Correlative Clauses

1 Three Relativization Strategies

1.1 Externally Headed Relative Clauses

(1) Basic Components
   a. $S_{rel}$ (the relative clause) (which contains a relativized position $NP_{rel}$)
   b. A domain noun external to $S_{rel}$ (= the head NP)

(2) NP with Relative Clause
   
   [DP vo [NP kita:b [CP jo sale-par hai]]] achchhi: hai  
   Dem book Rel sale-on be.Prs good.F be.Prs
   ‘That book which is on sale is good.’

(3) Right adjoined Relative Clause
   
   [DP vo [NP kita:b] achchhi: hai [CP jo sale-par hai]]
   Dem book.F good.F be.Prs Rel sale-on be.Prs
   ‘That book is good which is on sale.’

The relative clause can also appear in clause-final position.

(4) Things that can vary (cf. Keenan (1985))
   a. $S_{rel}$ can be prenominal or postnominal
   b. The location of the determiner:
      i. Det + Head + $S_{rel}$ (English)
      ii. Head + Det + $S_{rel}$ (Urhobo (Kwa, Nigeria))
      iii. Head + $S_{rel}$ + Det (Yoruba (Kwa, Nigeria))
      iv. Det + $S_{rel}$ + Head (German participial relatives)
      v. $S_{rel}$ + Det + Head (Korean)
      vi. $S_{rel}$ + Head + Det (Basque)
   c. The internal composition of $S_{rel}$ - finite, infinitival, or participial
   d. How the relativization is marked:
      i. $NP_{rel}$ is a personal pronoun (Modern Hebrew, Persian)
      ii. $NP_{rel}$ is a relative pronoun (English, Hindi)
      iii. $NP_{rel}$ is not present at all (Persian, English, Swedish)

   • $NP_{rel}$ cannot be a repetition of the external head in restrictive postnominal embedded externally headed relative clauses.

   • Postnominal extraposed externally headed relative clauses and non-restrictive relative clauses allow for repetition of the external head in some languages (Latin, Serbo-Croatian, see Keenan (1985)).

1.2 Internally Headed Relative Clauses

(5) Basic Components:
   a. $S_{rel}$ (the relative clause)
   b. a domain NP internal to $S_{rel}$ (no external head)

Generally $S_{rel}$ is sufficiently nominalized to combine with determiners, case-marking, and adpositions.

(6) (Tibetan, from Keenan (1985))
   
   [[Pee.mEng thep khii-pa the] nee yin  
   Pee.mEng book.Abs carry-Part the.Abs I.Gen be
   ‘The book Peem carried is mine.’
In many languages, the internal head is not explicitly marked. Sometimes this can lead to ambiguity.

In others, the internal head may be marked by a relative marker.

In other languages with Internally Headed Relative Clauses: Wappo (Amerindian), Lakhota (cf. Williamson (1987)), Navajo.


1.3 Correlative Clauses

The term correlative is often reserved for instances where  precedes .

Simple Correlative:

Multi-Head Correlatives:

Marking of and .

Other languages with Internally Headed Relative Clauses: Wappo (Amerindian), Lakhota (cf. Williamson (1987)), Navajo.
b. NP_{rel} is marked using one of the means used for marking anaphoricity: personal pronouns, demonstratives, or a special correlative pronoun.
c. In certain languages, both NP_{rel} and NP_{main} may undergo movement to the left edge of their respective clauses (cf. Izvorski (1996) for Bulgarian).

Unlike headed relatives, the ‘head’ can appear in either S_{rel} or S_{main}, or both.

(14) (from Srivastav (1991))

a. ‘head’ in S_{rel}

[\[s_{_r} [jo \ larki] kharii hai\] [s_{_s} [vo lambii hai]]

Rel girl.f standing.f be.Prs.Sg Dem tall.f be.Prs.Sg

‘The girl who is standing is tall.’ (Lit. which girl is standing, she is tall.)

b. ‘head’ in S_{main}

[\[s_{_r} [jo kharii hai\] [s_{_s} [vo larkii lambii hai]]

Rel standing.f be.Prs.Sg Dem girl.f tall.f be.Prs.Sg

‘The girl who is standing is tall.’ (Lit. who is standing, that girl is tall.)

c. ‘head’ in both S_{rel} and S_{main}

[\[s_{_r} [jo larkii kharii hai\] [s_{_s} [vo larkii lambii hai]]

Rel girl.f standing.f be.Prs.Sg Dem girl.f tall.f be.Prs.Sg

‘The girl who is standing is tall.’ (Lit. which girl is standing, that girl is tall.)


...in practice the distinction between correlatives and (dislocated) internal RCs is not always easy to make. (Keenan (1985):165)

2 Differences between Headed Relative Clauses and Correlatives

2.1 Possibilities of an Internal Head

Correlatives allow for the head to appear in both S_{rel} and S_{main} (cf. 14).

2.1.1 Embedded Externally Headed Relative Clauses

Internal Heads are not possible with embedded externally headed relative clauses.

(15) a. no internal head:

\[\text{mu} \ jhe [vo \ aadmii [jo Sita-ko pasand hai]] \ accha: \ neg \ lag-ta: \ seem-Hab.MSg\]

‘I don’t like the man who Sita likes.’

b. with internal head:

\[\text{mu} \ jhe [vo \ aadmii [jo aadmii Sita-ko pasand hai]] \ accha: \ neg \ lag-ta: \ seem-Hab.MSg\]

‘I don’t like the man who Sita likes.’

Dialectal variation /‘Light headed’ relative clauses:

(16) internal head, no external head (from Mahajan (2000), see Junghare (1994) for parallel Marathi data)

\[\text{mu} \ jhe [vo [jo aadmii Sita-ko pasand hai]] \ accha: \ neg \ lag-ta: \ seem-Hab.MSg\]

‘I don’t like the man who Sita likes.’
2.1.2 Extraposed Externally Headed Relative Clauses

Extraposed Externally Headed RCs are taken to not allow internal heads (cf. Dayal (1996)).

(17) a. external head, no internal head:

\[ \text{mujhe [vo aadmii] accha: nahi lag-ta: [jo Sita-ko pasand I.Dat that man like Neg seem-Hab.MSg Rel Sita-Dat like hai] be.Prs.Sg} \]
'I don’t like the man who Sita likes.’

b. internal head with external head:

\[ \text{*mujhe [vo aadmii] accha: nahi lag-ta: [jo aadmii I.Dat that man like Neg seem-Hab.MSg Rel man Sita-ko pasand hai] Sita-Dat like be.Prs.Sg} \]
'I don’t like the man who Sita likes.’

c. internal head with no external head:

\[ \text{*mujhe [vo accha: nahi lag-ta: [jo aadmii Sita-ko pasand I.Dat that man like Neg seem-Hab.MSg Rel man Sita-Dat like hai] be.Prs.Sg} \]
'I don’t like the man who Sita likes.’

Dialectal variation:

(18) internal head with external head (from Mahajan (2000), see also Marlow (1994) and for parallel Marathi data see Junghare (1994))

\[ \%mujhe [vo aadmii] accha: nahi lag-ta: [jo aadmii Sita-ko I.Dat that man like Neg seem-Hab.MSg Rel man Sita-Dat pasand hai] like be.Prs.Sg \]
'I don’t like the man who Sita likes.’

Appositive relative clauses also seem to allow for internal heads:

(19) I read the New Yorker, [which magazine is one of the finest in the country].

(Chris Potts, p.c.)

2.2 The Demonstrative Requirement

2.2.1 Demonstrative Requirement on Correlatives

There must be a demonstrative phrase in the main clause associated with the correlative clause.

(20) a. Dem + NP

\[ [\text{[jo CD sale-par hai]} \text{[Aamir [vo CD] kharid-ega:] Rel CD sale-on be.Prs Aamir Dem CD buy-Fut.MSg} \text{‘Aamir will buy the CD that is on sale.’} \]

(Lit. ‘Which CD is on sale, Aamir will buy that CD.’)

b. Bare NP

\[ [\text{[jo CD sale-par hai]} \text{[Aamir CD kharid-ega:] Rel CD sale-on be.Prs Aamir CD buy-Fut.MSg} \text{‘Aamir will buy the CD that is on sale.’} \]

(Lit. ‘Which CD is on sale, Aamir will buy CD.’

b. Some/Every + NP

\[ [\text{[jo CD sale-par hai]} \text{[Aamir koi/har CD kharid-ega:] Rel CD sale-on be.Prs Aamir some/every CD buy-Fut.MSg} \text{‘Aamir will buy some/every CD that is on sale.’} \]

(Lit. ‘Which CD is on sale, Aamir will buy some/every CD.’

Some systematic exceptions to the Dem-XP requirement on Correlatives.

If the DP associated with the Correlative Clause is modified by, or is, sub/dono/ti:n˜o/ ‘all/both/all-three/...’ (but not do/kuchh/adhiktam ‘two/some/most’), then it need not contain a demonstrative.

(21) [jo laRkiy˜a: khaRii hE] [sub/dono/*do/*kuchh lambii hE] Rel girls standing.F be.Prs.Pl all/both/two/some tail.F be.Prs.Pl
‘The girls who are standing are all/both/two/some tall.’

There are also cases where the Dem-XP that would be associated with the Correlative Clause is not overtly represented in the matrix clause.

(22) [jo CD sale-par hai] acharha: hai Rel CD sale-on be.Prs good.MPl be.Prs
‘Which CD is on sale] is good.’

- See Grosu (2002) on a proposal that attempts to derive these restrictions and connect them to facts concerning amount relatives.
2.2.2 No Demonstrative Requirement on Headed Relatives

(23) Embedded Headed Relative Clause (from Dayal (1996))
   a. Bare NP head:
      \[ \text{lar.kii} \] \text{girl} f \text{ Rel standing} f \text{ be.Prs.Sg tall} f \text{ be.Prs.Sg} \]
      \[ \text{lar.kii} \] \text{girl} f \text{ Rel standing} f \text{ be.Prs.Sg tall} f \text{ be.Prs.Sg} \]
      ‘The girl who is standing is tall.’
   b. every + NP head:
      \[ \text{har} \] \text{every} \[ \text{lar.kii} \] \text{girl} f \text{ Rel standing} f \text{ be.Prs.Sg tall} f \text{ be.Prs.Sg} \]
      \[ \text{lar.kii} \] \text{girl} f \text{ Rel standing} f \text{ be.Prs.Sg tall} f \text{ be.Prs.Sg} \]
      ‘Every girl who is standing is tall.’

(24) Extraposited Headed Relative Clause (from Dayal (1996))
   a. Bare NP head:
      \[ \text{lar.kii} \] \text{girl} f \text{ be.Prs.Sg tall} f \text{ be.Prs.Sg} \]
      \[ \text{lar.kii} \] \text{girl} f \text{ be.Prs.Sg tall} f \text{ be.Prs.Sg} \]
      ‘The girl who is standing is tall.’
   b. every + NP head:
      \[ \text{har} \] \text{every} \[ \text{lar.kii} \] \text{girl} f \text{ be.Prs.Sg tall} f \text{ be.Prs.Sg} \]
      \[ \text{lar.kii} \] \text{girl} f \text{ be.Prs.Sg tall} f \text{ be.Prs.Sg} \]
      ‘Every girl who is standing is tall.’

2.3 Multi-Head Relative Clauses

Multi-Head Relative Clauses are only possible with correlatives.

(25) \[ \text{jis-ne} \] \text{Rel-Erg} \[ \text{jo} \] \text{Rel} \[ \text{kar-na:} \] \text{do-Ger} \]
      \[ \text{cha:h-a:} \] \text{do-Pfv} \]
      ‘For st. who I wanted to do, did y, x did y.’
      \[ \text{jis-ne} \] \text{Rel-Erg} \[ \text{jo} \] \text{Rel} \[ \text{kar-na:} \] \text{do-Ger} \]
      \[ \text{cha:h-a:} \] \text{do-Pfv} \]
      ‘Who wanted to do what, he/she did that.’

(26) a. Extraposited English-type Multi-Head Relative Clause
       \[ \text{us} \] \text{lar.ki-ne} \text{us} \text{larke-koi, pasand ki-yaa} \]
       \[ \text{jis-ne} \] \text{jis-koi} \text{Deh} \text{do-Pfv} \]
       ‘That girl liked that boy, who saw whom.’
   b. Non-extraposed English-type Relative Clause
      impossible to construct

2.4 Stacking

McCawley (2004) notes that while externally headed relative clauses allow for stacking, correlatives do not.

(27) a. Stacked Headed Relative Clause
      \[ \text{har} \] \text{aadmi} \[ \text{jo mujhe pasand hai} \]
      \[ \text{jis} \] \text{mE-ne bulaa-yaa} \text{hai} \text{be.Prs.Sg} \text{Rel.Acc I-Erg call-Pfv be.Prs.Sg} \text{come-Fut.MSg} \]
      ‘Every man [who I like] [who I have called] will come.’
   b. Stacked Correlative
      \[ \text{[jo mujhe pasand hai] [jis mE-ne bulaa-yaa hai] [vo} \text{Rel I.Dat like be.Prs.Sg Rel.Acc I-Erg call-Pfv be.Prs.Sg Rel} \]
      \[ \text{aadmi aa-egaa} \text{man} \text{come-Fut.MSg} \]
      \[ \text{(Lit. Who I like, Who I have called, that man will come.’} \]

A related observation is that there is no such thing as a non-restrictive correlative.

2.5 Some Commonalities

If we restrict our attention to within the Correlative Clause CP/ Headed Relative Clause CP, embedded or extraposed, we find that their syntax is substantially identical:

(28) a. They involve a Relative Phrase that must contain a relative pronoun or determiner.
   b. Relative Pronouns are distinct from Interrogative Pronouns in Indo-Aryan.
   c. There are no null relative operators in finite relative clauses in most Indo-Aryan languages.

(29) Movement of the Relative Phrase:
   a. If no finite CP boundaries intervene between the Relative Phrase and the target [Spec,CP], the fronting of the Relative Phrase is optional but favored.
   b. If a finite CP boundary intervenes between the Relative Phrase and the target [Spec,CP], the fronting of the Relative Phrase is obligatory. This is (almost) the pattern found with \text{wh}-phrases.
But even so, there are places where the two diverge:
Headed relatives do not permit -ever while free relatives/correlatives do.

(30) a. I'll read [whichever book you ask me to].
   b. *I'll read the book [whichever you ask me to]

Liptá (2005) notes that the relative pronoun amely 'Rel-which' can only occur in headed relatives, not in free relatives/correlatives:

(31) a. headed relative/*free relative:
   Olvasom *azt a könyvet) [amelyet most vettem]
   read-1Sg that-Acc the book-Acc Rel-which-Acc now bought-1Sg
   'I am reading the book that I have just bought.'
   b. correlative:
   [Amelyet most vettem], azt a könyvet olvasom.
   Rel-which-Acc now bought-1Sg that-Acc the book-Acc read-1Sg

3 Structures for Correlatives

3.1 Structures Proposed for Simple Correlatives

3.1.1 Option 1: Base-generation in an IP-adjoined Position


(32) IP adjunction:
   'IP [which CD is on sale], [IP Ram bought that CD]'

3.1.2 Option 2: Base-generation in an Dem-XP-adjoined Position

3.2 Structures Proposed for Multi-Head Correlatives

(35) IP adjunction, via movement:

\[
\text{[which CD is on sale], [IP Ram bought [t that-CD]]]
\]

3.3 The Options

(36) IP adjunction:

\[
\text{‘which girl heard which CD, that girl bought that CD’}
\]

a. Simple Correlative 1: \([CP \ldots \text{Rel-XP} \ldots ] [\ldots \text{Dem-XP} \ldots ] \]

Option 1: IP adjunction

Option 2: the CP is generated adjoined to [Dem-XP] and moves to the clause-initial position

b. Simple Correlative 2: \([CP \ldots \text{Rel-XP} \ldots ] [\ldots \text{Dem-XP} \ldots ] \]

Option 1: the CP is generated adjoined to Dem-XP

4 Arguments for movement of the Correlative Clause

4.1 Island Effects

The relationship between the Correlative Clause and the Demonstrative Phrase is subject to islands (cf. Srivastav (1991), Bains (1994), Dayal (1996)).

(38) \([\text{Correlative-CP}]_{IP} \text{ Sita thinks that } [\text{CPfrånke} \ldots \text{Dem-XP} \ldots ]\]

\[
[\text{jo } \text{larə: TV-par } \text{gə: rah-i: } \text{hai}] \text{ [Sita soch-ti } \text{hai } [\text{CPfrånke} \text{ ki } \text{Rel girl TV-on sing Pror } \text{be.Prs Sita.F think-Hab.F be.Prs that } \text{vo_h } \text{sundar } \text{hai}] \text{ Dem beautiful be.Prs ‘Sita thinks that the girl who is singing on TV is beautiful.’}
\]

(39) \([\text{Correlative-CP}]_{IP} \text{ [LF } \text{NP } [\text{RC } \ldots \text{Dem-XP} \ldots ] \ldots ] \]

\[
[\text{jo vahə: rah-tə: } \text{hai}] \text{ mujh-ko } [\text{vo } \text{kaha:ni: [ac ] jo Arundhati-ne } \text{Rel there stay-Hab be.Prs I-Dat that story.F Rel Arundhati-Erg us-ke-baare-mə likh-ii}] \text{ pasand hai Dem-about write-Pfv.F like be.Prs ‘Who lives there, I like the story that Arundhati wrote about that boy.’}
\]

(40) Variable binding into a Relative Clause: no island effects

a. Every boy likes [the story [ac that Arundhati wrote about him]]

b. \(\text{har } \text{lərke-kə } [\text{vo kaha:ni: [ac ] jo Arundhati-ne us-ke-baare-mə, every boy-Dat that story.F Rel Arundhati-Erg Pron-about likh-ii}] \text{ pasand hai write-Pfv.F like be.Prs ‘Every boy likes [the story [ac that Arundhati wrote about him]].’}

Hence something must be moving. What is this something?
4.1 Izvorski (1996): the Dem Phrase moves

4.1.1 Izvorski (1996): the Dem Phrase moves

Movement of Dem is obligatory (Bulgarian: from Izvorski (1996))

a'. [Correlative-Clause] \[ [IP \ldots \text{Correlative-Clause} \ldots \text{Wh-XP} \ldots ] \]

a. [Kolkoto pari iska] tolkovači misli će šte i dam how-much money wants Dem-much thinks that will her give-1SG

b'. * [Correlative-Clause] \[ [IP \ldots \text{Dem-XP} \ldots ] \]

b. * [Kolkoto pari iska] misli će šte i dam tolkovači how-much money wants thinks that will her give-1SG Dem-much

4.1.2 No Covert Movement out of Finite Clauses

4.2 Constituency and constraints on fronting of the Correlative Clause

4.2.1 Evidence for the [CorrelativeCP Dem-XP] structure from co-ordination

4.1.3 Overt Movement out of Finite Clauses

Local Conclusion: it is the correlative clause that is (overtly) moving.
4.2.2 Constraints on fronting of the Correlative Clause

(49) [IF ... [CorCP; Dem-XP;] ... [CorCP; Dem-XP;] ...]

Ram-ne [jo larkaa tumhaare picchhe hai], [us lark-e-kol], [jo kita:b Ram-Erg Rel boy your behind is Dem boy-Dat Rel book Shantiniketan-ne chhaapii thi], [vo kitaab], d[i]i Shantiniketan-Erg print-Pfv.F was.F Dem book give-Pfv.F

Ram gave the book that Shantiniketan had published to the boy who is standing behind you.’ (lit. ‘Nowadays, Rahul is reading [[which book that Saira wrote] that (book)] and [[which cartoon that Shyam made] that (cartoon)].’)

(50) a’. CorCP; [IF ... Dem-XP; ... [CorCP; Dem-XP;] ...]


Ram gave the book that Shantiniketan had published to the boy who is standing behind you.’ (lit. ‘Ram gave [which book Shantiniketan had published] that book to [[which boy is behind you] that boy].’)

b’. CorCP; [IF ... [CorCP; Dem-XP;] ... [Dem-XP;] ...]

b. [jo kita:b Shantiniketan-ne chhaapii thi], [vo kitaab], d[i]i book Shantiniketan-Erg publish-Pfv.F be.Pst.F Ram-Erg Rel larkaa tumhaare picchhe hai], [us lark-e-kol], [vo kitaab], b[i]i boy your behind is Dem boy-Dat Dem book give-Pfv.F

Ram gave the book that Shantiniketan had published to the boy who is standing behind you.’ (lit. ‘Ram gave [which book Shantiniketan had published] that book to [[which boy is behind you] that boy].’)

(51) a’. *CorCP; CorCP; [IF ... Dem-XP; ... Dem-XP; ...]

a. *[jo larka: tumhaare picchhe hai], [jo kita:b Shantiniketan-ne Rel boy-Dat your behind be.Prs Rel book Shantiniketan-Erg chhaapii thi], [vo kitaab], d[i]i Ram-ne [us lark-e-kol], [vo kitaab], publish-Pfv.F be.Pst.F Ram-Erg Dem boy-Dat Dem book give-Pfv.F

intended interpretation is same as (49)
b’. *Cor-CP: Cor-CP, [tP ... Dem-XP, ... Dem-XP ...]

dii
give-Pfv.F
intended interpretation is same as (49)

(52) ok: extraction of two arguments out of a clause

a’. ‘topicalization’: XP[sg] Wh-YP[sg] [cp ... [cp ... [cp ... [cp ...

a. Ram-ne, Sita-ko, Radha soch-ti: hai, ki tohfe Ram-Erg Sita-Dat Radha think-Hab.F be.Prs that many presents
di-ye the
give-Pfv.PI be.Pst.MPI
‘Radha thinks that Ram gave Sita many presents.’

dii
give-Pfv.F
intended interpretation is same as (49)

(55) *Cor-CP: Cor-CP, [tP ... Dem-XP, ... Dem-XP ...]

4.3 Reconstruction Effects

4.3.1 Condition C effects

(56) a’. [cor-CP ... Namej ...] [[t1 Dem-XP,] Pronj ...]

a. [jo larkii Sita-ko, pyaar kar-tee hai], [us-ne, us-ko, thukraa Rel girl Sita-Acc love do-Hab.F is Dem-Erg Dem-Acc reject
di-yaa]
give-Pfv
‘The girl who loves Sita rejected her.’

b’. * [cor-CP ... Namej ...] [Pronj [t1 Dem-XP,] ...]

b. [jo larkii Sita-ko, pyaar kar-tee hai], [us-ne, us-ko, thukraa Rel girl Sita-Acc love do-Hab.F is Dem-Erg Dem-Acc reject
di-yaa]
give-Pfv
‘She rejected the girl who loves Sita.’

c’. [cor-CP ... Namej ...] [[t1 Dem-XP,] Pronj ...]

c. [jo larkii Sita-ko, pyaar kar-tee hai], [us-ne, us-ko, thukraa Rel girl Sita-Acc love do-Hab.F is Dem-Erg Dem-Acc reject
di-yaa]
give-Pfv
‘She rejected the girl who loves Sita.’

d’. * [cor-CP ... Namej ...] [Pronj [t1 Dem-XP,] ...]

d. [jo larkii Sita-ko, pyaar kar-tee hai], [us-ne, us-ko, thukraa Rel girl Sita-Acc love do-Hab.F is Dem-Erg Dem-Acc reject
di-yaa]
give-Pfv
‘The girl who loves Sita rejected her.’
4.3.2 Variable Binding

(57) a. *His* mother loves every boy.
   b. Every boy *love* his mother.

(58) a. [His] band seems to every Austinite [tj to be the best].
   b. [Someone from his class] seems to every professor, [tj to be a genius].
   c. [His father] seems to every boy, [tj to be a genius].

((58b, c) are from Fox (2000), pg. 147.)

   For x, y st.x gave Ram to y, y praised Ram to x.'
   b. LF: seems to every professor [his band to be the best].
   c. LF: seems to every boy [his father to be a genius].

4.3.3 Prediction: Non-reconstruction effects with Multi-Head Correlatives

(61) a'. *[ad-CrP] Rel, Namej Relj ... [Pronj Dem-XPj Dem-XPj ...] [QPj tj Dem-XPj ...]
   a. *[jis-ne Ram-koj jise di-ya] [us-nej us-sej us-kiij Rel-Erg Ram-Acc Rel.Dat give-Pfv Dem-Erg Dem-Inst Dem-Gen.F praise kii]
      For x, y st.x gave Ram to y, Ram praised x to y.'
   b'. *[ad-CrP] Rel, Namej Relj ... [Pronj Dem-XPj Dem-XPj ...]
      For x, y st.x gave Ram to y, Ram praised y to x.'

   *For book x, boy y st.she gave x to y, every girl talked to y about x.'
4.3.4 Reconstruction effects with Multi-Head Correlatives

(63) \[\text{[Rel} \text{, Rel]} \ldots \text{][Bill thinks that} \{\{p \ldots \text{Dem-XP} \} \ldots \} \text{[Rel} \text{, Rel]} \ldots \text{]}

a. Option 1: base-generation
\[\text{[Rel} \text{, Rel]} \ldots \text{][Bill thinks that} \{\{p \ldots \text{Dem-XP} \} \ldots \}

b. Option 2: Multi-Head Correlative Clause moves up
\[\text{[Rel} \text{, Rel]} \ldots \text{][Bill thinks that} \{\{t \ldots \text{Dem-XP} \} \ldots \}

(64) *\[\text{[Rel} \text{, Name, Rel]} \ldots \text{][Pron} \text{thinks that} \{\{t \ldots \text{Dem-XP} \} \ldots \]

(71) Rel-XP deletion/omission in simple Gujarati Correlatives (Babu Suthar p.c.)

(72) No Rel-XP deletion in Multi-Head Gujarati Correlatives (Babu Suthar p.c.)

5 Rel-XP Deletion and Asymmetries between Simple and Multi-Head Correlatives

(73) a. the book \[\text{[which} / \text{S} / \text{rel} \text{] [John read t]}]

b. a topic \[\text{[on which} / \text{S} / \text{rel} \text{] [John writes t]}

(74) (from Jacobson (1983))

a. everyone who I like who I know

b. *everyone who I like \( \phi \) I know
6 Locality of Merge

(75) a. base-generation in IP adjoined position:
   \[ [IP_{C\rightarrow C} \text{ which CD is on sale}] \]
   [\[IP \text{ Ram bought that-CD}] \]
   [\[IP \text{ Ram bought [t that-CD]} \]
   b. base-generation in Dem-XP adjunction, plus movement of Correlative Clause:
   \[ \text{[which CD is on sale], [IP \text{ Ram bought [t that-CD]}]} \]

(76) a. base-generation as adjointed to matrix IP
   \[ [\text{Dem-XP} \text{ Rel}_j \text{ ...]} [\text{Bill thinks that [IP \text{ Dem-XP}, Dem-XP] ...}] \]
   b. base-generated as joined to embedded IP, followed by movement
   \[ [\text{Dem-XP} \text{ Rel}_j \text{ ...}] [\text{Bill thinks that [t [IP \text{ Dem-XP}, Dem-XP] ...}] \]

Condition on Local Merge: The structure-building operation of Merge must apply in as local a manner as possible.

(77) \[ *[\text{Correlative-Clause}]_j [\text{Pron}_j \text{ Dem-XP} ...] \]

(78) a. Base-generation in an IP-adjoined position:
   \[ [\text{Correlative-Clause} \text{ ...Name}_j ...] [\text{Pron}_j \text{ Dem-XP} ...] \]
   b. Base-generation in a Dem-XP adjoined position followed by fronting:
   \[ [\text{Correlative-Clause} \text{ ...Name}_j ...] [\text{Pron}_j \text{ [t Dem-XP] ...}] \]

6.1 Crosslinguistic Comparisons 1: Correlatives in South Slavic

(79) Movement of Dem is obligatory (Bulgarian: from Izvorski (1996))
   a'. [Correlative-Clause]_j [IP \text{ Dem-XP}, ... t ...]
   a. [Kolkoto pari iska] tolkova misli ce ste i dam t_i how-much money wants Dem-much thinks that will her give-1Sg
   ‘She thinks that I’ll give her as much money as she wants.’
   b'. *[Correlative-Clause]_j [IP \text{ Dem-XP}]
   b. *[Kolkoto pari iska] tolkova misli ce ste i dam tolkova how-much money wants that will her give-1Sg Dem-much

(80) Dem-XP adjunction is not possible (Bulgarian) [IP \text{ XP} \ldots \text{Dem-XP} [Correlative-Clause]_j Dem-XP] \ldots]
   * misli ce ste i dam [[Kolkoto pari iska] tolkova] thinks that will her give-1Sg how-much money wants Dem-much
   ‘She thinks that I’ll give her as much money as she wants.’

6.2 Crosslinguistic Comparisons 2: Clitic Left Dislocation

(81) Modern Greek (from Iatridou (1994))
   ton Kosta, i Maria ton idhe DET Kosta/ACC DET Mary/NOM him saw
   ‘Kosta, Mary saw him.’

(82) Islands: * DP, ... [\text{Correlative} ...]
   *ton Kosta, sinandisa tin kopela pu ton idhe DET Kosta/ACC (I-)met DET girl who him saw
   Lit. Kosta, I met the girl who saw him.’

(83) a. DP, ... [\text{Correlative} ...]
   Non-local Merge, No movement, No island violation
   b. *DP, ... [\text{Correlative} ...]
   Local Merge followed by movement, Island violation

7 The Condition on Merge at work: evidence from absent demonstratives

(84) Omission of Dem-XP leads to ungrammaticality
   [jo laRki hai] [Ram *(us-ko) pasand kar-hta hai] Rel girl standing.F is Ram Dem-Dat like do-Hab is
   ‘Ram likes the girl who is standing.’

(85) Missing Dem-XP
   [jo laRki: khar: hai] lambii hai Rel girl standing,F be.Prs tall.F be.Prs
   ‘[Which girl is standing] is tall.’

Conditions under which overt Dem is not required:

(86) \[ \text{form}(\text{Case}(\text{Rel-XP})) = \text{form}(\text{Case}(\text{Dem-XP})) = \phi \text{ (from Bhatt (1997))} \]
Ram gave the book that Shantiniketan had published to the boy who is behind you.
(Lit. [Which boy is standing behind you], [Which book Shantiniketan had published]. Ram gave t1 to [t1 that-boy]).

7.2 Matching Effects in Multi-Head Correlatives

(92) form(Case(Rel-XP)) = form(Case(Dem-XP))

What differentiates (92) from the matching requirement on Simple Correlatives in (86) is the absence of the φ clause. This can be seen in (93), where it is possible for the Dem-XPs to be absent even though not all of the case markers on the Dem-XPs involved are φ.

(93) [MφCorCP Rel, . . . Relj . . . ] [pro, . . . proj . . . ] (Dayal, p.c.)

References
