligatory LDA.

Before concluding, a remark is in order regarding the status of agreement on the infinitival verb. The infinitival verb exhibits agreement with the embedded object if and only if the matrix verb agrees with it. Otherwise, it shows default agreement. I will tentatively assume the analysis proposed by Bhatt (2005), according to which infinitival T bears an unvalued  $\phi$ -goal. It does not act as a probe. Finite T probes into its c-command domain, encounters the infinitival T and enters into a feature sharing relation with it. Since no value is provided, it probes further. Valuation by the direct object is then morphologically expressed on both T’s, as a direct result of the fact that the  $\phi$ -set is shared by both.

## **5. Conclusion**

In this paper I have presented novel empirical evidence demonstrating that the optionality of LDA in Hindi/Urdu breaks down whenever there is independent evidence for whether or not the embedded object has undergone A-movement. These effects of A-movement on LDA may be used to distinguish between the three lines of analysis in (2). The overarching generalization is that LDA is obligatory iff the embedded object moves to either the edge of the embedded clause or into the matrix clause. Conversely, LDA becomes unavailable if the object remains in its base position. Taken together, these findings support the Short Movement Analysis in (2c), according to which LDA is dependent on movement of the direct object and movement to the edge of the embedded clause is sufficient to trigger LDA. If this general analysis is accompanied by the assumptions that (i) only A-movement is visible for AGREE, and that (ii) AGREE must take place if its structural description is met, the data presented here are accounted for. By contrast, neither the No Movement Analysis in (2a) nor the Long Movement Analysis in (2b) cover the entire range of data. The No Movement Analysis fails to capture the fact that LDA is impossible in the absence of movement as well as the observation that certain movement steps render LDA obligatory. The Long Movement Analysis, on the other hand, does not capture that A-movement within the embedded clause renders LDA obligatory. While many important details of the technical execution (e.g., the precise definition of the edge domain) remain open at this point, the empirical generalization strongly favors an edge-based movement account of LDA in Hindi/Urdu.

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