Unlabeled Structures and Scrambling Asymmetries: Hindi-Urdu style

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Abstract

We explore and derive the asymmetries noted in Hindi-Urdu (argument) scrambling via the *Labeling Algorithm* proposed by Chomsky (2013, 2015) to argue that leftward scrambling involves movement to/through a labeled edge of v*, but rightward scrambling necessarily does not. Both scrambling types are analysed as yielding unlabeled projections (with the exception of the copy at the edge of v*), which do not receive an effect on C-I outcome.

1 Introduction

This paper revisits the well-studied phenomenon of Hindi-Urdu scrambling, both short- and long-, to the right as well as the left, in order to examine how the phenomenon is to be conceived of in a theory of grammar that evaluates hypotheses by a metric of 'genuine explanation' (Chomsky 2019). In a model of UG that eliminates reference to linear order (Chomsky 2000, *et passim*) in C_{HL}, and where labeling (Chomsky 2013) is the "driving force of successive-cyclic movement" (Bošković 2018:253), my focus in this paper will primarily be on determining the ingredients for a genuine explanation of the asymmetries between leftward and rightward argument scrambling in Hindi-Urdu, although I shall discuss other issues related to the description of the phenomenon as well, such as the the putative Information Structure (IS)–related trigger(s) for the operation. At its core, the paper is directed towards exploring Chomsky, Gallego & Ott's (2019:248) suggestion that the best characterisation of Hindi-Urdu scrambling is a 'non-head-oriented' operation that constructs syntactic objects that remain 'unlabeled (exocentric)'. I shall advance arguments that such a reconceptualisation is indeed possible under the Labeling system proposed in Chomsky (2013, 2015), but only if the notion of Edge Feature of phasal heads is not dispensed with, contra the proposals of Chomsky, Gallego & Ott's (2019:237, fn.5).

The paper is organised as follows: Section 2 lays out the range of problems that the phenomenon of scrambling presents in terms of Chomsky's (2019) metric of 'genuine explanation'. Section 3 presents the asymmetries between leftward and rightward Hindi-Urdu scrambling and the analyses they have received, which are then argued to pose significant impediments to genuine explanation in the crucial reference they make to linear order in their derivation. Section 4 builds a more adequate analysis of Hindi-Urdu scrambling by making use of, and tinkering with, Chomsky's Labeling Algorithm. Tracing the asymmetries noted between the two types of scrambling to the fact that leftward scrambling moves through an obligatorily labeled edge of the v* phase, the uniform analysis of scrambling that I propose is one in which neither right nor left scrambling in Hindi-Urdu ever yield a feature-sharing configuration, i.e. the structures created are not labeled via accessing the interpretable features of the scrambled XP. Section 4 closes the paper with a few concluding remarks with regards to the future study of Hindi-Urdu scrambling.

2 Scrambling and the problem of 'genuine explanation'

In his discussion of what the expectations of a truly explanatory theory of the faculty of language, Chomsky (2019) imposes two austere conditions that explanations for the properties of (individual) languages must meet in order to count as 'genuine': the properties of 'learnability' and 'evolvability'. These ingredients effectively restrict genuine explanation to a limited range where either the property is posited at the level of UG (and therefore innate and universally available across the species), or as following from 'third factor' principles (Chomsky 2005).

A consideration of the accounts of scrambling developed over the last thirty years shows how incredibly hard it has proved for linguists to come up with a solution at the level of UG for the phenomenon, given the fact of its optionality. Not only has it proved virtually impossible to identify a unitary formal feature

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that triggers the movement of constituents as disparate as referential expressions, scope-taking elements, indefinites, *wh*-expressions, there has been little consistency in syntacticians' predictions about the semantic effects the operation yields. Without recapitulating the entire range of proposals that have been made (see Abels 2015 for a survey), the basic correctness of Abels' (2015:1423) conclusion cannot be denied: "Purely formal features triggering scrambling may be able to describe the data correctly, but shed no light on the nature of scrambling." The fact is that none of the various individual solutions proposed can be abstracted over to produce an aetiology for the scrambling operation at the level of UG.

Although a common recourse has been to locate IS-related features/motivations to the scrambling operation (including by this author), this move does not square well with current conceptions of UG. For one, it is difficult to characterise [TOPIC], [FOCUS], etc., as formal features *inherent* to lexical items, the introduction of which is not barred by the Inclusiveness Condition as "extraneous" objects (Chomsky 2008, Chomsky, Gallego & Ott 2019:237). Second, if the evidence adduced in the last thirty years of studies on Hindi-Urdu scrambling was to be dispassionately examined, there seems to be little to suggest that robust hypotheses about the relationship between scrambling and truth-conditionally relevant meaning have indeed been found.

Studies like those of Gambhir (1981), Butt and King (1996), and Butt (2018) sketch a very general topography of the Hindi clause, such as that in Figure 1, rather than the fine-grained topology that an approach that presumes a narrow-syntax to IS-mapping must necessarily demonstrate. It is usually acknowledged that all Fig. 1 describes is mere tendencies, and that it is by no means clear as to which of the IS-notions correspond to syntactic features and which do not. For example, is 'newsworthiness' distinct from FOCUS, 'backgrounded material' distinct from TOPIC, and is this interpretation necessarily tied to hierarchical position? The fact is that there is actually very little evidence that confirms that IS-features require checking at dedicated functional projections (Kidwai 1999, Fanselow 2006, Neeleman, Titov, van de Koot & Vermeulen 2009, Fanselow & Lenertová 2011, Matić and Wedgwood 2013, Struckmeier 2016, Bhalla (in prep.)), particularly as the relevant IS-interpretations seem to be licensed even without the scrambling operation taking place. For example, even if a correlation can be established between Hindi-Urdu short left-scrambling and the activation of a preverbal focus position as Kidwai (2000) does, it is also a fact that the property of FOCUS can be expressed in the construction without any scrambling obligatorily taking place. No evidence has therefore come to light that conclusively demonstrates that a failure to check IS-features does indeed have the same kind of consequences as failure to check formal features—a failure to focus or topicalise by using syntactic movement does not entail non-convergence at the interface.

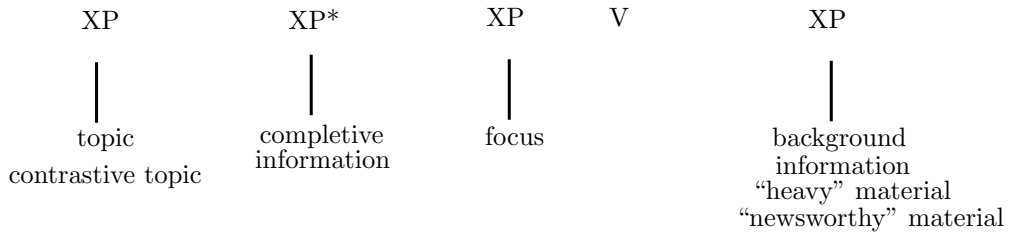


Figure 1: Butt & King (1996): Topography of the Hindi clause

These facts lead Butt (2018) to conclude that Hindi-Urdu scrambling seems to serve more of a pragmatic function rather than a semantic one, marking strategies of Common Ground *management* rather than Common Ground *content*. While I am broadly in agreement with this characterisation of scrambling as a strategy by which information is packaged to suit communicative needs rather than providing truth conditionally relevant information, I do not think that this fact calls for a summary dismissal of scrambling from the realm of the narrow syntax (NS) altogether. Even though the displacement may not be triggered by syntactic IS-features, it is also indisputable that (some types of) scrambling does feed C-I interpretation in areas such as the interpretation of operator scope and binding and coreference. In the next section, I discuss the range of evidence that scrambling has robust C-I effects, as part of a discussion of another area in which Hindi-Urdu scrambling does not have anything close to an explanation at the UG level: the asymmetries found between Hindi-Urdu leftward and rightward scrambling. In a theory of UG that holds linear order to be "a peripheral part of language, related solely to externalisation at the SM interface" (Chomsky 2013:36), such asymmetries are inexplicable, as they appear to necessitate reference to order in the NS.

3 Leftward vs. Rightward scrambling in Hindi-Urdu

In this section, I present an overview of the kinds of C-I effects that scrambling has, focusing on asymmetries noted by leftward scrambling (LS) and rightward scrambling (RS), in the work of Mahajan (1990, 1997), Kidwai (1999, 2000), Bhatt & Dayal (2007), and Manetta (2014). I then discuss the ways in which all these analyses are built on crucial reference to linear order in the syntactic computation. The final subsection interprets what the data presented here signify for an account of Hindi-Urdu scrambling in terms of the criterion of genuine explanation.

3.1 The facts

In all the four analyses under consideration, LS is distinguished from RS on a number of counts: whether movement in the narrow syntax is at issue or not, and if it is, then whether such movement is triggered (checked by raising to a specifier of a functional head), or not (in which case it involves derived adjunction to XP), and whether this movement is short or long (i.e. crosses a clause boundary or not). Table 1 summarises the different analyses proposed.

	Leftward Scrambling	Rightward Scrambling
Mahajan (1990, 1997)	LS is NS-MOVEMENT and can be SHORT or LONG. Only SHORT LS may be TRIGGERED (but need not be); LONG LS is always XP-ADJUNCTION.	1990: RS is SHORT NS-MOVEMENT, and is always XP-ADJUNCTION. 1997: RS is not NS-MOVEMENT, but stranding post-leftward movement of VP constituents.
Kidwai (1999/2000)	2000: LS is SHORT or LONG NS-MOVEMENT and is always XP-ADJUNCTION. 1999: LS is not NS-MOVEMENT, it is a rearrangement of constituents at PF.	2000: RS is not NS-MOVEMENT, but base-generated XP-ADJUNCTION. 1999: RS is not NS-MOVEMENT, it is a rearrangement of constituents at PF.
Bhatt & Dayal (2007)	LS is NS-MOVEMENT and can be either SHORT or LONG, TRIGGERED or XP-ADJUNCTION.	RS is NS-MOVEMENT, is only SHORT, and is always XP-ADJUNCTION. Specifically, its a form of remnant VP-movement.
Manetta (2014)	LS is NS-MOVEMENT and can be either SHORT or LONG, TRIGGERED or XP-ADJUNCTION.	RS is NS-MOVEMENT, is only SHORT because it is TRIGGERED by a "EPP-R" feature of the v* phasal head

Table 1: A conspectus of analyses of Hindi-Urdu scrambling.

The data that propel these differential analyses of LS vs. RS are shown below. While LS ameliorates weak crossover (WCO) effects, as shown in (1b), RS does not, as in (1c):

(1) a. uski$_i$ bɛhən [hər ləɽke=se]$_{*i}$ mɪli
his sister each boy-SOC meet.PFV
'His $_i$ sister met each boy$_{*i}$.'
b. [hər ləɽke=se]$_i$ uski$_i$ bɛhən t_i mɪli
'His $_i$ sister met each boy$_{*i}$.'
c. uski$_i$ bɛhən t_i mɪli [hər ləɽke=se]$_{*i}$
'His $_i$ sister met each boy$_{*i}$.'

LS creates new binding configurations, as shown by the contrast between (2b-c), Dayal (1997), where a leftward scrambled DO can license a subject reciprocal. However, RS preserves the base binding configuration, wherein a subject reciprocal is not licit.

(2) a. ek dusre=ke$_i$ bəccõ=ne [anu ɔr nur=ko]$_{*i}$ dek^{h}ɑ
each other-GEN children Anu and Noor-ACC see.PFV
'Each other's$_i$ children saw Anu and Noor$_{*i}$.
b. ?[anu ɔr nur=ko]$_i$ ek dusre-ke$_i$ bəccõ=ne t_i dek^{h}ɑ
'Anu and Noor$_i$ saw each other's$_i$ children.'
c. ek dusre-ke$_i$ baccõ=ne t_i dek^{h}ɑ [anu ɔr nur=ko$_{*i}$]
'Each other's$_i$ children saw Anu and Noor$_{*i}$.'

LS is also know to obviate Condition C violations (Bhatt & Anagnostopoulou 1996). As shown by the contrast between (3b-c), RS however has no such effects.

(3) a. us=ne$_i$ us=ko$_j$ [rɑm=ki$_{*i/*j/k}$ kɪtɑb] lɔʈɑyi
he-ERG him-DAT Ram-GEN book return.PFV
'He$_i$ returned him$_j$ Ram's$_{*i/*j/k}$ book.'
b. us=ne$_i$ [rɑm=ki$_{*i/j/k}$ kɪtɑb] us=ko$_j$ t_i lɔʈɑyi
'He$_i$ returned him$_j$ Ram's$_{*i/j/k}$ book.'
c. us=ne$_i$ us=ko$_j$ lɔʈɑyi [rɑm=ki$_{*i/*j/k}$ kɪtɑb]
'He$_i$ returned him$_j$ Ram's$_{*i/*j/k}$ book.'

Further, while LS reverses relative scope interpretations, RS does not. As (4a-b) show, Hindi-Urdu is a 'scope by linear order' language—"If XP1 and XP2 are coarguments and XP1 precedes XP2, then XP1 has scope over XP2 at LF" (Bhatt & Dayal 2007:290). As a consequence, LS which reverses the order of precedence of the quantifiers, also reverses scopal interpretations as in (4c); RS in (4d) however does not.

(4) a. hər ɑdmi [kɪsi ɔrət=se] mɪlɑ
each man some woman-SOC meet.PFV
'Every man met some woman.' (∀¿∃; *∃¿∀)
b. koi ɔrət hər ɑdmi=se mɪli
some woman every man-SOC meet.PFV
'Some woman met every man.' (*∀¿∃; ∃¿∀)
c. [hər ɑdmi=se]$_i$ koi ɔrət t_i mɪli
'Every man met some woman.' (∀¿∃; *∃¿∀)
d. koi ɔrət t_i mɪli [hər ɑdmi=se]$_i$
'Some woman met every man.' (*∀¿∃; ∃¿∀)

Bhatt & Dayal (2007) make the important observation that rightward scrambling has a 'striking effect" on the scope of *wh*-expressions: While LS *wh*-expressions allow wide scope interpretations (in addition to some discourse-related meanings, which are as yet not sufficiently understood), the only interpretations available to right-scrambled ones are non-scope-taking ones—(5c) can only have either an echo or a rhetorical question interpretation.

(5) a. sitɑ=ne dhyɑn=se [kɪs=ko] dek^{h}ɑ
Sita-ERG care-with who-ACC see.PFV
'Who had Sita looked at carefully?'
b. [kɪs=ko]$_i$ sitɑ=ne dhyɑn=se t_i dek^{h}ɑ
'Who had Sita looked at carefully?'
c. sitɑ=ne dhyɑn=se t_i dek^{h}ɑ[kɪs=ko]$_i$
'Sita looked at carefully at WHO?

It should also be pointed out that the exact same scope-freezing effect holds in scope-marking constructions in Hindi-Urdu (Dayal 1997, Lahiri 2002): if the scope-marker or the *wh*-expression is right-scrambled, as in (6b), only a polar question reading (Bhatt & Dayal 2020) obtains.

(6) a. sitɑ=ne kyɑ kəhɑ [ki kɔn kɪtɑb lɑyegɑ]
Sita-ERG SM say C who book bring.FUT
'Who did Sita say will bring that book?'
b. sitɑ=ne t_i kəhɑ [kyɑ]$_i$ [ki kɔn kɪtɑb lɑyegɑ]
Sita-ERG say PQM C who book bring.FUT
'Did Sita say who will bring that book?'

LS and RS display stark differences in terms of the locality constraints they respect. While LS may transport both referential and *wh*-expressions across clause boundaries, either to the edge of the matrix v phase (cf. 7b) or into the next higher C phase as in (7a), RS is strictly clause bound: as in (7c), where a rightward scrambled embedded object would have to have raised to the right edge of the matrix v phase.

(7) a. [vo kɪtɑb]$_i$/[kyɑ]$_i$ sitɑ=ne kəhɑ [ki rɑm t_i lɑyegɑ]
that book/what Sita-ERG say.FUT C Ram bring.FUT
'That book/what, Sita said that Ram will bring.'
b. sitɑ=ne [$_{vP}$ vo kɪtɑb]$_i$/kyɑ]$_i$ [$_{vP}$kəhɑ [ki rɑm t_i lɑyegɑ]
'Sita, that book/what said that Ram will bring.'
c. *sitɑ=ne [$_{vP}$ socɑ anu=se$_i$/kɪs=se$_i$] [ki nur t_i mɪlegi]]]
Sita-ERG thought Anu-SOC/who-SOC C Noor meet.FUT
'Sita thought that Noor will meet Anu/who.'

Another well-known difference between LS and RS is that while the Hindi-Urdu clausal expletive *ye* and the scope marker *kyɑ* block LS out of embedded clauses, RS is unaffected by their presence. The examples in (8a-b) show these facts for LS of referential expressions. Examples (8c-d) demonstrate that no such intervention effects hold for RS referential noun phrases, and once again the same generalisation holds true for *wh*-expressions. (The RS of *wh*-expressions, not shown here, yields a licit string in both cases, but with the effect noted above—the *wh*-expressions can only receive an echo/rhetorical interpretation.)

(8) a. *sitɑ=ne [vo kɪtɑb]$_i$ ye kəhɑ [ki rɑm t_i lɑyegɑ]
Sita-ERG that book this say.PFV C Ram bring.FUT
*'That book, Sita says it that Ram will bring.'
b. *sitɑ=ne [vo kɪtɑb]$_i$ kəhɑ [ki kɔn t_i lɑyegɑ]
Sita-ERG that book say.PFV C Ram bring.FUT
'*Who did Sita say that book will bring.'
c. sitɑ=ne ye kəhɑ [ki rɑm t_i lɑyegɑ [vo kɪtɑb]$_i$]
'That book, Sita says it that Ram will bring.'
d. sitɑ=ne kyɑ kəhɑ [ki kɔn t_i lɑyegɑ [vo kɪtɑb]$_i$]
'Who will bring that book?'

A final difference between LS and RS is that while LS clearly raises scrambled arguments to higher c-commanding positions in the clause, RS moves constituents to much lower positions. This can be shown by considering the facts presented by Mahajan (1997), who observes that right scrambled constituents can c-command into the obligatorily extraposed finite complement clause. As the examples in (9) show, right-scrambled matrix indirect objects can license bound variable pronouns in finite complements (9a), as well as trigger Condition C violations (9b), thereby suggesting that despites its right-edge linear positioning, the finite complement clause is always structurally lower than the rightward scrambled phrase.

(9) a. sitɑ=ne t_i kəhɑ [hər ɑdmi=se]$_i$ [ki vo$_i$ jitegɑ]
Sita-ERG said every man-SOC C he win.FUT
'Sita told every man$_i$ that he$_i$ will win.'
b. sitɑ=ne t_i kəhɑ [us=se]$_i$ [ki mohan$_{*i}$ jitegɑ]
Sita-ERG said himSOC C Mohan win.FUT
'Sita told him$_i$ that Mohan$_{*i}$ will win.

As these exact same interpretations obtain for unscrambled indirect objects in their base-generated positions, the generalisation that can be made is that RS does not alter c-command configurations. This is confirmed by the facts in (10a-b), where the right-scrambled constituent cannot licence a bound variable interpretation of a possessive pronoun, or ameliorate a Condition C in the matrix subject:

(10) a. uske pitɑ=ne$_{*i}$ t_i kəhɑ [hər ləɽke=se]$_i$ [ki vo jitegi]
his father-ERG said every boy-SOC C she win.FUT
'His father$_{*i}$ told every boy$_i$ that she will win.'

b. sitɑ=ne$_{*i}$ t_i kəhɑ [us=se]$_i$ [ki vo jitegi]]
Sita-ERG said her-SOC C she win.FUT
'Sita$_{*i}$ told her$_i$ that she will win.'

3.2 Interpreting the facts

As mentioned in the introductory remarks to this section, all the major analyses I consider in this paper propose a multifactorial analysis for Hindi-Urdu scrambling. The one factor that is consistently held responsible is the direction in which the displacement takes place, although the observed differences do not in all cases, lead the authors to build in linear order into narrow syntactic operations. For example, Mahajan (1997) uses the relative scope, bound variable and reciprocal binding facts outlined above to argue against a rightward movement analysis, although the account he actually builds proposes that there is no rightward movement allowed at all in UG. In his analysis, all apparently rightward moved elements in fact involve large-scale leftward scrambling of constituents and verb projections, stranding the apparently right-scrambled constituent in its base position.

Referring readers to the article cited for the details of the precise refutations offered, Bhatt & Dayal (2007:296-99) argue against antisymmetric analyses (Mahajan 1997) on the grounds that the assumption of a Kaynean base cannot actually capture the scope relationships it intends without relaxing UG-level principles about c-command or explain the the scope-freezing effects that characterise RS. Instead, Bhatt & Dayal propose an analysis of RS as involving an obligatorily reconstructing rightward movement of a remnant VP, after it has been vacated by V-raising (and optional left-scrambling of other elements). LS on the other hand, involves movement of DPs/PPs to specifier/adjoined positions. As Bhatt & Dayal themselves note, their analysis makes direction of movement available contingent on the headedness of the constituent being moved; however, the extent of the departure they suggest is perhaps less explicit than the proposals of Manetta (2014).

Manetta argues rightward scrambling to be driven by an EPP-feature that encodes directionality. She dubs this feature *EPP-R*, characterising it as a feature that causes maximal projections to undergo Move to the rightward specifier of the head bearing it (Manetta 2014:54). The reasons that she advances for abandoning the Bhatt & Dayal proposal that all rightward movement in Hindi-Urdu involves only remnant VP-movement are that this account both over-generates as well as fails to derive certain permissible structures like stranded quantifiers and relative clauses. Once again referring readers to the paper cited for the full details of her critique, the most important point about Manetta's analysis is that it maximally assimilates RS to LS, as she analyses both displacements to be driven by EPP probes, distinguished from each other by a specification of the direction the EPP-specifiers are to be merged.

Considering these four analyses of the asymmetries between RS and LS in terms of the condition of genuine explanation, it will be clear that one of the driving forces in the debate has been the assumption of a ban on rightward movement in antisymmetric approaches. This ban cannot however carry over to a theory of UG in which the only basic compositional operation is Simplest Merge, "which applies to two objects X and Y, yielding a new one, K = X,Y. If X, Y are distinct (taken directly from the lexicon or independently assembled), K is constructed by External Merge (EM); if Y is a term of X, by Internal Merge (IM)" (Chomsky, Gallego & Ott:232), where no reference is made to direction of movement. As a consequence, the Mahajan (1997) analysis cannot be maintained, and in any case, the stranding analysis does make the wrong predictions. However, the Bhatt & Dayal and Manetta proposals do not fare much better either, as both proposals in distinct ways, interpret projection to be an instance of *concatenation*, i.e. linking together elements or groups of them in a sequence or order, rather than just simple (Internal) Merge. The Manetta proposal does this most egregiously, as it builds reference to order even in the features that trigger displacement.

Thus, as things stand, extant analyses of the asymmetries between LS and RS do not fall out from the basic principles of composition at the level of UG in terms of Simplest Merge. Under current conceptions, Simplest Merge applies freely and does not have a last resort character; in other words, it is not triggered in any way, making no appeal to ad hoc technical devices such as 'EPP-features' to motivate it. Further, as long as the derivations generated by it are convergent, expressions receive 'whatever interpretation they are assigned by interfacing systems... and can have any degree of perceived "acceptability" or "deviance," from perfect naturalness to complete unintelligibility' (Chomsky, Gallego & Ott 2019:237-238).

By itself, the foregoing discussion already makes the case for a reformulation of the analysis of Hindi-Urdu scrambling in terms of Simplest Merge in order to meet the criterion of perfect explanation: references to order must be eliminated in the ways that these constructions are syntactically derived. Taken together with the discussion in the previous section, I would like to suggest that the chief problem is lies in correctly describing the mediating role of the NS in deriving the mixed interpretative properties of scrambling. Scrambling *does* sometimes yields configurations relevant to strictly C-I related semantic interpretation and in all likelihood, always marks CG-management related IS-properties, and the challenge lies in identifying the NS mechanisms that facilitate the link to C-I. In Section 3, I attempt such an analysis.

4 Deriving the Asymmetries: a PoP-LA Analysis of Hindi-Urdu scrambling

In the account of scrambling asymmetries that I develop in this section, I assume a strictly binary Simplest Merge as the only structure-building operation available to the narrow syntax, and take linearisation to be only a strictly post-syntactic phenomenon. The account I build makes crucial use of the Problems of Projection–Labeling Algorithm and other properties of the NS, which I first discuss in the next subsection,

4.1 Theoretical Armoury

I assume with Chomsky (2013, 2015) that displacement is not an imperfection of language, and that EM is not simpler or more economical than IM; rather, the reverse holds, as IM requires much less search than EM. Neither sub-types of Simplest Merge necessarily yield endocentric structures or the property of *projection*. In Chomsky's proposals (2013:43), labeling is not a part of the process of forming a syntactic object (SO) and no SO enters the computation with a label. Rather, the labeling of SOs takes place by an independent and distinct Labeling Algorithm (LA), as labels are needed at the C-I interface for interpretation. Chomsky also advances the idea that the LA operates at the phase level along with other operations, with the consequence that if at a particular point internal to the phase an SO cannot be labeled, it causes a temporary Problem of Projection (PoP), but since they may be resolved during phasal computation, such temporary PoPs do not cause computation to abort. Most importantly, a failure to receive a label by the LA does not automatically entail non-convergence, because if the SO does not receive a label *and* it does not contain an uninterpretable feature, it will simply not receive a semantic interpretation at the C-I interface.

How may an SO receive a label? SOs may be labeled by either sharing of prominent features or by being rendered a copy/trace via IM, on the crucial assumption that lower copies are invisible the LA. Using Ginsberg's (2016:2) formulation of the LA in (11), an SO may be labeled if any of the following three conditions are met:

(11) *Labeling*

a. When a strong head X is merged, the label is X.
b. If {XP, YP} share prominent features that are capable of labeling, the shared features label.
c. If YP moves out of {XP, YP}, then XP labels. If XP moves out of {XP, YP}, YP labels.

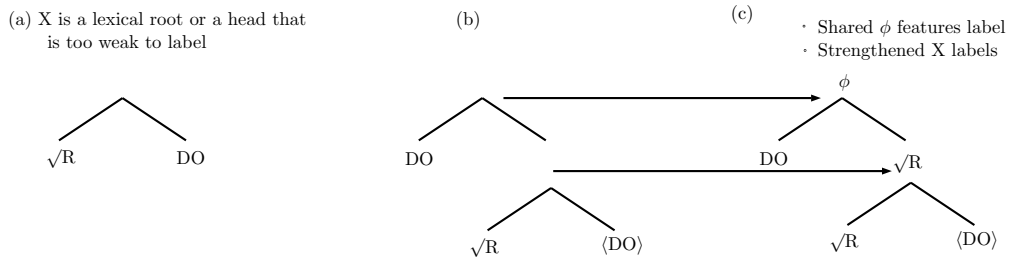
Chomsky (2015) suggests that lexical roots and T, are too *weak* to label, with the result that any SO formed by the Merge of a root with its complement cannot be labeled as the phase is being computed. This entails that the merger of a root with its complement will invariably result in an unlabeled structure, causing what I will call a (temporary) 'problem of projection' (henceforth, PoP). However, as the requirement of labeled SOs is evaluated only at the end of the phase, this PoP does not cause the computation to abort because roots may acquire the power to label once they have inherited the uninterpretable uϕ-features from the phasal head, as defined below in (12) (based on Chomsky 2007, 2008). After feature transfer/inheritance (FI), and once these uϕ-features are checked, roots become 'strengthened', and their projections can be labeled.

(12) *Feature Inheritance*: A phase head passes its uninterpretable features to its syntactic complement.

Example (13) illustrates how labeling works in general. The first unlabelable SO arises when a root merges with its complements, as in (13a). A PoP therefore arises, and in order to escape this unlabelable configura-

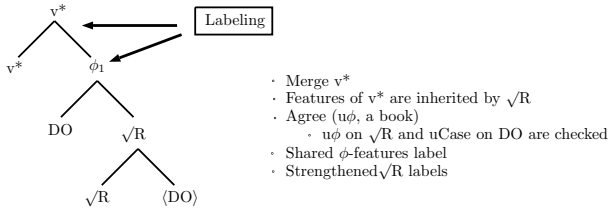
tion, the DO displaces, as in (13b). Even though this creates another PoP, it is temporary, as after feature transfer/inheritance from v* to $\sqrt{R}$, both PoPs are resolved, as in (13c): for the root PoP, resolution comes by way of the the acquisition of Agree-related features of uϕ, and for the lower PoP, by the strengthened $\sqrt{R}$.

(13)



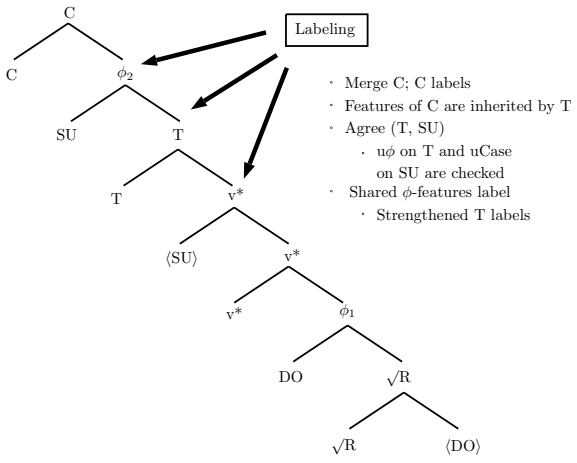
Merge of the subject argument (SU) creates another PoP, however, as SU and v* do not share prominent features (cf. (11b)), and instantiate an unlabelable [XP,YP] configuration. As a consequence SU must displace, after T is merged.

(14)



As (15) shows, the ensuing PoP created at T resolves after C merges. Once FI takes place, T inherits Agree-related features from C, and a feature-sharing configuration in accordance with (11a) is established. As T is also strengthened by FI, T can now label its projection.

(15)



In the PoP-LA system, thus labeling is the prime cause of displacement. As summarised by Ginsburg (2016:10), presented here with some minor elaborations as (16 a-c), the movement of SOs is driven by the need to create a configuration that can be labeled for the C-I interface.

(16) a. When an unlabeled SO is formed, remerge the closest available SO with ϕ-features.
b. Movement of an SO occurs to create a structure that can be labeled for semantic reasons. Unlabeled projections do not receive an interpretation at the C-I interface.

c. An unlicensed SO with an uninterpretable feature that is about to be transferred remerges with the root node (if possible).

The derivation in (13)-(15) presents the bare bones of how the LA works, although there are other important details that will not concern us here (see Chomsky 2015: 13-14). However, even this brief exposition of the LA, several issues need further discussion. The first issue is related to Agree and its application within a labeling framework. One one reading of the analysis just presented, Agree always takes place with the hierarchically superior copy, thus effectively rewinding the theory back to the early 1990s where case (and agreement) forces overt displacement to a 'specifier' position. This in turn renders existing definitions of the probe-goal based feature valuation relation Agree redundant, as while Agree may allow matching of the uϕ on v* with in situ objects *without* displacement to the phase edge, the LA would only allow the valuation of accusative Case in the Spec-Head configuration.

Note however that this reading of a restricted domain for Agree is incorrect. Recall that in the LA system, the displacement of the DO to the specifier of VP is to meet the requirements of the LA are motivated by the requirement in (11c) rather than (11b), as Simplest Merge is untriggered. It is therefore possible to maintain the usual characterisation of Agree as a relation (agreement, Case checking) between an LI α and a feature F under minimal search, that results in the valuation of the unvalued features of the probe and the goal (Chomsky 2001:144). I therefore suggest that either of the copies of the DO are actually available for Agree until the end of the phase, which is when the LA applies. In other words, the obligatory copy invisibility that the LA necessarily presupposes kicks in only when the LA has applied. Let us adopt this as a principle in (17) for clarity, on the understanding that no new proposal is in fact being made here.

(17) *Agree and the LA*
Occurrences of α are rendered inert for Agree only after the LA has applied.

The second important issue with the account just presented pertains to the assumption of an obligatory FI of uninterpretable ϕ-features (uF) and Edge Features (EF) from C to T and from v* to v. The LA framework dispenses with EFs altogether, and relying solely on the FI of uF, predicts that for both C and v phases, the highest that SOs embedded in the complements of either phase heads can raise is to the specifier position of that complements. There are, however, good reasons to question whether the phase heads can be given the uniform treatment that this analysis suggests, and in particular whether the v-headed phase patterns identically with the C-headed one. While this proposal fits the C-phase and its relationship with T well, it does not capture the phenomenon of object shift satisfactorily, by which raised objects seem to target the highest projection in the v phase.

As the research literature has shown, there is significant evidence that the various positions that objects can occupy need to be distinguished in terms of effect on C-I related outcome beyond agreement (to cite just two examples: Bhatt & Anagnostopoulou 1996, Chocano & Putnam 2013), that these require us to postulate not one but *two* probes within at least the vP, just as proposed in Chomsky (2008). As an example of the need for maintaining a distinct EF probe, consider the contrast in (18) from Hindi-Urdu, which illustrates where only the *-ko* marked DO in (18b) can c-command the possessive pronominal in the locative phrase. Although there is also a difference in terms of agreement in these two sentences, in that only in (18a) does the perfective participle agree with the DO whereas in (18b), default agreement obtains, the contrast indicates that there are two positions that a DO may occupy in the Hindi-Urdu v* phase, where *-ko* marked DOs are structurally higher than ones without *-ko*.

(18) a. us=ne cuhe$_j$ un=ke$_{*j/k}$ ghər=mẽ rəkk$^{\text{h}}$e
he-ERG mouse its-GEN house keep.PFV.3MPL
'He kept the mice$_j$ in their$_{*j}$ house.'
b. us=ne cuhõ=ko$_j$ un=ke$_{j/k}$ ghər=mẽ rəkk$^{\text{h}}$ɑ
he-ERG mouse-ACC their-GEN house keep.PFV.3MSG
'He kept the mice$_j$ in their$_{j/k}$ house.'

For the purposes of the current discussion, I will simply assume that the fact that Hindi-Urdu Case-markers block the percolation of an N's ϕ-features to the SO it contains, thus barring verb agreement with the DP, and follow Bhatt & Anagnostopoulou (1996) and Kidwai (2013) in analysing the contrast in coreference possibilities to indicate that the *-ko* marked DO occupies the highest edge of v*, i.e. the Object Shift

position.

In the account of FI that I propose, I therefore do not agree with Chomsky, Gallego & Ott's (2017:238, fn. 5) conjecture that the EF is entirely "dispensable", and suggest that at least for the v phase, retaining the notion of EF as an independent probe is crucial. While for the C phase, Chomsky's contentions (2008:23) that EPP-effects at T like the EM of expletives can be explained by positing the simultaneous FI of both uF and EF to T, the same arguments do not seamlessly carry over to the v phase. Instead, I would like to suggest that for the v phase, what is needed is a conception of the EF which is close to Chomsky's (2000, 2001) original conception of the EPP-feature in (19), as a feature that demands the "occurrence" of a category after the lexical subarray that comprises the phase has been exhausted, a requirement that can only be satisfied by the IM of an XP from within the phase.

(19) *EPP-feature assignment* (Chomsky 2000:109)
The head of a strong phase may be optionally assigned an EPP-type of feature.

Chomsky (2001:35) imposes a constraint of C-I relevance as the consideration guiding the optional assignment of EF to v: the v* phasal head is assigned an EF only if that has an "effect on outcome", i.e. at C-I. In other words, inbuilt into the architecture of the phase is a position that is automatically designated as C-I relevant. Holding on to this idea (and rejecting Chomsky's (2007, 2008) subsequent characterisation of the EF as an uninterpretable feature), it should then follow that the projection is which this occurrence requirement has been satisfied must be labeled.

How is such labeling to be achieved? Evidently, configuration (11b) cannot be the source of the labeling of this [XP YP[... Y_{EF} ...]] configuration, as all this would do is resurrect the familiar problems as to which type of features are in fact being shared; rather, it seems to me that the existence of a (satisfied) EF is sufficient to override LA's ban on the labeling of such [XP, YP] configurations. The solution I suggest lies in considering a phasal head that bears an EF on v* is sufficient to override the LA ban on the [XP,YP] configuration, i.e. it is included in the class of strong heads in the sense of (11a). A more general formulation of the proposal is in (20), although it remains to be conclusively determined whether this analysis can be extended to the C phase, (the existence of [Spec, CP] expletives in Germanic notwithstanding):

(20) *Labeling by EF*
A phasal head bearing Probe_{EF} labels its projection.

Hindi-Urdu provides, I think, robust evidence that the EF of v* really exists, as it can be satisfied by either IM or EM. As is well-known since Dayal (1994), finite clauses in the language appear obligatorily extraposed, and may occur in construction with an expletive, as in (21). I suggest that in such cases, this 'object' expletive is introduced by EM at the edge of v* phase.

(21) Ram [$_{v*}$ ye [$_{v}$ kahegaa [$_{CP}$ ki anu ɑyegi]]]
Ram this say.FUT C Anu come.FUT
'Ram will say that Anu will come.'

In the system I propose, an EF is not an uninterpretable feature that undergoes transfer/inheritance, although it is a probe. Further, FI applies only to uFs (thus preserving Chomsky's overall design of the LA), and that too obligatorily, following as it does from Richards (2007) and Epstein & Obata's (2011) observations that neither valued nor unvalued ϕ-features can appear on the edge of a phase. FI of uF thus engenders a situation similar to the one envisaged by Epstein & Obata's (2011) *Feature-Splitting Internal Merge*, by which the features EF and uF come to probe independently, forcing the attractee's features to 'split' into two different landing sites. This leads to a more general proposal about FI generalising across phase-types in (22),though, once again, much more needs to be said to conclusively establish its applicability to the C phase; (but see Biberauer and Roberts 2010 for a more complex crosslinguistic picture).

(22) *Feature Inheritance*
a. A phase head obligatorily transfers Probe_{uF} to its syntactic complement.
b. Probe_{EF} is optional, but when present, does not undergo FI.

With this arsenal of proposals in place, let us turn to the derivation of RS and LS in an LA based account,

using the version of it that I have proposed in this section.

4.2 The derivation of leftward scrambling

In a nutshell, I claim that the observed asymmetries between LS and RS follow from (22) applying to the v phase. In (some) LS constructions, v bears a Probe$_{EF}$, with the consequence that there is a systematic effect on C-I outcome. In other LS configurations and RS constructions in general, on the other hand, no such Probe$_{EF}$ exists. In this subsection, I illustrate my analysis through sample derivations of the two types of argument scrambling.

Beginning first with LS, consider the derivational steps in deriving the order [DO SU V], we see instantiated in (1b), (2b), (3b), (4c), (7b), (8b), above. Walking through the steps in the derivation in (23) (where unlabeled PoPs are numbered sequentially for clarity), (23a) presents the inception of the derivation, where the Merge of DO with the verbal root yields an unlabeled projection (cf. (11a)). IM of the DO in (23b) also does not yield a labeled projection (cf. (11c) and (16a)), given that no correlation between agreement and scrambling in Hindi-Urdu can be made (both agreeing and non-agreeing objects may scramble in either direction with equal freedom). The merge of v* results in a labeled projection, as v* is a strong head (cf. (11a)). Merge of v* also entails FI, resulting in a transfer of only the uF to V (cf. 22)). Such FI results in a strengthened $\sqrt{R}$, which Agrees under minimal search with the copy of the DO in its base position. I As a consequence, as shown by (23d), PoP$_1$ is resolved and $\sqrt{R}$ labels the projection. In the next step in (23e), the SU phrase merges in its argument position with v*P, but this too creates another PoP, as what is created is an [XP,YP] configuration in which the SU and v* do not share prominent features. At this stage, the DO raises out of PoP$_2$ to form (23f), which is labeled in accordance with (22). [2]

When the v* phase is complete, Transfer applies to the complement of v* (on the understanding that the lack of a label does not have any impact on eligibility of a constituent to be transferred), and the computation continues, with only elements at the edge of the v* phase being accessible after T is merged. As (23g) shows, displacement of SU enables a resolution of PoP$_3$, as once SU raises (11c) allows v* to label the projection. Raising of the DO in (23h) yields another PoP however. PoP$_5$ is resolved in (23i) once C merges and FI takes place, by the feature-sharing configuration of SU and T.[3] The PoP created by DO scrambling however, does not get resolved, with the result that the root projection remains unlabeled.

(23)
a. $[_{-1}\sqrt{R}$ DO$]$
b. $[_{-2}$DO $[_{-1}\sqrt{R}\ \langle DO\rangle]]$
c. $[_{v^*}\ v_{EF,uF}\ [_{-2}$DO $[_{-1}\sqrt{R}\ \langle DO\rangle]]]$
d. $[_{v^*}\ v_{EF}\ [_{-2}$DO $[_{\phi}\sqrt{R}_{\not uF}\ \langle DO\rangle]]] \leftarrow PoP_1$ *resolves*
e. $[_{-3}$SU $v_{EF}\ [_{-2}$DO $[_{\phi}\ \sqrt{R}_{\not uF}\ \langle DO\rangle]]]$
f. $[_{v^*}$DO $[_{-3}$SU $v_{\not EF}\ [_{-2}\langle DO\rangle\ [_{\phi}\sqrt{R}_{\not uF}\ \langle DO\rangle]]]]$
g. $[_{-4}$SU T $[_{v^*}$ DO $[_{-3}\langle SU\rangle\ v_{\not EF}\ ]]] \leftarrow PoP_3$ *resolves,* $[_2 \ldots]$ *transfers*
h. $[_{-5}$DO $[_{-4}$SU T $[_{v^*}\ \langle DO\rangle\ [_{-3}\ \langle SU\rangle v_{\not EF}\ ]]]]$
i. $[_C$ C $[\ _{-5}$DO $[_{\phi}$ SU $T_{\not EF,\not uF}\ [_{v^*}\langle DO\rangle\ \langle SU\rangle$ v*$]]]] \leftarrow PoP_4$ *resolves*

The derivation in (23) has three noteworthy aspects, which are all interrelated. First, LS is not driven by feature-checking requirements, but by the requirements of the LA, and any labeling of the projections containing the landing sites of the scrambled constituent is not a consequence of the DO's interpretable features being accessed. As a consequence, any DO constituent may be scrambled, whether agreeing or Case-marked or not.

[2] Miriam Butt p.c. asks how this derivational scheme would derive the default non-SOV order in Hindi-Urdu. Note that the framework I develop here allows for a total of three positions in which objects may be licensed: the complement of V, the specifier of the VP and the specifier of v*. As we see below, I reserve the edge of vP for the object/shift position, so this leaves two positions for DOs. In the DO-scrambling derivation represented in this structure, I make crucial use of the lower DO position as the locus of Agree (thereby allowing the V projection to be labeled and targeted by interpretation), so I suggest that in the normal SOV order it is the higher DO position in the VP that V agrees with, yielding a labeled VP. Note that is in accordance with (17) above.

[3] I do not consider in the main text a derivation in which the phasal head C transfers only uF to T and retains its EF, as this would lead to the expectation that scrambled DOs show subjecthood properties. While this is a logically possible option, it is not one that should plausibly be adopted for Hindi-Urdu, given that it predicts that scrambled arguments will show subjecthood properties beyond the binding-theoretic facts noted in section 2. This is patently not the case in Hindi-Urdu, as I argue in Kidwai (2000).

Second, since scrambling is fundamentally non-head-oriented and does not yield a labeled projection (except at the edge of v*, the labeling of which occurs for independent reasons), any type of constituent may scramble: if it moves through the edge of v*, it will have a C-I effect. The examples in (24) how that adjuncts do indeed have such effects.

(24) a. uski$_i$ bɛhən [hər ləɽke=ke]$_{*i}$ ghər=mẽ mıli
his sister each boy-GEN house-GEN meet.PFV
'His $_i$ sister was found in each boy's$_{*i}$ house.'
b. [hər ləɽke=se]$_i$ uski$_i$ bɛhən t_i mıli
'His $_i$ sister was found in each boy's$_i$ house.'

Third, the proposal suggests that movement beyond the edge of v* is essentially semantically vacuous. In the chain formed by DO scrambling in (23) [$_C$ [$_-$ DO T ... [$_{v^*}$ ⟨*DO*⟩ ... [$_-$ ⟨*DO*⟩ ... [$_V$ ⟨*DO*⟩ V]]]]], there are only two positions that the DO occupies which are relevant for interpretation at C-I—one, the occurrence as an internal argument, and two, the occurrence in the EF-licensing position. The copy in the T region does not, this analysis, claims count for C-I.[4]

This is in fact a welcome consequence, as it accounts for the apparently mixed characteristics of the 'intermediate' scrambling position quite naturally. It will be recalled that in Mahajan's analysis, such 'IP-level' scrambling was in some instances, an A-movement substitution into the specifier of an Agr head in the T, and in others, an A-bar derived adjunction to TP. Examples (1b)-(3b) are instances of the former, where reconstruction must not be assumed to apply, and the ones in example (25), instances of where it must necessarily be held to apply obligatorily. (25a) represents the case of anaphor scrambling, in which the licit status of the example suggests that Principle A is satisfied by reference to the foot copy of scrambled DO. (25b) instantiates DO scrambling to the C phase, i.e. beyond the v* edge as shown by (3b): here, despite the fact that the DO scrambles to a position c-commanding the subject, the Condition C amnesty induced by LS is not extended vis-a-vis the subject antecedent, thereby suggesting that it is the copy at the edge of v* that is used for C-I interpretation.[5]

(25) a. əpne-ɑp=ko$_i$ anu=ne$_i$ t$_i$ dek$^{\text{h}}$ɑ
self-ACC Anu-ERG see.PFV
'Anu$_i$ saw herself$_i$.'
b. [rɑm=ki$_{*i/j/k}$ kıtɑb] us=ne$_i$ us=ko$_j$ t$_i$ lɔɽɑyi
Ram-GEN book he-ERG him-DAT return.PFV
'He$_i$ returned him$_j$ Ram's$_{*i/j/k}$ book.'

In terms of the analysis just presented, (25a) would be analysed as not involving a v with an EF at all, and therefore would not move through edge of v* at all. As a consequence, in a DO chain whose head is in an unlabeled projection, only the foot copy would be the possible site of its referential interpretation at C-I. In (25b), however, while the head of the DO chain remains unlabeled and therefore irrelevant at C-I, the intermediate link of the chain occurs in a labeled projection and is therefore relevant to C-I.

Under this analysis, it is thus only to be expected that long-distance LS will consistently display the A-bar properties that it does: LS does not entail amnesty for WCO and Condition C violations vis-a-vis matrix subjects. The locality constraints it is subject to (discussed in section 2.1 under (8)), are also explained, once we take on board the analysis that in Hindi-Urdu, the scope marker and a clausal expletive EM into the edge of v*. The analysis also explains the coindexation facts in (26), where even though a

[4] A possible reformulation of this proposal is to treat LS beyond the edge of v* to be an instance of PF-movement, a variant of DISL in the sense of Chomsky (2001), but I do not explore that hypothesis for now, out of a concern for sticking to minimal assumptions about design.

[5] I do not explore the details of exactly how these effects on outcome are derived in terms of a minimalist theory of binding and reconstruction, partly because the details would take me too far afield in what is as yet a programmatic outline, but also because the unification of several different types of C-I effects is at issue here: Principle A, Principle C, relative quantifier and *wh*-scope. I do not pursue the whole range of issues in the text, and refer the reader to Keine & Poole (2018) for some useful ideas and discussion about the way that Hindi-Urdu points to the need for a hybrid theory of reconstruction, in which reconstruction effects derive either from syntactic means (higher copy-neglection) or the semantic strategy (higher type-traces). The intuition behind the proposal I make is that if Keine & Poole's suggestions are on the right track, then the choice using the syntactic strategy or the semantic one *is* mediated through the syntax as well, with EFs on v* heads being the instruction in the narrow syntax for using higher type-traces for the relative scope interpretation

left-scrambled embedded DO cannot amnesty Condition C violations vis-a-vis the matrix subject, the initial step of EF-licensing movement to the most embedded v* continues to allow it to do so vis-a-vis the embedded IO.

(26) a. [rɑm=ki$_{*i/j/k}$ kɪtɑb]$_k$ us=ne$_i$ kəhɑ [$_{\text{ki}}$ ek ləɽke=ne use$_j$ t$_k$ di
Ram-GEN book he-ERG said C a boy him-DAT give.PFV
'He$_i$ said that a boy gave him$_j$ Ram's$_{*i/j/k}$ book.'

4.3 The derivation of rightward scrambling

By now, it will be obvious how the derivation of Hindi-Urdu RS will proceed, once we make the crucial analytical assumption that in RS, the v* phasal head lacks an EF altogether. The core intuition I wish to pursue is that the derivation of RS structures proceeds in exactly the same way as LS ones, but one that consistently yields unlabeled projections because there no EF on v. As a result, the only available site for the DO interpretation is its base-merge position, which yields the 'argument of' interpretation, the copy at the head of the DO chain is unlabeled and thus not accessible for effects at C-I interpretation. The absence of an EF also ensures that displacement targets a low position in the complement of v rather than the edge of v*, and is therefore part of the domain which is transferred when the phase is completed. In other words, the derivation of an RS structure in (27) is one that shares the steps (23a-d) of the LS derivation:

(27) a. [$_{-1}\sqrt{R}$ DO]
b. [$_{-2}$DO [$_{-1}$ $\sqrt{R}$ ⟨*DO*⟩]]
c. [$_{v^*}$ v$_{EF,uF}$ [$_{-2}$DO [$_{-1}\sqrt{R}$ ⟨*DO*⟩]]]
d. [$_{v^*}$ [$_{-2}$ DO [$_{\phi}\sqrt{R_{\not{uF}}}$ ⟨*DO*⟩]]] ← *PoP*$_1$ *resolves*
e. [$_{-3}$SU v$_{EF}$ [$_{-2}$DO [$_{\phi}\sqrt{R_{\not{uF}}}$ ⟨*DO*⟩]]]
f. [$_{-4}$SU T [$_{v^*}$⟨*SU*⟩ v [$_{-2}$ . . .]]] ← *PoP*$_3$ *resolves,* [$_{-2}$ . . .]
g. [$_C$ C [$_{\phi}$ SU T$_{\not{EF},\not{uF}}$ [$_{v^*}$ ⟨*SU*⟩ v]]] ← *PoP*$_4$ *resolves*

This simple analysis explains all the phenomena that we noted in RS structures in Section 2. The inability of RS to remedy WCO effects (as in (1c)), create new configurations for reciprocal binding (cf. (2c)), amnesty Condition C violations (cf. (3c)), follows from the fact that the right-scrambled XP never raises to a position that c-commands into the SU constituent. Scope reversing readings are impossible (cf. 4d)) for the same reason, as RS maintains the hierarchical arrangement of constituents. The scope-freezing effects that expletives and scope markers noted in (5c) also follows directly as well, as the head of the RS-moved operator chain is rendered invisible by the lack of labeling for C-I interpretation, and the base copy is too low to be given a scope-taking interpretation. The interpretation available to (6c) is also not unexpected, even though under my proposal the expletive/scope marker RS-moved operator is introduced by EM at the edge of v itself. Displacement by RS in this case will also lead to an unlabeled constituent as well, in the chain [_ SM/EXPL [$_{v^*}$ ⟨*SM/EXPL*⟩ v* . . .]], where again the head of the chain creates an intervention effect.

Given that there exists no evidence of strategies of LF-repair of the scope-freezing effects of RS, the truth of Bošković's (2018:262) conjecture in (28) is confirmed:

(28) Unlabeled elements cannot undergo movement.

(28) also lies at the heart of an explanation of the locality restrictions on RS: RS is clause bound because it never can access the escape hatch of the phasal edge in (7c). As a result, it is unaffected by the presence of clausal expletives and scope markers that occupy the edge of matrix v phases (cf. (8 c-d)). The interaction between finite clauses and rightward scrambled matrix arguments noted in the examples in (9) and (10) also follow unproblematically as well, as effectively the RS does not alter the c-command relations that obtain in the base configuration, given our assumption of Manetta's (2014) suggestion that the right-edge positioning of the finite complement clause is effected by a post-syntactic extraposition rule operating in the PF component.

4.4 Concluding remarks

In the analysis of Hindi-Urdu scrambling developed in this paper, no reference has been made to linear order or TOPIC, FOCUS features. The differential properties of left and right scrambling have been argued to arise from the fact that the narrow syntax may bring into play a (independently motivated) syntactic feature that effects *labeling*, and is motivated by purely C-I-related considerations of the interpretation of scope, bound anaphora and coreference.

A final observation about how the C-I dedicated labeling feature EF interacts with the pragmatic interpretations that accrue to scrambled configurations will serve to close this paper. In the conception of the EF as a semantically oriented labeling feature, the current proposal establishes no correlation betwen the pragmatics and the syntax. This entails that the functional expression of CG-management related IS-notions, such as highlighting, correction, emphasis, contrast, frame-setting, etc., (see Krifka 2008) are not expected to be licensed only in the EF-checking position, and may freely be expressed by a variety of strategies. While these strategies may include the exploitation of scrambling and word order variation in general, the correlations established can only at best be statistical, describing tendencies and not criterial generalisations. The discussion in this paper suggests that the way ahead for the study of the syntax of Hindi-Urdu scrambling lies equally in a principled typology of these pragmatic expressions and distinguishing them from purely C-I relevant meaning. It is only then that we can begin to move towards the goal of a 'genuine explanation' of the scrambling phenomenon.

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References

Abels, Klaus. 2015. Word order. In *Handbücher zur Sprach- und Kommunikationswissenschaft / Handbooks of Linguistics and Communication Science* vol. 42(2), pages 1400-1448. Berlin: De Gruyter.

Bhalla, Ojaswee (in prep.) *'to'-marked XPs in Hindi*. Doctoral dissertation to be submitted to Jawaharlal Nehru University, December 2021.

Bhatt, Rajesh and Elena Anagnostopoulou. 1996. Object shift and specificity: Evidence from ko-phrases in Hindi. In L. M. Dobrin, K. Singer, and L. McNair, eds., *Papers from the 32nd Regional Meeting of the Chicago Linguistics Society*, pages 11-22.

Bhatt, Rajesh and Veneeta Dayal. 2007. Rightward scrambling as rightward remnant movement. *Linguistic Inquiry* 38:287-301.

Bhatt, Rajesh and Veneeta Dayal. 2020. Polar question particles: Hindi-Urdu *kya:*. *Natural Language and Linguistic Theory* 38, 1115–1144.

Biberauer, Theresa and Marc Richards. 2006. True optionality: When the grammar doesn't mind. In C. Boeckx, ed., *Minimalist essays*, pages 35–67. Amsterdam: John Benjamins.

Biberauer, Theresa and Ian Roberts. 2010. Subjects, tense and verb-movement. In Theresa Biberauer, Anders Holmberg, Ian Roberts, and Michelle Sheehan (eds.), *Parametric variation: Null subjects in minimalist theory*, pages 263–303. Cambridge: Cambridge University Press.

Bošković, Željko. 2018. On movement out of moved elements, labels, and phases. *Linguistic Inquiry* 49:247-282.

Butt, Miriam. 2018. Word order variation in Urdu/Hindi wh-constituent questions. Handout of talk given at the *Workshop on Information Structure: Form and Interpretation* at Wien in July 2018. Ms. University of Konstanz.

Butt, Miriam and Tracy H. King. 1996. Structural topic and focus without movement. In M. Butt and T. H. King, eds., *Online Proceedings of the First LFG Conference*. CSLI Publications.

Chocano, Gemma and Michael Putnam. 2013. Are all phases created equal? An investigation of Feature Inheritance in connection with Icelandic Quantifier Movement. *Linguistic Analysis* 38.3-4:1-42.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In R. Martin, D. Michaels, J. Uriagereka and S.J. Keyser, eds., *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, pages 89-155. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In M. Kenstowicz, ed., *Ken Hale: A Life in Language*, pages 1-52. Cambridge, MA: MIT Press.

Chomsky, Noam. 2005. Three factors in language design. *Linguistic Inquiry* 36(1):1-22.

Chomsky, Noam. 2007. Approaching UG from below. In U. Sauerland and H.-M. Gärtner, eds., *Interfaces + Recursion = Language?*, pages 1-30. Berlin: De Gruyter.

Chomsky, Noam. 2008. On phases. In R. Freidin, C. P. Otero and M.L. Zubizarreta, eds.,. *Foundational Issues in Linguistic Theory*, pages 134-166. Cambridge, MA: MIT Press.

Chomsky, Noam. 2013. Problems of projection. *Lingua* 130:33-49.

Chomsky, Noam. 2015. Problems of projection: Extensions. In E. di Domenico, C. Hamann and S. Matteini, eds.,. *Structures, Strategies and Beyond*, pages 1-16. Amsterdam: John Benjamins.

Chomsky, Noam. 2019. Some puzzling foundational Issues: The Reading program. *Catalan Journal of Linguistics* Special Issue:263-285.

Chomsky, Noam, Ángel J. Gallego, and Dennis Ott. 2019. Generative grammar and the faculty of language: Insights, questions, and challenges. *Catalan Journal of Linguistics* Special Issue:229-261.

Dayal, Veneeta. 1994. Scope marking as indirect wh-dependency. *Natural Language Semantics* 2(2):137-170.

Fanselow, Gisbert. 2006. On pure syntax (uncontaminated by information structure). In P. Brandt and E. Fuß, eds., *Form, Structure, and Grammar: A Festschrift Presented to Günther Grewendorf on Occasion of His 60th Birthday*, pages 137-158. Berlin: Akademie Verlag.

Fanselow, Gisbert and D. Lenertová. 2011. Left peripheral focus: mismatches between syntax and information structure. *Natural Language and Linguistic Theory* 29:169-209.

Gambhir, Vijay. 1981. *Syntactic Restrictions and Discourse Functions of Word Order in Standard Hindi*. Doctoral dissertation, University of Pennsylvania, Philadelphia.

Ginsburg, Jason 2016. Modeling of problems of projection: A non-countercyclic approach. *Glossa: a journal of general linguistics* 1.

Keine, Stefan and Ethan Poole. 2018. Not all reconstruction effects are syntactic. Ms. University of Southern California and University of California Los Angeles.

Kidwai, Ayesha. 1999. Word order and focus positions in Universal Grammar. In G. Rebuschi and L. Tuller, eds., *The Grammar of Focus*, pages 213-245. Amsterdam: John Benjamins.

Kidwai, Ayesha. 2000. *XP-Adjunction in Universal Grammar: Scrambling and Binding in Hindi–Urdu*. New York: Oxford University Press

Kidwai, Ayesha. 2013. Morphological case is structural: The case of Hindi accusative -ko. In Gao Ming Le, ed., *Universals and Variation: The 8th Generative Grammar International Conference Proceedings*. Beijing: Beijing Language and Culture University Press.

Krifka, Manfred. 2008. Basic notions of Information Structure. *Acta Linguistica Hungarica* 55 (3-4):243-276.

Lahiri, Utpal. 2002. On the proper treatment of "expletive wh" in Hindi. *Lingua* 112:501-540.relational

Mahajan, Anoop. 1990. *The A/A-bar distinction and movement theory*. Doctoral dissertation, Massachusetts Institute of Technology, Cambridge, MA.

Mahajan, Anoop. 1997. Rightward scrambling. In D. Beermann, D. LeBlanc, H. van Riemsdijk, eds., *Rightward movement*, pages 185-213. Amsterdam: John Benjamins.

Manetta, Emily. 2014. Reconsidering rightward scrambling: Postverbal constituents in Hindi-Urdu. *Linguistic Inquiry* 43:43-74.

Matić, Dejan and Daniel Wedgwood. 2013. The meanings of focus: The significance of an interpretationbased category in crosslinguistic analysis. *Journal of Linguistics* 49, pages 127-163.

Neeleman, Ad, Elena Titov, Hans van de Koot, and Reiko Vermeulen. 2009. A syntactic typology of Topic, Focus and Contrast. In J. van Craenenbroeck, ed., *Studies in Generative Linguistics*,100. pages15–51. Berlin: Mouton de Gruyter.

Obata, Miki and Samuel D. Epstein. 2011. Feature-splitting internal Merge: Improper movement, intervention, and the A/A-bar distinction. *Syntax* 14:122-147.

Richards, Marc. 2007. On feature inheritance: An argument from the Phase Impenetrability Condition.*Linguistic Inquiry* 38:563-572.

Richards, Marc. 2020. Rethinking Principles A and B from a Free Merge perspective. In A. Bárányi, T. Biberauer, J. Douglas, and S. Vikner, eds., *Nominal Architecture and its Consequences*, pages 497-509. Language Science Press.

Struckmeier, Volker. 2016. Against information structure heads: A relational analysis of German scrambling. *Glossa: A Journal of General Linguistics*2(1).