

Movement and Non-movement in Hindi-Urdu Correlatives

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February 8, 2024

1 Introduction: What are correlatives?

Correlative constructions are a relativization strategy involving a **two-clause structure**. The first clause, which is called the **correlative clause**, specifies a referent that is then referred to by a demonstrative in the second clause, the **correlate** or main clause.

For example, in the following sentence, the first clause specifies ‘the book that is on sale’, and the demonstrative in the second clause then refers to *that* book.

- (1) [[jo kitaab]_i sale-par hai], [Maya [us kitaab]_i-ko khariid-eg-i]
REL book sale-on be.PRES Maya DEM book-DOM buy-FUT.-F.SG
‘Maya will buy the book that is on sale.’

The correlative clause contains a relative pronoun/determiner REL. The phrase [REL NP] is called the ‘head’ of the correlative for notational convenience.

Much of the literature on Indo-Aryan correlatives (Srivastav, 1991; Bagchi, 1994; Dayal, 1996; Mahajan, 2000; Bhatt, 2003) focuses on the question of where the correlative clause is generated.

- Position 1: base-generation as an adjunct to IP (Srivastav, 1991; Dayal, 1996)
- Position 2: adjunction to the Dem-NP followed by A’-scrambling to an IP-adjoined position (Bhatt, 2003)

The current proposal argues for **base-generation as a topic in the specifier of TopP**. (Rizzi, 1997)

Little attention has been paid to the internal structure of the correlative clause. What type of relative clause is it? Dayal (1995): correlatives behave like free relatives semantically, but differ from them syntactically.

Correlative clauses seem to differ syntactically from free relatives in a few ways.

- The REL-NP (head) of correlatives can be non-initial in its clause in the surface order
- Multiple correlatives pick out pairs of entities, no obvious free-relative counterpart.

Two main theories of the structure of free relatives (Gračanin-Yuksek, 2008):

- The *Comp* account: the free relative involves a null nominal head with a CP complement, and the head of the relative moves to the specifier of this CP. (Groos and van Riemsdijk, 1981; Harbert, 1983; Suñer, 1983; Grosu and Landman, 1998)
- The *Head* account: the head of the relative occupies the nominal position itself and there is no null nominal head. (Hirschbühler, 1976; Bresnan and Grimshaw, 1978)

My proposal: correlative clauses are **null-headed relative clauses**, similar to the *Comp* account of Free Relatives.

Apparent *in-situ* configurations where the head is non-initial involve obligatory movement, which is subsequently obscured by scrambling of surrounding material.

I diverge from the previous literature in arguing that the correlative clause is structurally a **DP**, not a CP.

Correlative constructions thus present an interesting empirical domain that have bearing on the analysis of free relatives.

1.1 Structure of the talk

- Section 2: The internal structure of the correlative clause
- Section 3: The correlative clause as a base-generated Topic
- Section 4: Analysis and derivation
- Section 5: Conclusion

2 Evidence for obligatory correlative-internal movement

Canonical word order in Hindi-Urdu is SOV (S-IO-DO-V), with scrambling for information-structure effects.

In correlative clauses, the head of the correlative (phrase containing REL) typically occurs at the left edge of the correlative clause. However, it also appears to be able to remain in-situ.

- (2) a. [[jo tohfaa] Mohan-ne Shyam-ko t diyaa], [vo bahut mehengaa tha]
REL gift Mohan-ERG Shyam-DAT t give.PERF DEM very expensive be.PST
‘The gift that Mohan gave Shyam, that was very expensive.’

- b. [Mohan-ne Shyam-ko [jo tohfaa] diyaa], [vo bahut mehengaa tha]
 Mohan-ERG Shyam-DAT REL gift give.PERF DEM very expensive be.PST
 ‘The gift that Mohan gave Shyam, that was very expensive.’

Mahajan (2000, p.203) is the only author to mention this: “the relative pronoun *jo* does not have to be fronted. It can appear in its base position.”

Mahajan: not surprising since Hindi is *wh-in-situ* and allows optional leftward scrambling.

However, there are restrictions on what can precede the head in these orders, as I will show.

Current proposal:

- Obligatory movement of the correlative head from a base-generated argument or adjunct position
- Apparent *in-situ* configurations involve movement that is obscured by subsequent scrambling of surrounding material
- Movement of the correlative head is **relativization**, and the resulting structure is a relative clause with a null nominal head

2.1 Evidence for movement – case connectivity and scope

Question: Is there movement of the head of the correlative from a lower position?

The head shows case-connectivity with its base position, and can be interpreted low when there is scopal ambiguity.

Case-connectivity: In (3), the relative argument obligatorily has dative case-marking *-ko* regardless of its position, as it is the indirect argument of the predicate *dena* ‘give’. Note that *jis* is the oblique form of *jo*, so the REL also shows case-connectivity with the base position.

- (3) a. [[jis aadmi*(-ko)] Mohan-ne t kitaab dii], [vo aadmi khush hai]
 REL man-DAT Mohan-ERG t book give.PERF.F, DEM man happy is
 ‘The man that Mohan gave the book to, that man is happy.’
- b. [Mohan-ne [jis aadmi*(-ko)] kitaab dii], [vo aadmi khush hai]
 Mohan-ERG REL man-DAT book give.PERF.F, DEM man happy is
 ‘The man that Mohan gave the book to, that man is happy.’

Embedded scope interpretation available despite surface position in the higher clause: In (4-a), the adjunct ‘in REL room’ can be interpreted low, modifying *sleep*, rather than the

higher *think*, and this is in fact the more easily available interpretation. Movement of the relative head out of embedded clauses is obligatory as seen by the ungrammaticality of (4-b).

- (4) a. [[jis kamre mein] tum-ne socha ki Mohan *t* so raha hai], [vo khaali
REL room in you-ERG thought that Mohan *t* sleep AUX.M is, DEM empty
hai]
is
'The room that you thought Mohan is sleeping in, that room is empty.'
- b. *[tum-ne socha ki Mohan [jis kamre mein] so raha hai], [vo khaali hai]
you-ERG thought that Mohan REL room in sleep AUX.M is, DEM empty is
'The room that you thought Mohan is sleeping in, that room is empty.'

Lexically selected case marking: *ke saath* is a complex comitative marker that is lexically selected for by the predicate *jhagRaa karna* 'to fight', suggesting low base-generation followed by movement in (5-a).

- (5) a. [[jis karmachaari *(ke saath)] Mohan-ne parso *t* jhagRaa kiya
REL office.worker GEN with Mohan-ERG day-before *t* fight do.PERF
tha], [vo aaj kaam pe nahi aaye hai]
AUX.PST, DEM today work on not come.PERF.HON is
'The office worker that Mohan fought with the day before yesterday, has not come
to work today.'
- b. [Mohan-ne parso [jis karmachaari *(ke saath)] jhagRaa kiya tha],
Mohan-ERG day-before REL office.worker GEN with fight do.PERF AUX.PST,
[vo aaj kaam pe nahi aaye hai]
DEM today work on not come.PERF.HON is
'The office worker that Mohan fought with the day before yesterday, has not come
to work today.'

2.2 Apparent in-situ and anti-topicality

Question: Is there always movement?

The correlative head is typically the leftmost element in its clause. But it can also appear in an apparent *in-situ* position.

In (6-a), the relative head *jo* is the object of the predicate *acchaa laganaa* 'to like'. In (6-b), the relative head is the indirect object.

- (6) a. [Sita-ko **jo** acchaa lag-ta hai], [mujhe vo aadmi pasand nahi hai]
 Sita-DAT REL nice seem-IMP is, I-DAT DEM man like not is
 ‘I do not like the man who Sita likes.’ (Mahajan, 2000)
- b. [Mohan-ne [jis aadmi-ko] kitaab dii], [vo aadmi khush hai]
 Mohan-ERG REL man-DAT book give.PERF.F, DEM man happy is
 ‘The man that Mohan gave the book to, that man is happy.’

Mahajan (2000, p.204): Optional movement analogous to optional scrambling of *wh*-pronouns in Hindi.

However, there are restrictions on what can precede the head in such apparent in-situ configurations. These same restrictions do not hold if the correlative head is replaced by a referring element like a demonstrative.

Specifically, anti-topical elements like **indefinites** and **NPIs** cannot precede the correlative head. They are anti-topical because they cannot undergo topicalization in Hindi-Urdu:

- (7) a. *[ek lambi aurat]-ko(-toh) [us aadmii]-ne *t* kitaaben dii
 a tall woman-DAT-TOP DEM man-ERG *t* book.PL give.PERF.F
 ‘A tall woman, that man gave books to.’
- b. [us aadmii]-ne [ek lambi aurat]-ko kitaaben dii
 DEM man-ERG a tall woman-DAT book.PL give.PERF.F
 ‘That man gave books to a tall woman.’
- (8) a. *kisi-ko-bhi(-toh) [us aadmii]-ne *t* kitaaben nahi dii
 anybody.DAT-TOP DEM man-ERG *t* book.PL not give.PERF.F
 ‘Nobody, that man gave books to.’
- b. [us aadmii]-ne kisi-ko-bhi kitaaben nahi dii
 DEM man-ERG anybody.DAT book.PL not give.PERF.F
 ‘That man didn’t give books to anybody.’

These anti-topical elements cannot precede the correlative head, as seen with an indefinite subject in (9-a). No such restriction holds in example (9-b) without a correlative head. Note that (9-a) is repaired if the correlative head precedes the indefinite as in (9-c).

- (9) a. *[ek lambi aurat]-ne [jis aadmi-ko] kitaab dii, vo aadmi khush hai
 a tall woman-ERG REL man-DAT book gave, DEM man happy is
 ‘The man that a tall woman gave the book to, that man is happy.’
- b. [ek lambi aurat]-ne [us aadmi-ko] kitaab dii
 a tall woman-ERG DEM man-DAT book gave
 ‘A tall woman gave that man a book.’

- c. [jis aadmi-ko] [ek lambi aurat]-ne *t* kitaab dii, vo aadmi khush hai
 REL man-DAT a tall woman-ERG *t* book gave, DEM man happy is
 ‘The man that a woman gave the book to, that man is happy.’

As further support, an indefinite quantifier like *kuch* ‘some’ also follows the same pattern and cannot precede the correlative head.

- (10) a. *[kuch auraton]-ne [jis aadmi-ko] kitaab dii, vo aadmi khush hai
 some women-ERG REL man-DAT book gave, DEM man happy is
 ‘The man that some women gave the book to, that man is happy.’
 b. [kuch auraton]-ne [us aadmi-ko] kitaab dii
 some women-ERG DEM man-DAT book gave
 ‘Some women gave that man a book.’
 c. [jis aadmi-ko] [kuch auraton]-ne *t* kitaab dii, vo aadmi khush hai
 REL man-DAT some women-ERG *t* book gave, DEM man happy is
 ‘The man that some women gave the book to, that man is happy.’

Similarly, NPIs cannot precede the correlative head either. The same pattern of contrast with a non-correlative baseline holds, as well as repair when the correlative head precedes the NPI.

- (11) a. *kisi-ne-bhi [jis aadmii-ko] kitaab nahi dii, vo aadmii dukhi hai
 anyone-ERG-ADD REL man-DAT book not gave, DEM man sad is
 ‘The man that nobody gave the book to, that man is happy.’
 b. kisi-ne-bhi [us aadmii-ko] kitaab nahi dii
 anyone-ERG-ADD DEM man-DAT book not gave
 ‘Nobody gave that man a book.’
 c. [jis aadmii-ko] kisi-ne-bhi *t* kitaab nahi dii, vo aadmii dukhi hai
 REL man-DAT anyone-ERG-ADD *t* book not gave, DEM man sad is
 ‘The man that nobody gave the book to, that man is happy.’

Focus-marked elements¹ are inherently anti-topical since they introduce new information. These likewise cannot precede the correlative head², and once again the same patterns as above hold.

¹The particle *-hii* in Hindi-Urdu is a matter of some debate, but is minimally described as a focus-sensitive particle. See Bhatt (1994) and Bajaj (2016) for related discussion on this particle.

²Although Rizzi (1997) allows for a FocP above TopP for Italian.

- (12) a. *[sirf Mohan-ne-hii] [jis aadmi-ko] kitaab dii, vo aadmi khush hai
 only Mohan-ERG-HI REL man-DAT book gave, DEM man happy is
 ‘The man that only Mohan gave the book to, that man is happy.’
 b. [sirf Mohan-ne-hii] [us aadmi-ko] kitaab dii
 only Mohan-ERG-HI DEM man-DAT book gave
 ‘Only Mohan gave that man a book.’
 c. [jis aadmi-ko] [sirf Mohan-ne-hii] *t* kitaab dii, vo aadmi khush hai
 REL man-DAT only Mohan-ERG-HI *t* book gave, DEM man happy is
 ‘The man that only Mohan gave the book to, that man is happy.’

The configurations with NPIs and focussed elements above are descriptively canonical intervention effects as discussed in Beck and Kim (1997).

Current account: restriction against scrambling these anti-topical elements past the correlative head which has moved to the CP layer.

2.3 VP-fronting

Correlative clauses do not allow VP-fronting when the correlative head is an internal argument (13-a), in contrast with non-correlative clauses (13-b).

- (13) a. *[[*t* bulaa-yaa tha]_{VP} [mai-ne jis-ko *t*_{VP}]], [vo nahi aaya]
 [*t* invite-PERF.M AUX.PST] I-ERG REL-DAT *t*, DEM not come.PERF
 ‘The one I invited did not come.’
 b. [bulaa-yaa tha] [mai-ne us-ko *t*_{VP}]
 invite-PERF.M AUX.PST I-ERG DEM-DAT *t*
 Roughly: ‘I did invite him.’

If movement of the correlative head is an A’-movement, such an A’-movement of the remnant VP would be blocked by the Müller-Takano Generalization (Takano, 1994; Müller, 1996), which prevents remnant movement of type α , if the movement that created the remnant is of the same type.

In the non-correlative case, this order can be derived by short A-scrambling of the object which does not prevent leftward A’-scrambling of the remnant.

Prediction: VP-fronting should be possible when correlativization has not taken place out of it.

Indeed, VP-topicalization is allowed when the correlative head is the subject of the clause.

- (14) a. [[mujhe chocolate diyaa]_j jis-ne_i t_i t_j], [vo kahaan hai]?
 I.DAT chocolate give.PERF.M REL-ERG t t, DEM where is
 ‘The one who game me chocolate, where is he?’
- b. [jis-ne mujhe chocolate diyaa], [vo kahaan hai]?
 REL-ERG I.DAT chocolate give.PERF.M, DEM where is
 ‘The one who game me chocolate, where is he?’

With an unaccusative predicate, VP-fronting past the correlative subject is allowed.

- (15) a. [jo gir gaya tha], [us-ko phenk do]
 REL fall go.PERF be.PST, DEM-DOM throw give.2
 ‘The one that had fallen, throw it away.’
- b. [[gir gaya tha]_i [jo t_i]], [us-ko phenk do]
 fall go.PERF be.PST REL t, DEM-DOM throw give.2
 ‘The one that had fallen, throw it away.’

Crucially here, the subject of the unaccusative first A-moves out of the VP to [Spec, TP], and only then does it A’-move for relativization. Therefore, the movement that created the VP-remnant is not an A’-movement, so there is no ban on A’-moving it higher.

In summary, the restrictions on VP-fronting in correlatives provide independent evidence that the movement of the correlative head is an A’-movement. This makes the right predictions based on the Müller-Takano Generalization.

- (16) Condition on Remnant Movement in Correlatives: A remnant created by movement of the correlative head cannot be topicalized.

2.4 Embedded Clauses

When the correlative head originates in an embedded clause, it must obligatorily occur to the left of the matrix verb. This can be derived by the condition on remnant movement (16).

In (17-a) the head of the correlative is the object of the embedded clause, leaving it in-situ results in ungrammaticality. It must minimally occur to the left of the matrix verb as in (17-b), and may occur before the matrix subject, as is the default for correlatives.

- (17) a. *[Ram-ne socha [ki Shyam [jo kaam] kar raha hai]], [vo
 Ram-ERG thought that Shyam REL work do AUX.PROG.M be.PRES DEM
 usne nahi kiya]
 he-ERG NEG do.PERF

‘The work that Ram thought Shyam is doing, he didn’t do.’

- b. [Ram-ne [jo kaam] socha [t’ ki Shyam *t* kar raha hai]], [vo
Ram-ERG REL work thought *t*’ that Shyam *t* do AUX.PROG.M be.PRES DEM
usne nahi kiya]

he-ERG NEG do.PERF

‘The work that Ram thought Shyam is doing, he didn’t do.’

- c. [[jo kaam] Ram-ne socha [t’ ki Shyam *t* kar raha hai]], [vo
REL work Ram-ERG thought *t*’ that Shyam *t* do AUX.PROG.M be.PRES DEM
usne nahi kiya]

he-ERG NEG do.PERF

‘The work that Ram thought Shyam is doing, he didn’t do.’

If there are multiple embedded clauses with the correlative head originating inside the lower clauses, the correlative head must always move to the main clause left of the matrix verb, although the judgements become incrementally harder to get.

In (18-a), the head of the correlative is the object of *dekha* ‘saw’ in the lowest clause. Moving it one clause up to the left of the embedded *socha* ‘think’ as in (18-b), still results in ungrammaticality.

- (18) a. *[Ram-ne socha [ki Shyam-ne socha [ki Mohan-ne [jis kutte]-ko
Ram-ERG thought that Shyam-ERG thought that Mohan-ERG REL dog-ACC
dekha]], [vo bahar hai]
saw, DEM outside be.PRES
‘The dog that Ram thought that Shyam thought that Mohan saw is outside.’
- b. *[Ram-ne socha [ki Shyam-ne [jis kutte]-ko socha [ki Mohan-ne *t*
Ram-ERG thought that Shyam-ERG REL dog-ACC thought that Mohan-ERG *t*
dekha]], [vo bahar hai]
saw, DEM outside be.PRES
‘The dog that Ram thought that Shyam thought that Mohan saw is outside.’
- c. [[jis kutte]-ko [Ram-ne socha [*t*’ ki Shyam-ne socha [*t*’ ki
REL dog-ACC Ram-ERG thought *t*’ that Shyam-ERG thought *t*’ that
Mohan-ne *t* dekha]]], [vo bahar hai]
Mohan-ERG *t* saw, DEM outside be.PRES
‘The dog that Ram thought that Shyam thought that Mohan saw is outside.’

On the current proposal, elements that precede the correlative head must have scrambled past it.

For the matrix verb to precede the correlative head in surface order, a constituent containing it must topicalize. However, such a constituent will always be a remnant of (at least) the

correlativization movement, since the head originated in an embedded clause, and therefore cannot front according to Condition (16).

Consider how an order like (17-a) would have to be derived. *Ram ne socha ki Shyam* ‘Ram thought that Shyam’ is neither a constituent, nor a sequence of constituents that could have been scrambled individually. The necessary steps:

1. Correlativization of [*jo kaam*] to [Spec, CP]
2. Rightward scrambling of remnant VP [*t kar raha hai*]
3. Topicalization of remnant matrix TP [*Ram ne socha ki Shyam t*]

This is an illegal sequence of movements.

The only elements that can be topicalized once correlativization takes place out of an embedded clause, are arguments or adjuncts of the main clause.

This derives the desired result: The correlative head from an embedded clause must always precede the main clause verb.

2.5 Pied-piping

Further evidence for movement comes from pied-piping of modifiers to the correlative head.

Pre-nominal genitive modifiers to the constituent containing REL must always be pied-piped along with it to the left periphery, regardless of the type of modifier. In (19), the genitive modifier is in a kinship relation with the relative head. It must be moved along with the correlative head.

- (19) a. [Mohan ke jis bete]-ko maine *t* maara, voh kabhi school nahi jaa-t-a
 Mohan GEN REL son-DAT I.ERG *t* hit.PERF, he ever school NEG go-HAB-3
 ‘The son of Mohan’s whom I hit never goes to school.’
 b. *[jis bete]-ko maine [Mohan ke *t*] maara, voh kabhi school nahi jaa-t-a
 REL son-DAT I.ERG Mohan GEN *t* hit.PERF, he ever school NEG go-HAB-3.M
 ‘The son of Mohan’s whom I hit never goes to school.’

In (20), the genitive modifier is a simple alienable possessor and once again must move with the correlative head.

- (20) a. [Mohan ki jo ghaDi] maine *t* churaayii, voh mehengi thi
 Mohan GEN REL watch I.ERG *t* stole, DEM expensive be.PST
 ‘The watch of Mohan’s which I stole, it was expensive.’

- b.*[jo ghaDi] maine [Mohan ki t] churaayii, voh mehengi thi
 REL watch I.ERG Mohan GEN *t* stole, DEM expensive be.PST
 ‘The watch of Mohan’s which I stole, it was expensive.’

These modifiers cannot be stranded by A’-movement even in the absence of a correlative head, so in this case correlativization behaves just like other A’-movement such as topicalization below.

- (21) a.*[us bete]-ko maine [Mohan ke t] maara
 DEM son-DAT I.ERG Mohan GEN *t* hit.PERF
 ‘I hit that son of Mohan’s.’
 b.*[vo ghaDi] maine [Mohan ki t] churaayii
 DEM watch I.ERG Mohan GEN *t* stole
 ‘I stole that watch of Mohan’s.’

Summary: Correlativization movement must target the entire case-marked constituent.

2.6 Superiority effects in multiple correlatives

Multiple correlatives are a construction unique to correlatives wherein there are two relative heads in the correlative clause, binding two demonstratives in the main clause.

- (22) [[jis aadmii]-ne [jis aurat]-ko bulaayaa], [[vo aadmii] [us aurat]-ko pasand
 REL man-ERG REL woman-DAT invited DEM man DEM woman-DAT like
 karta hai]
 do.HAB be.PRES
 ‘Which man invited which woman, that man likes that woman.’ (this can be one or more pairs of referents)

In multiple correlatives, the correlative heads are subject to **superiority effects**, lending further independent support to the presence of correlative-internal movement.

- (23) Subject > Direct object

- a. [jis aadmi]-ne₁ [jo tohfaa]₂ tumhe diya, us-ne₁ woh₂ mujh-se
 REL man-ERG REL gift you.DAT give.PERF, he-ERG DEM I-ABL
 churaa-yaa tha
 steal-PERF AUX.PST
 ‘Which man gave you which gift, he stole that (gift) from me.’

- b.*[jo tohfaa]₂ [jis aadmi]-ne₁ tumhe diya, us-ne₁ woh₂ mujh-se
 REL gift REL man-ERG you.DAT give.PERF, he-ERG DEM I-ABL
 churaa-yaa tha
 steal-PERF AUX.PST
 ‘Which man gave you which gift, he stole that (gift) from me.’

(24) Subject > Indirect object

- a. [jis aadmi]-ne₁ [jis aurat]-ko₂ tohfaa diya, [vo aadmi]₁ [us
 REL man-ERG REL woman-DAT gift give.PERF, DEM man DEM
 aurat]-se₂ kal pehli baar mila
 woman-DAT yesterday first.F time met
 ‘Which man gave which woman a gift, that man met that woman for the first time
 yesterday.’
- b.*[jis aurat]-ko₂ [jis aadmi]-ne₁ tohfaa diya, [vo aadmi]₁ [us
 REL woman-DAT REL man-ERG gift give.PERF, DEM man DEM
 aurat]-se₂ kal pehli baar mila
 woman-DAT yesterday first.F time met
 ‘Which man gave which woman a gift, that man met that woman for the first time
 yesterday.’

With non-subject arguments, the ordering does not seem to be restricted in the same way.³

- (25) a. adhyaapak-ne [jis chhaatra]-ko₁ [jo tohfaa]₂ diya, usse₁ vo₂ pasand
 teacher-ERG REL student-DAT REL gift give.PERF, DEM.DAT DEM like
 aaya
 come.PERF
 ‘Which gifts the teacher gave to which student, they (student) liked it (gift).’
- b. adhyaapak-ne [jo tohfaa]₂ [jis chhaatra]-ko₁ diya, usse₁ vo₂ pasand
 teacher-ERG REL gift REL student-DAT give.PERF, DEM.DAT DEM like
 aaya
 come.PERF
 ‘Which gifts the teacher gave to which student, they (student) liked it (gift).’

Similarly for adjuncts, correlative-marked subjects must always precede correlative-marked adjuncts.

(26) Subject > Adjunct

³The subject is kept in the most natural-sounding position, since these examples are difficult to judge under the best circumstances.

- a. jinhone₁ us-ko₂ jahaan₃ bulaayaa, vo₂ un-se₁ mil-ne
REL.HON.ERG DEM-DAT REL.PLACE invite.PERF, DEM DEM.HON-DAT meet-NF
vahaan₃ gaya
DEM.PLACE go.PERF
‘Who₁ invited him₂ where₃, he₂ went there₃ to meet them₁.’
- b. *jahaan₃ jinhone₁ us-ko₂ bulaayaa, vo₂ un-se₁ mil-ne
REL.PLACE REL.HON.ERG DEM-DAT invite.PERF, DEM DEM.HON-DAT meet-NF
vahaan₃ gaya
DEM.PLACE go.PERF
‘Who₁ invited him₂ where₃, he₂ went there₃ to meet them₁.’

There don’t seem to be ordering restrictions between adjuncts and internal arguments, but it should be noted that (27-b) has prosodic focus on the adjunct-relative, which is potentially crucial here.

- (27) a. mai-ne jis-ko jahaan bulaayaa, vo vahaan aaya
I-ERG REL-DAT REL.PLACE invite.PERF, DEM DEM.PLACE come.PERF
‘Where I invited whom, they came there.’
- b. mai-ne jahaan jis-ko bulaayaa, vo vahaan aaya
I-ERG REL.PLACE REL-DAT invite.PERF, DEM DEM.PLACE come.PERF
‘Where I invited whom, they came there.’

To summarize, a correlative subject must always precede other correlative heads.

2.7 Reconstruction Effects

Syntactic reconstruction effects are a standard test for diagnosing movement and its type (A vs. A’). (Barss, 1986; Hoji, 1985; Johnson, 1985; Freidin, 1986; Belletti and Rizzi, 1988; Huang, 1993; Heycock, 1995; Barss, 2001; Sportiche, 2006) Here I consider two types of effects: reconstruction for Condition A, and anti-reconstruction for Condition C.

2.7.1 Reciprocal binding and reconstruction

Hindi reflexives are subject-oriented. (Dayal, 1994) Further, in my variety, reflexive possessives can be bound by conversational participants.

Reciprocal *ek dusre* ‘each other’ shows reconstruction, where it can be bound by an element which is lower on the surface.

- (28) [[ek-dusre_i ki jo tasveerein] [tum dono]_i-ne *t* khiinchi], [vo bahut sundar
each.other GEN REL pictures you both-ERG pulled, DEM very beautiful
haiN]
be.PRES.PL
'The pictures of each other that you two took are very beautiful.'

The reciprocal in the moved phrase can also be bound by an embedded clause subject, so long as the binder *c*-commands the base-position of the correlative head.

- (29) [[ek-dusre₁ ki jo tasveerein]₂ maine socha [*t'* ki tum dono₁-ne *t* khiinchi]],
each.other GEN REL pictures I-ERG thought *t'* that you both-ERG *t* took,
vo₂ itni bhi acchi nahi haiN
DEM this.much.F also good.F NEG be.PRES.PL
'The pictures of each other that I thought you both took, they aren't all that good.'

If there are multiple potential antecedents, the anaphor can be bound by either antecedent.

- (30) [[ek-dusre_{1/2} ki jo tasveerein] [tum dono₁-ne socha [*t'* ki un dono₂-ne *t*
each.other GEN REL pictures you both-ERG thought *t'* that they both-ERG *t*
khiiNchii]], vo itni bhi acchi nahi haiN
took, DEM this.much.F also good.F NEG be.PRES.PL
'The pictures of each other_{1/2} that you both₁ thought that they both₂ took, they aren't
all that good.'

Same for ordinary scrambling in regular clauses, as evidenced by the ambiguous binding in the following topicalization example.

- (31) [[ek-dusre_{1/2} ki yeh tasveerein] [tum dono₁-ne socha [*t'* ki un dono₂-ne *t*
each.other GEN REL pictures you both-ERG thought *t'* that they both-ERG *t*
khiiNchii]]
took
'These pictures of each other_{1/2}, you both₁ thought that they both₂ took.'

In summary, an anaphor in the correlative head may be bound by an antecedent lower than its surface position, but higher than its base-generated position. With multiple potential antecedents, any of them may bind the anaphor, which is strong evidence for movement.

2.7.2 Condition C anti-reconstruction

There is no Condition C effect for the correlative movement, *i.e.* there is anti-reconstruction, where in its base position the relative head would incur a Condition C violation.

Scrambling of the antecedent past the correlative head as in (32-b) results in forcing disjoint reference.

- (32) a. [Shyam-saab₁ ke jis bete-ko] unhone_{1/3} *t* America bheja, vo nalayak
 Shyam-sir GEN REL son-DOM he.HON.ERG *t* America sent, he undeserving
 hai
 be.PRES
 ‘Shyam’s son whom he sent to America is undeserving/an idiot.’
- b. unhone_{3/*1} [Shyam-saab₁ ke jis bete-ko] *t t* America bheja, vo nalayak
 he.HON.ERG Shyam-sir GEN REL son-DOM *t t* America sent, he undeserving
 hai
 be.PRES
 ‘Shyam’s son whom he sent to America is undeserving/an idiot.’

This kind of Condition C repair is not observed with A’-scrambling. Only disjoint reference is possible with topicalization.

- (33) a. [Shyam-saab₁ ke bete-ko] unhone_{3/*1} *t* America bheja hai
 Shyam-sir GEN son-DOM he.HON.ERG America sent be.PRES
 ‘Shyam’s₁ son, he₁ has sent to America.’
- b. *unhone₁ [Shyam-saab₁ ke bete-ko] America bheja hai
 he.HON.ERG Shyam-sir GEN son-DOM America sent be.PRES
 ‘He₁ has sent Shyam’s₁ son to America.’

Therefore in the case of Condition C, correlativization movement behaves differently from other A’-movement like topicalization. This is the behaviour of a Headed Relative in other languages.

For instance, see Gračanin-Yuksek (2008) on Croatian, where Headed Relatives show anti-reconstruction but Free Relatives do not. This fact about correlative heads is therefore puzzling, if they are indeed like Free Relatives.

2.8 Coordination and Across-the-Board movement

In coordinate structures, a correlative head cannot be conjoined with a non-relative one, whether or not the correlative is extracted from the coordination.

- (34) a. *[jo kitaab] tum [t aur yeh akhbaar] khariid rahe ho, vo
REL book you [t and this newspaper] buy AUX.PROG.2 be.PRES.2, DEM
maine parhii hai
I.ERG read.PERF AUX
‘I have read the book that you are buying [t and this newspaper]’
- b. *[jo kitaab aur yeh akhbaar] tum t khariid rahe ho, vo
[REL book and this newspaper] you t buy AUX.PROG.2 be.PRES.2, DEM
maine parhii hai
I.ERG read.PERF AUX
‘I have read the book that you are buying [t and this newspaper]’
- c. *tum₁ [jo kitaab aur yeh akhbaar]₂ t₁ t₂ khariid rahe ho, vo
you [REL book and this newspaper] t t buy AUX.PROG.2 be.PRES.2, DEM
maine parhii hai
I.ERG read.PERF AUX
‘I have read the book that you are buying [t and this newspaper]’

However, across-the-board movement of the head is possible, giving rise to a singular interpretation of the head as being the argument of both predicates.

In (35), the ‘book’ is interpreted as being the argument of both predicates in the coordination, and is a singular object.

- (35) [jo kitaab]₁ tum-ne t beci aur maine t parhii, vo₁ table-par hai
REL book you t sold and I.ERG t read, DEM table-on be.PRES
‘The book that you sold and I read is on the table.’

2.9 Interim summary

In summary, the correlative head obligatorily moves to the left periphery of the correlative clause, and surrounding elements may optionally scramble past it for topicalization.

Correlativization is an A’-movement, as seen by intricate restrictions on remnant VP-fronting in correlatives, and on sub-extraction when the correlative occurs inside a possessor.

The correlative head shows reconstruction for anaphor-binding, and anti-reconstruction for Condition C. Further, across-the-board (ATB) movement is possible with correlatives.

2.10 The nature of correlative-internal movement

There is movement within the correlative clause. But what motivates this movement?

Two possibilities: movement to a high specifier in order to c-command out of the clause, or relativization movement.

Option 1: movement for the head of the correlative to be high enough to c-command out of its clause by the definition in Kayne (1994), therefore c-commanding the coindexed demonstrative in the main clause. This doesn't seem right:

- Multiple correlatives involve two such heads, and multiple specifiers are disallowed on the Kaynean view.
- Topicalization can target a higher position than the moved correlative head, in which case it is no longer high enough to c-command out of the clause.

Option 2: Relativization, and the correlative clause as a whole is a relative clause with a silent nominal head.

Syntactic evidence for the structure being nominal:

- Fragment answers to *wh*-questions
- Optional demonstrative preceding correlative clause

Fragment answers: *wh*-questions can be answered with just a correlative clause, including when *jo* is not initial.

- (36) a. tum-ne kaunsi kitaab paRh-ii?
you-ERG which book read-PERF.F
'Which book did you read?'
- b. jo tum-ne dii thii
REL you-ERG give.PERF AUX.PAST.F
'The one you gave me.'
- c. tum-ne_i jo t_i dii thii
you-ERG REL *t* give.PERF AUX.PAST.F
'The one you gave me.'

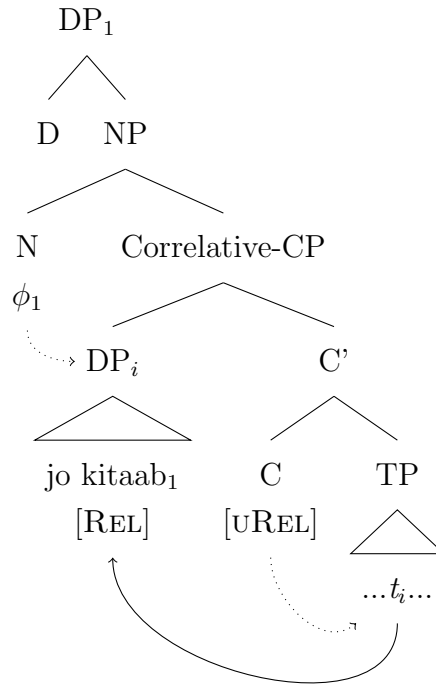
Further support for the correlative clause being embedded in a nominal structure comes from the fact that it may optionally be preceded by a demonstrative.

- (37) a. [(vo) [jo kitaab tum-ne dii thii]], [vo maine paRh lii]
 DEM REL book you-ERG give.PERF AUX.PERF DEM I.ERG read take.PERF
 ‘That book you had given me, I have read it.’
- b. [(vo) [tum-ne_i [jo kitaab] t_i dii thii]], [vo maine paRh lii]
 DEM you-ERG REL book t give.PERF AUX.PERF DEM I.ERG read take.PERF
 ‘That book you had given me, I have read it.’

The REL head is base-generated with its complement NP and does not occupy a higher base position since it shows obliqueness and case-connectivity effects, unlike the optional preceding demonstrative. Compare the null accusative-marked *jo kitaab* in (37-a) with the dative *jis aadmi-ko* in (38).

- (38) [(vo) [[jis aadmi]-ko tum-ne bulaaya], [vo nahi aaya]]
 DEM REL man-DAT you-ERG invite.PERF, DEM not come.PERF
 ‘The man you invited, he didn’t come.’

In summary, the correlative clause is a DP with a silent nominal head. The movement of the head of the correlative is relativization. The structure is represented below.



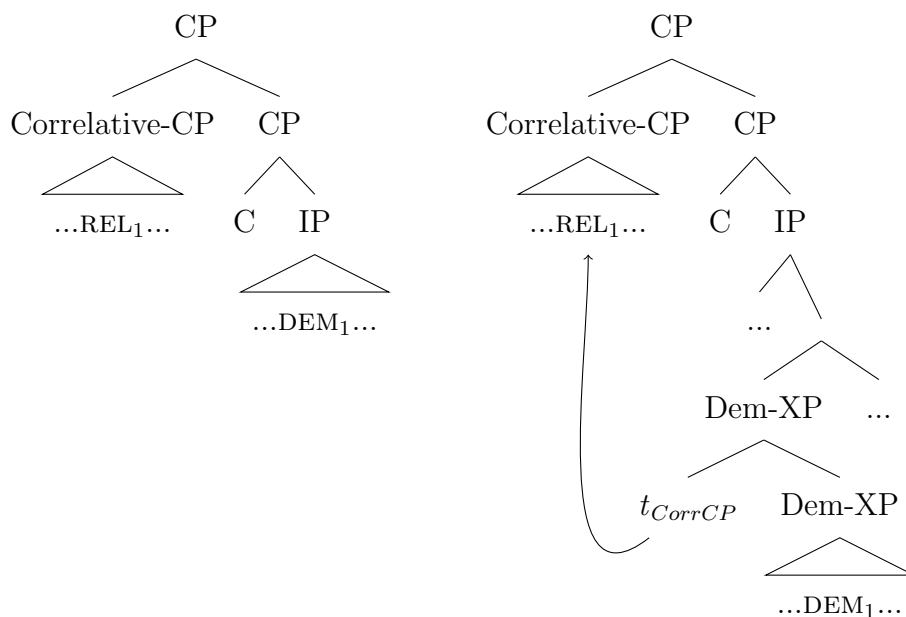
The following section shifts focus to a different question about movement in correlatives, that involving the correlative clause as a whole and its position in the matrix clause.

3 Position of the correlative clause

Previous approaches to the position of the correlative clause in the structure:

- Srivastav (1991) and Dayal (1996): Correlative CP is base-generated adjoined to IP, not moved; effectively equivalent to base-generation in a high Topic position.
- Mahajan (2000): Movement analysis with the correlative clause originating as a CP-complement to the Demonstrative, not specifically arguing against base-generation. Multiple correlatives are not discussed.
- Bhatt (2003): explicitly argues against base-generation, correlative clause for single correlatives is generated “adjoined to the *Dem-XP*” and then optionally moves to an IP-adjoined position. For multiple correlatives, base-generation. Bipartite analysis for single and multiple correlatives.

The two types of prior analyses, base-generation as a topic, and movement from a position adjoined to a Demonstrative (Bhatt, 2003) are shown below. Note that the correlative clause is a CP in all the prior analyses.



The current paper argues in favour of the base-generated topic analysis by presenting new empirical evidence against the movement approach.

3.1 Left-branch extraction

The demonstrative bound by a correlative clause can be embedded in the left-branch of a DP, which is an island for extraction in Hindi for certain kinds of modifiers like kinship-relations, as discussed in the previous section.

The contrast between (39-a) and (39-b) is evidence against movement.

- (39) a. [jo_i aadmii vahaaN khaD-aa hai], [maine kal [us_i-ke bhai]-ko
REL man there stand-PPL.M is, I-ERG yesterday DEM-GEN brother-DOM
dekha]
saw
'The man_i standing there, I saw his_i brother yesterday.'
- b. *[us aadmi-ke]_i, [maine kal [t_i bhai]-ko dekha]
that man-GEN_i, I-ERG yesterday t brother-DOM saw
'That man's, I saw (his) brother yesterday.'
- c. [us aadmi-ke bhai-ko]_i, [maine kal t_i dekha]
that man-GEN brother-DOM, I-ERG yesterday t saw
'That man's brother, I saw yesterday.'

On the movement analysis, the correlative clause in (39-a) would be generated adjoined to DEM, which is in the left-branch of the DP [*us-ke bhai*] 'his brother', and have to move out of this position to a clausal topic position. (39-b) shows that topicalization out of this position is illicit, while (39-c) shows that fronting of the whole DP argument (scrambling) is allowed.

3.2 Adjunct islands

Along similar lines, the demonstrative bound by a correlative clause may also be embedded in a locative adjunct which shows island effects for ordinary topicalization.

- (40) a. [jo aadmii vahaaN khaD-aa hai], [mujhe lag-ta hai [us-ki class mein]
REL man there stand-PPL.M is, I-DAT seem-PPL is DEM-GEN class in
meri behen royi thi]
my.F sister cry.PERF.F AUX.PST
'The man_i standing there, I think my sister cried in his_i class.'
- b. *[us aadmi-ki]_i, [mujhe lag-ta hai [t_i class mein] meri behen royi
that man-GEN, I-DAT seem-PPL is t class in my.F sister cry.PERF.F
thi]
AUX.PST
'That man's, I think my sister cried in (his) class.'

- c. [us aadmi-ki class mein]_i, [mujhe lag-ta hai *t_i* meri behen royi
 that man-GEN class in, I-DAT seem-PPL is *t* my.F sister cry.PERF.F
 thi]
 AUX.PST
 ‘In that man’s class, it seems to me that my sister cried.’

Once again, on the movement analysis, correlative clauses must be exceptionally allowed to topicalize out of adjuncts while other constituents cannot.

These cases are not addressed in Bhatt (2003) and exceptional movement for correlatives seems like a major stipulation to make, especially since this movement of the correlative clause is described as optional and not obligatory in that paper.

3.3 Coordination

Bhatt (2003) uses coordinations and doubly embedded RCs to demonstrate island effects. The coordination example (41-a) is marked therein as ‘???’, but to me this seems acceptable, at least to the same extent that the baseline without movement (41-b) is proposed to be.

- (41) a. %[jo kitaab Saira-ne likh-ii]_i, Rahul aajkal [[*t_i* vo] aur [jo cartoon
 REL book Saira-ERG write-PERF.F Rahul nowadays [[*t* Dem] and [REL cartoon
 Shyam-ne bana-ya, vo]] paRh raha hai
 Shyam-ERG made-PERF Dem]] read AUX be.PRES
 ‘The book that Saira wrote, Rahul is reading [that and the cartoon that Shyam
 made].’
 b. Rahul aajkal [jo kitaab Saira-ne likh-ii, vo] aur [jo cartoon
 Rahul nowadays [REL book Saira-ERG write-PERF.F Dem] and [REL cartoon
 Shyam-ne bana-ya, vo]] paRh raha hai
 Shyam-ERG made-PERF Dem]] read AUX be.PRES
 ‘Nowadays Rahul is reading [the book that Saira wrote and the cartoon that Shyam
 made].’

It should be noted that the Coordinate Structure Constraint has been argued not to hold in Hindi by Gurtu (1992). It is possible these coordination cases involve parentheticals, but in any case there does not seem to be a contrast whether or not the correlative clause moves.

3.4 Relative Clauses

Relative clauses are typically islands for movement in Hindi-Urdu, as the following pair demonstrates.

- (42) a. mujhe [voh aadmii [jis-ko Arundhati-ne [voh tohfaa] diya] pasand hai
 I.DAT DEM man REL-DAT Arundhati-ERG DEM gift give.PERF like is
 ‘That gift, I like the man whom Arundhati gave *t* to.’
 b. *[voh tohfaa], mujhe [voh aadmii [jis-ko Arundhati-ne *t* diya] pasand hai
 DEM gift I.DAT DEM man REL-DAT Arundhati-ERG *t* give.PERF like is
 ‘That gift, I like the man whom Arundhati gave *t* to.’

Bhatt (2003) presents the following example where the demonstrative bound by the correlative is embedded inside an Relative Clause, arguing that this island-like effect is evidence for movement of the correlative clause.

- (43) *jo₁ vahaan reh-t-a hai, mujhko [vo kahaani [jo Arundhati-ne us-ke₁
 REL THERE stay-HAB-M is, I-DAT DEM story REL Arundhati-ERG DEM-GEN
 baare mein likh-ii]] pasand hai
 about in write-PERF.F like is
 ‘He₁ who lives there, I like the story that Arundhati wrote about him₁.’

I believe this is due to a garden path effect in resolving the anaphora. Establishing physical loci through gestures or otherwise removing ambiguity makes the sentence acceptable.

- (44) Context: An old respected artist lives in a small house that we see in the distance. Arundhati, a journalist, recently interviewed this artist and wrote an article about him that the speaker holds up.
 a. [[jo kalaakaar]₁ [uss chhote-se ghar mein] rehte haiN], [mujhe [yeh
 REL artist DEM small-like house in stay.HAB.HON is.HON, I.DAT this
 article [jo Arundhati-ne un-ke baare mein likh-ii]] bahut
 article REL Arundhati-ERG DEM.HON-GEN about in write-PERF.F very
 pasand aayi]
 like come.PERF.F
 ‘The artist who lives in that house, I really like this article that Arundhati wrote about him.’

Adding an overt NP restriction to the correlative head and its associated demonstrative also fixes the sentence.

- (45) [[jo aadmii]₁ vahaan reh-t-a hai], [mujhko [vo kahaani [jo Arundhati-ne
 REL man THERE stay-HAB-M is, I-DAT REL story REL Arundhati-ERG
 [us aadmii]-ke₁ baare mein likh-ii]] pasand hai]
 DEM man-GEN about in write-PERF.F like is

‘The man₁ who lives there, I like the story that Arundhati wrote about that man₁.’

This sentence is acceptable, although a periphrastic construction would typically be chosen instead for simplicity.

In summary, there is no general productive restriction against the corefering demonstrative being embedded in a Relative Clause island.

3.5 Condition C

Bhatt (2003)’s example for a Condition C effect:

- (46) *[jo laRkii Sita-ko₁ pyaar kar-tii hai]₂, us-ne₁ us-ko₂ thukraa diyaa
REL girl Sita-DOM love do-PPL.F is DEM-ERG DEM-DOM decline give.PERF
‘Which girl likes Sita₁, she₁ declined her₂.’

If the correlative clause is generated adjoined to the second demonstrative, the first demonstrative would c-command Sita, which it is co-indexed with, a Condition C violation.

Another problem with this example: both demonstratives have feminine referents and null NPs, resulting in an indexing confound.

No Condition C effect is overt restrictions are added:

- (47) [jo laRkii Sita-ko₁ pyaar kar-tii hai]₂, us-ne₁ us laRkii-ko₂ thukraa
REL girl Sita-DOM love do-PPL.F be.PRES DEM-ERG DEM girl-DOM decline
diyaa
give.PERF
‘Which girl likes Sita₁, she₁ declined that girl₂.’

Varying the gender and number of the other argument similarly repairs the sentence.

- (48) [jo laRke Sita-ko₁ pyaar kar-te hai]₂, us-ne₁ un-ko₂ thukraa
REL boys Sita-DOM love do-PPL.MPL be.PRES DEM-ERG DEM.PL-DOM decline
diyaa
give.PERF
‘Which boys like Sita₁, she₁ declined them₂.’

Since the hypothesized Condition C effect is not replicable or productive, I believe that (46) is illicit due to an indexical ambiguity confound and not due to Condition C.

3.6 Split antecedents

Two correlative clauses may collectively be referred to by one demonstrative in the main clause.

- (49) [jo aadmi]₁ iss taraf aa rahaa hai, aur jo₂ uss taraf jaa
REL man this direction come stay-PPL.M is, and REL that direction go
rahaa hai, ve₁₊₂ dono aCChe dost hai
stay-PPL.M is, they two good friend is
‘The man₁ who is coming this way, and the one₂ who is going that way, they₁₊₂ are
good friends.’

On a movement analysis: coordination of the correlative clauses with the features percolating up. But there is no requirement on coordinated correlative clauses combining their features in this way:

- (50) jo₁ aadmii iss taraf aa rahaa hai, aur jo₂ aurat vahaan
REL man this direction come stay-PPL.M is, and REL woman there
khaDii hai, [vo aadmii]₁ [us aurat]₂ ka bhai hai
stand.PPL.F is, DEM man DEM woman GEN brother is
‘The man₁ who is coming this way, and the woman₂ who is standing there, that man₁
is that woman’s₂ brother.’

Further, no ordering restriction on the demonstratives in the main clause:

- (51) jo₁ aadmii iss taraf aa rahaa hai, aur jo₂ aurat vahaan khaDii
REL man this direction come stay-PPL.M is, and REL woman there stand.PPL.F
hai, [us aurat]-ne₂ [us aadmii]-ke₁ bhai-se jhagDaa kiya tha
is, DEM woman-ERG DEM man-GEN brother-DAT fight do.PERF AUX.PST
‘The man₁ who is coming this way, and the woman₂ who is standing there, that woman₂
fought with that man’s₁ brother.’

Given the lack of ordering restrictions, these constructions are not analogous to Slavic wh&wh constructions which display superiority effects. (Citko and Gračanin-Yuksek, 2013; Bošković, 2022) They therefore disfavour a movement to coordination analysis.

These would be classified as multiple correlatives in Bhatt (2003)’s framework and therefore be base-generated.

Arguments against the movement approach have been presented based on embedding the demonstrative in DP left-branch, and adjunct-islands. Further, Condition C is shown not to have an effect when the data is carefully controlled for other possible issues.

4 Summary: Putting The Pieces Together

I adopt the base-generation account, with the modification that the correlative clause is a DP in the specifier of a TopP projection. (Rizzi, 1997)



25

- (52) a. [[jis aadmii]-ne tumhe tohfaa diya], [kyaa [voh aaj aaya hai]]?
REL man-ERG you.DAT gift give .PERF, PQP DEM today come.PERF is
‘The man who gave you a gift, has he come today?’
- b. #us-ne mujhe tohfaa nahi diya
DEM-ERG I.DAT gift not give.PERF
‘He didn’t give me a gift.’

The response (52-b) is only felicitous in a corrective sense, with prosodic focus on the object *tohfaa* ‘gift’, to mean ‘He didn’t give me a [GIFT]_F, (he gave me something else).’

Example (52-a) shows another important fact. The Polar Question Particle *kyaa* (Bhatt and Dayal, 2020), which arguably occupies the FocP position in this structure, occurs between the correlative clause (TopP) and the main clause.

4.2 Movement inside the correlative clause

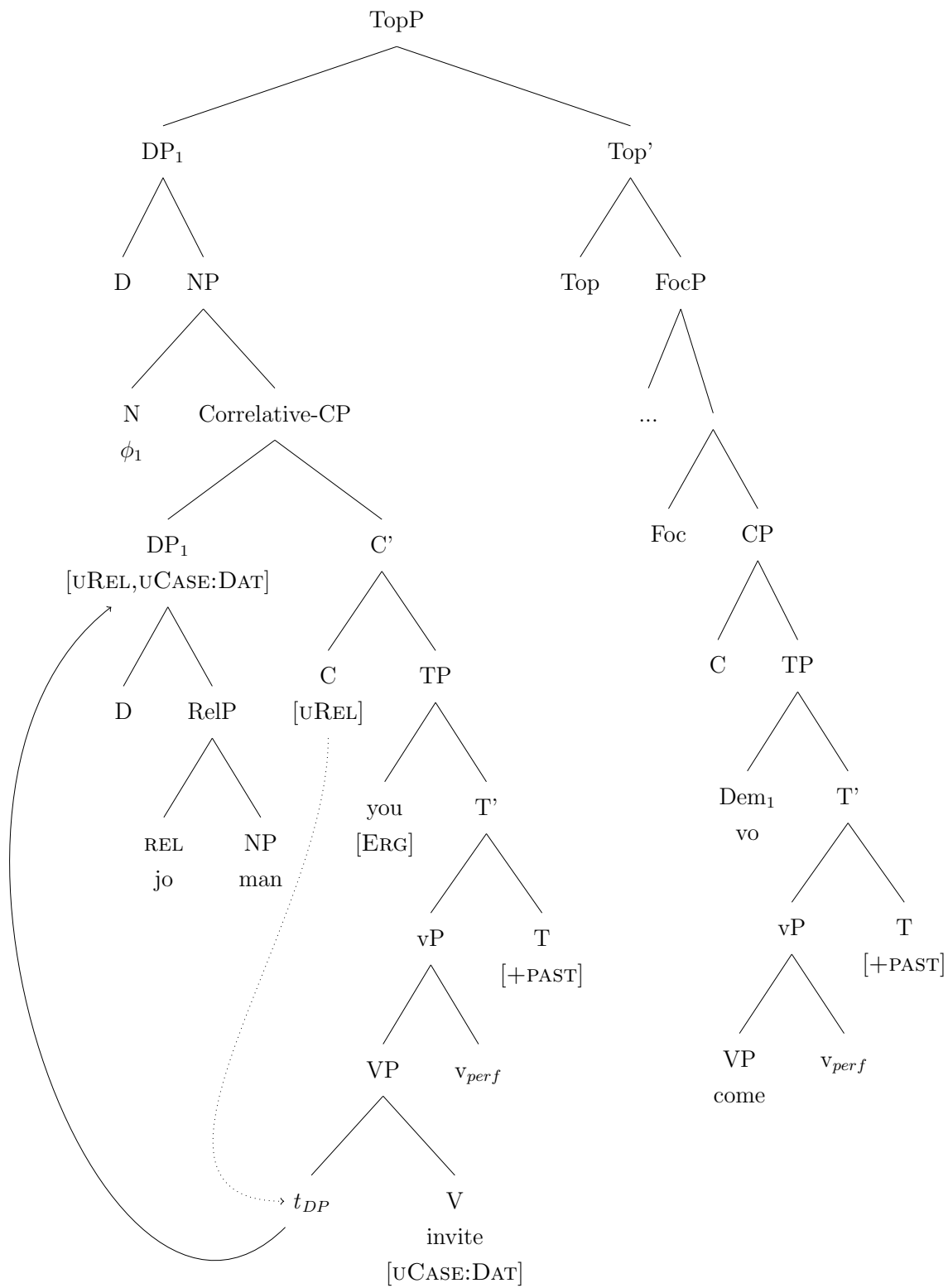
The data presented in this paper is the first extensive discussion of movement possibilities and restrictions of the correlative head within the correlative clause.

Current proposal:

- There is a DP with a null nominal head that has the correlative CP as its complement.
- The correlative head moves to the edge of this CP, pied-piping the rest of the case-marked DP containing it.
- The silent head matches the moved head of the correlative, and the features and index percolate up to the DP.
- This DP now behaves like any other Topic. It occupies the specifier of TopP, and there is a co-indexed demonstrative in the main clause.

Implementation: Assume the C head bears an uninterpretable feature [uREL], that is checked locally by REL. C thus behaves as a probe, triggering movement of the DP containing REL to its specifier.

- (53) [jis aadmii]-ko tum-ne bulaaya, vo aaya tha
REL man-DAT you-ERG hit, DEM come.PERF.M be.PST
‘The man you invited, he had come.’



4.3 Note on Multiple correlatives

Multiple correlatives have often been pushed aside in the literature as a different sort of problem. (Mahajan, 2000; Bhatt, 2003) Dayal (1995) argues they are an instance of polyadic quantification.

It is not clear there is true multiple quantification, rather a single quantification over pairs. I leave the analysis of the semantics of multiple correlatives for future work.

In the syntax, there are superiority effects in multiple correlatives, and both relative heads move to the CP-level. On the current view, multiple relativization movement, with the silent nominal head then referring to pairs of entities, but this needs to be worked out more explicitly.

General point: If languages with correlatives often allow multiple correlatives, the semantics of multiple correlatives should fall out naturally from that of single correlatives, rather than involving an entirely separate type of operation.

5 Conclusion

This talk presents a number of new empirical observations and proposes a novel analysis of correlative constructions.

The correlative clause as a whole is base-generated in TopP, which is in line with one strand of previous work. (Srivastav, 1991; Dayal, 1996)

The internal structure of the correlative clause has not been previously analysed in detail. Here, it is argued that correlative clauses are null-headed relative clauses, with obligatory relativization movement of the head internal to the CP.

Since correlatives behave similarly to Free Relatives, this account also potentially serves as evidence in favour of the *Comp* account of Free Relatives. (Groos and van Riemsdijk, 1981; Harbert, 1983; Suñer, 1983; Grosu and Landman, 1998)

References

- Abels, Klaus. 2007. Towards a restrictive theory of (remnant) movement! *Linguistic Variation Yearbook* 7:53–120.
- Bagchi, Tista. 1994. Bangla correlative pronouns, relative clause order, and D-linking. In *Theoretical Perspectives on Word Order in South Asian Languages*, ed. Miriam Butt, Tracy Holloway King, and Gillian Ramchand, 13–29. Stanford: CSLI Publications.
- Bajaj, Vandana. 2016. Scaling up exclusive *-hii*. Doctoral Dissertation, Rutgers University.
- Balusu, Rahul. 2021. The Dravidian Correlative and the Disjunction Marker. In *Proceedings of FASAL 9*, ed. Deepak Alok and Sreekar Raghotham. Rutgers University.
- Barss, Andrew. 1986. Chains and anaphoric dependence: On reconstruction and its implications. Doctoral Dissertation, MIT, Cambridge, MA.
- Barss, Andrew. 2001. Syntactic Reconstruction Effects. In *The Handbook of Contemporary Syntactic Theory*, ed. Mark Baltin and Chris Collins, 670–696. Oxford, UK: Blackwell Publishers Ltd.
- Beck, Sigrid, and Shin-Sook Kim. 1997. On wh- and Operator Scope in Korean. *Journal of East Asian Linguistics* 6:339–384.
- Belletti, Adriana, and Luigi Rizzi. 1988. Psych-verbs and theta-theory. *Natural Language & Linguistic Theory* 6:291–352. URL <https://doi.org/10.1007/BF00133902>.
- Bhatt, Rajesh. 1994. The semantics of *hi*. Ms., University of Pennsylvania.
- Bhatt, Rajesh. 2003. Locality in correlatives. *Natural Language & Linguistic Theory* 21:485–541.
- 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.
- Bošković, Željko. 2022. Wh&wh coordinations. Ms., University of Connecticut.
- Bresnan, Joan, and Jane Grimshaw. 1978. The syntax of free relatives in english. *Linguistic Inquiry* 9:331–391.

- Cable, Seth. 2010. *The Grammar of Q: Q-Particles, Wh-Movement, and Pied-Piping*. Oxford University Press.
- Cecchetto, Carlo. 1999. A comparative analysis of left and right dislocation in romance. *Studia Linguistica* 53:40–67.
- Citko, Barbara, and Martina Gračanin-Yuksek. 2013. Towards a new typology of coordinated wh-questions. *Journal of Linguistics* 49:1–32.
- Dayal, Veneeta. 1994. Binding facts in hindi and the scrambling phenomenon. In *Theoretical perspectives on word order in south asian languages*, ed. Miriam Butt, Tracy Holloway King, and Gillian Ramchand, 237–262. Stanford: CSLI.
- Dayal, Veneeta. 1995. Quantification in correlatives. In *Quantification in natural languages*, ed. Emmon Bach, Eloise Jelinek, Angelika Kratzer, and Barbara H. Partee, 179–205. Dordrecht: Springer Netherlands.
- Dayal, Veneeta. 1996. *Locality in WH Quantification*. Dordrecht: Springer Netherlands.
- Freidin, Robert. 1986. Fundamental Issues in the Theory of Binding. In *Studies in the Acquisition of Anaphora: Defining the Constraints*, ed. Barbara Lust, 151–188. Dordrecht: Springer Netherlands.
- Gambhir, Vijay. 1981. Syntactic restrictions and discourse functions of word order in Standard Hindi. Doctoral Dissertation, University of Pennsylvania, Philadelphia, PA.
- Gračanin-Yuksek, Martina. 2008. Free Relatives in Croatian: An Argument for the Comp Account. *Linguistic Inquiry* 39:275–294.
- Groos, Anneke, and Henk van Riemsdijk. 1981. The matching effects in free relatives: A parameter of core grammar. In *Theory of markedness in generative grammar*, ed. Adriana Belletti, Luciana Brandi, and Luigi Rizzi, 171–216. Pisa: Scuola Normale Superiore.
- Grosu, Alexander, and Fred Landman. 1998. Strange relatives of the third kind. *Natural Language Semantics* 6:125–170.
- Gurtu, Madhu. 1992. *Anaphoric relations in Hindi and English*. New Delhi: Munshiram Manoharlal.
- Harbert, Wayne. 1983. On the nature of the matching parameter. *The Linguistic Review* 2:237–284.
- Heycock, Caroline. 1995. Asymmetries in Reconstruction. *Linguistic Inquiry* 26:547–570.

- Hirschbühler, Paul. 1976. Two analyses of free relatives in french. In *North east linguistic society (nels) 6*, ed. Alan Ford, John Reighard, and Rajendra Singh, 137–152. Montreal: Montreal Working Papers in Linguistics.
- Hoji, Hajime. 1985. Logical Form Constraints and Configurational Structures in Japanese. Doctoral Dissertation, University of Washington, Seattle, WA.
- Huang, C.-T. James. 1993. Reconstruction and the Structure of VP: Some Theoretical Consequences. *Linguistic Inquiry* 24:103–138.
- Johnson, Kyle. 1985. A Case for Movement. Doctoral Dissertation, MIT, Cambridge, MA.
- Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge, MA: MIT Press.
- Keine, Stefan. 2018. Case vs. positions in the locality of A-movement. *Glossa* 3.
- Keine, Stefan, and Ethan Poole. 2018. Interpreting long scrambling in Hindi-Urdu. In *Proceedings of NELS 48*, ed. Shay Hucklebridge and Max Nelson, 105–118. Amherst: GLSA.
- Kidwai, Ayesha. 2000. *XP-adjunction in universal grammar: Scrambling and binding in Hindi-Urdu*. Oxford: Oxford University Press.
- Kotek, Hadas. 2016. Covert partial wh-movement and the nature of derivations. *Glossa: a journal of general linguistics* 1.
- Lahiri, Utpal. 1998. Focus and Negative Polarity in Hindi. *Natural Language Semantics* 6:57–123.
- Lipták, Anikó, ed. 2009. *Correlatives Cross-Linguistically*. Amsterdam: John Benjamins Publishing Company.
- Mahajan, Anoop. 1990. The A/A-bar distinction and movement theory. Doctoral Dissertation, MIT, Cambridge, MA.
- Mahajan, Anoop. 2000. Relative Asymmetries and Hindi Correlatives. In *The Syntax of Relative Clauses*, ed. Artemis Alexiadou, Paul Law, André Meinunger, and Chris Wilder, 201–230. Amsterdam: John Benjamins Publishing Company.
- Malhotra, Shiti. 2009. Intervention Effects and wh-movement. *University of Pennsylvania Working Papers in Linguistics* 15.
- McGinnis, Martha. 1999. A-Scrambling Exists! *University of Pennsylvania Working Papers in Linguistics* 6.

- Müller, Gereon. 1996. A constraint on remnant movement. *Natural Language & Linguistic Theory* 14:355–407.
- Pesetsky, David. 1989. Language-Particular Processes and the Earliness Principle. ms., MIT.
- Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of grammar: Handbook in generative syntax*, ed. Liliane Haegeman, 281–337. Dordrecht: Springer Netherlands.
- Saito, Mamoru. 1989. Scrambling as Semantically Vacuous A'-Movement,. In *Alternative Conceptions of Phrase Structure*, ed. Mark Baltin and Anthony Kroch, 182–200. Chicago: University of Chicago Press.
- Simpson, Andrew, and Tanmoy Bhattacharya. 2003. Obligatory overt wh-movement in a wh-in-situ language. *Linguistic Inquiry* 34:127–142.
- Sportiche, Dominique. 2006. Reconstruction, Binding, and Scope. In *The Blackwell Companion to Syntax*, ed. Martin Everaert and Henk van Riemsdijk, 35–93. Malden, MA, USA: Blackwell Publishing.
- Srivastav, Veneeta. 1991. The syntax and semantics of correlatives. *Natural Language and Linguistic Theory* 9:637–686.
- Suñer, Margarita. 1983. Free relatives and the pro-head hypothesis. In *Papers from the first cornell conference on government and binding theory*, ed. Wayne Harbert, 223–248. Ithaca, NY: Cornell University, CLC Publications.
- Takano, Yuji. 1994. Unbound traces and indeterminacy of derivation. In *Current topics in english and japanese*, ed. Masaru Nakamura, 229–253. Tokyo: Hituzi, Syobo.
- Tanaka, Hidekazu. 2001. Right-dislocation as scrambling. *Journal of Linguistics* 37:551–579.
- Webelhuth, Gert. 1989. Syntactic saturation phenomena and the modern Germanic languages. Doctoral Dissertation, University of Massachusetts, Amherst, MA.