1 Overview

Many languages permit considerable flexibility with respect to word order.

(1) (from Kidwai (2000):3)

a. Basic Word Order: Subj IO DO V
   Nur-ne Anjum-ko kitaab di-i
   Nur-Erg Anjum-Dat book.f give-Pfv.f
b. Subj DO IO V
   Nur-ne kitaab Anjum-ko di-i
   Nur-Erg book.f Anjum-Dat give-Pfv.f
c. IO Subj DO V
   Anjum-ko Nur-ne kitaab di-i
   Anjum-Dat Nur-Erg book.f give-Pfv.f
d. DO Subj IO V
   kitaab Nur-ne Anjum-ko di-i
   book.f Nur-Erg Anjum-Dat give-Pfv.f
e. IO DO Subj V
   Anjum-ko kitaab Nur-ne di-i
   Anjum-Dat book.f Nur-Erg give-Pfv.f
f. DO IO Subj V
   kitaab Anjum-ko Nur-ne di-i
   book.f Anjum-Dat Nur-Erg give-Pfv.f
g. The other 18 orders where the V precedes one or more arguments are also attested.
   ‘Nur gave Anjum a book’

This word order flexibility is sometimes called ‘scrambling’.

Ross (1967) had a stylistic re-ordering rule according to which two adjacent constituents could be permuted if they were constituents.

‘Scrambling’ does not have to be a unified phenomenon.

(2) A potential breakup:
   a. Object Shift: (1b)
   b. Topicalization: (1c-f)
   c. Rightward Movement: (1g)

1.1 Types of Scrambling

(3) Scrambling within the clause:
   a. Short Scrambling: below the subject
      Nur-ne kitaab Anjum-ko di-i
      Nur-Erg book.f Anjum-Dat give-Pfv.f
      ‘Nur gave Anjum a book.’
   b. Intermediate Scrambling: above the subject
      Anjum-ko Nur-ne kitaab di-i
      Anjum-Dat Nur-Erg book.f give-Pfv.f
      ‘Nur gave Anjum a book.’

(4) Long Scrambling: out of a finite clause
   a. ‘Topicalization’
      Anjum-ko, Yusuf soch-taa hai [ki Nur-ne t kitaab
      Anjum-Dat Yusuf.m think-Hab.MSg be.Prs.Sg that Nur-Erg book.f
      di-i] give-Pfv.f
      ‘Anjum, Yusuf thinks that Nur gave a book to.’
   b. ’Interleaving’
      Yusuf Anjum-ko, soch-taa hai [ki Nur-ne t kitaab
      Yusuf.m Anjum-Dat think-Hab.MSg be.Prs.Sg that Nur-Erg book.f
      di-i] give-Pfv.f
      ‘Anjum, Yusuf thinks that Nur gave a book to.’
Some languages allow for topicalization/wh-movement out of finite clauses, but not scrambling.

(5) German (from Müller and Sternefeld (1994):332)
   a. Topicalization out of a finite clause:
      Pudding sagt sie [t, tₜ would ART Fritz tₜ mögen tₜ]
      pudding said she would ART Fritz like
      ‘Pudding, she says that Fritz would like.’
   b. wh-movement out of a finite clause:
      Was sagt sie [t, daß [der Fritz t mag]]?
      what says she that ART Fritz likes
      ‘What does she say that Fritz likes?’
   c. ‘Interleaving’ Long Scrambling:
      *weil [t, sie Pudding sagt [daß der Fritz t mag]]
      because she Pudding says that ART Fritz likes
      ‘Pudding says that Fritz likes.’
   d. ‘Non Interleaving’ Long Scrambling:
      *weil [t, Pudding niemand sagt [t, tₜ würden [tₜ, der Fritz tₜ mögen tₜ]]]
      because pudding nobody says would ART Fritz like
      ‘Pudding would like Fritz.’

(Assumption: Topicalization in German is to [Spec,CP])

1.2 Analytical Options

(6) Scrambling
   a. Stylistic (PF) Phenomenon
   b. Syntactic Phenomenon
      i. Base Generation
         ii. Configurational
      iii. Movement
         a. A-Movement
         b. A’-Movement
         c. A/A’-Movement

   b. A mixed movement with A and A’ properties (cf. Webelhuth (1989))
   c. Sometimes A and sometimes A’, but not both simultaneously (cf. Mahajan (1990), Mahajan (1994))

2.2 Diagnostics for A/A’-Movement

Definitional/Intrinsic Properties

(8) A-Movement
   a. What moves: DP
   b. Why: Case/EPP
   c. To: a case position such as [Spec,IP]

(9) A’-Movement
   a. What moves: DP/PP etc.
   b. Why: wh-criterion/Scope/Disco/???
   c. To: [Spec,CP] or some adjoined position

Correlational Properties

2.2.1 Weak Crossover

(10) a. A-movement does not cause WCO:
      Every student, seems to his, mother [t, to be intelligent].
      Which student, tₜ, seems to his, mother [t, to be intelligent].
   b. A’-movement causes WCO:
      */??/His, mother loves every boy.
      */??/Who, does his, mother love t?
However, the absence of WCO is not a reliable indicator of the absence of A'-movement (cf. Dayal (1994) and Kidwai (2000)).¹

   a. Topicalization
      John, his brother beat t.
   b. Appositive Relative Clauses
      Gerald, [who his, his mother loves t], is a nice guy.
   c. il-clefts
      It was John, [who, his mother was talking about t].
   d. Parasitic Gaps
      Who, did you [speak with t] [before his, wife could speak t]?

2.2.2 Quantifier Stranding

(12) Quantifier Stranding (cf. Déprez (1989), Déprez (1994))
   a. A-movement can strand floating quantifiers:
      The drug dealers have all been arrested.
   b. A'-movement cannot:
      *These drug dealers, the Mayor said that the police will all arrest.
      *These are the drug dealers that the Mayor said that the police will all arrest.
      (*Which drug dealers did the Mayor say that the police will all arrest?)

However, in West Ulster English with-movement does seem to be able to strand quantifiers.

(13) (from McCloskey (2000))
   a. What all did you get for Christmas?
   b. What did you get all for Christmas?
   c. Who all did you meet when you were in Derry?
   d. Who did you meet all when you were in Derry?

(14) (from McCloskey (2000))
   a. What all did he say (that) he wanted?
   b. What did he say (that) he wanted all?
   c. What did he say all (that) he wanted?

1Topicalization and il-clefts seem to not involve SCO either.
   i. a. Himself, he likes t.
      b. It’s him, [that he, thinks that Mary likes t].

2.2.3 Reconstruction

(15) a. A-movement can, but does not have to, reconstruct.
   i. Scope Reconstruction:
      A man from New Jersey is likely to win the lottery.
      (a man > likely, likely > a man)
   ii. Reconstruction is not forced (no Condn. C effects):
      [A picture of John], seems to him, [t, to be on sale].
   b. A'-movement must reconstruct.
      i. Reconstruction is possible:
         [Which picture of himself,] does every artist admire t?
      ii. Reconstruction is forced (Condn. C effects):
         ??/*Guess [which friend of John’s,] he, visited t?

2.2.4 Parasitic Gaps

(16) a. A-Movement does not license parasitic gaps:
   "[The article] was filed t, [without reading e].
   b. A'-Movement licenses parasitic gaps:
      [Which article] did you file t [without reading e]?

However, the Hindi counterparts of parasitic gaps are an unreliable test because they seem to be licensed even without any movement.²

(17) a. Base:
      Ram-ne [binaa pg parbe] [yo kitaab], phik di-
      Ram-Erg without reading that book.f threw GIVE-Pfv.f
      ‘Ram threw that book away without reading it.’
   b. Short Scrambling:
      Ram-ne [yo kitaab] [binaa pg parbe] t, phik di-
      Ram-Erg that book.f without reading. threw GIVE-Pfv.f
      ‘Ram threw that book away without reading it.’

→ not parasitic

²But see Mahajan (1994):317-320, and fn. 7 for another opinion.
An overt pronoun/DP can appear in place of the gap.

(18) a. Base:
   Ram-ne [binaa use\(\frac{1}{3}\)/manual parhe] [vo kitaab], ph̆ek di-i
   Ram-Erg without it.Acc/manual reading that book.f threw GIVE-Pfv.f
   ‘Ram threw [that book], away without reading it, the manual.’

b. Short Scrambling:
   Ram-ne [vo kitaab], [binaa use\(\frac{1}{3}\)/manual parhe] t, ph̆ek di-i
   Ram-Erg that book.f without it.Acc/manual reading threw GIVE-Pfv.f
   ‘Ram threw [that book], away without reading it, the manual.’

These gaps are licensed in the absence of movement. They are also licensed by short, intermediate, and long scrambling.

→ not clear what they tell us.

3 Short Scrambling

Short Scrambling = movement of the DO over the IO

Assumption: ‘Subj IO DO Verb’ is basic.

3.1 Anaphor binding under Reconstruction

Reciprocals are used in place of reflexives because reflexives are subject-oriented in Hindi.³

(19) (from Bhatt and Anagnostopoulou (1996))
   a. unh̆one, laRkiy̆o-ko [ek-duusre\(\frac{1}{3}\)/kii kitaabē] di-i
      they girls-KO each-other Gen books give-Pfv
      ‘They gave the girls, each-other’s books.’
   b. unh̆one, [ek-duusre kii kitaabē\(\frac{1}{2}\)/laRkiy̆o-ko] di-i
      they each-other Gen books girls-KO give-Pfv
      ‘They gave each-other’s books to the girls.’
   c. [ek-duusre kii kitaabē\(\frac{1}{2}\)/unh̆one, laRkiy̆o-ko] di-i
      each-other Gen books they girls-KO give-Pfv
      ‘They gave each-other’s books to the girls.’

Imp possibility of coreference with the IO in (19b) →
the scrambled NP cannot reconstruct to its base site,

P possible binding in (19c) →
the scrambled NP can reconstruct to the site between the Subject and the IO.

3.2 Variable binding/WCO

Short scrambling amnesties WCO violations:

(20) (from Bhatt and Anagnostopoulou (1996))
   a. *unh̆one [us-kii maa]-ko har laRkaa, lautaa-yaa
      they his mother-KO every boy return-Pfv
      ‘They returned his, mother every boy.’
   b. unh̆one har laRkaa [us-kii maa]-ko lautaa-yaa
      they every boy his mother-KO return-Pfv
      ‘They gave every boy, to his, mother.’

3.3 Reconstruction and Condition C

(21) (from Bhatt and Anagnostopoulou (1996))
   a. us-ne, us-k0, [Aditya\(\frac{1}{2}\)/kii kitaab] lautaa di-i
      Dem-Erg Dem-KO Aditya’s book.f return GIVE-Pfv.f
      ‘He, returned him, Aditya’s book.’
   b. us-ne, [Aditya\(\frac{1}{2}\)/kii kitaab] us-k0, lautaa di-i
      Dem-Erg Aditya’s book.f Dem-KO return GIVE-Pfv.f
      ‘He gave Aditya’s book to him.’
   c. [Aditya\(\frac{1}{2}\)/kii kitaab] us-ne, us-k0, lautaa di-i
      Dem-Erg Aditya’s book.f Dem-KO return GIVE-Pfv.f
      ‘He gave Aditya’s book to him.’

Short scrambling amnesties Condn. C violations
→ Reconstruction is not obligatory.

Scrambling past the subject does not amnesty Condn. C violations
→ Reconstruction is obligatory.

³See Dayal (1994):251-253 for some arguments that the binding properties of reciprocals are distinct from
that of reflexives, and therefore the substitution of reciprocals for reflexives is not innocent.
3.4 Object Shift

ko marked Direct Objects in Hindi undergo obligatory object shift to a Subj-IO medial site (cf. Bhatt and Anagnostopoulou (1996)).

(22a) Ram-ne [t, Anita-ko chitthii bhej-ii] Ram-ERG Anita-KO letter.f send-Pfv.

Ram sent the letter to Anita.

(22b) Ram-ne chitthii-ko [t, Anita-ko t bhej-aa] Ram-ERG letter-KO Anita-KO send-Pfv

‘Ram sent the letter to Anita.’

(22c) #Ram-ne [t, Anita-ko chitthii-ko t bhej-aa] Ram-ERG Anita-KO letter-KO send-Pfv

‘#Ram sent Anita to the letter.’

The oddness of (22c) has been taken to show that ‘two -ko marked NP’s cannot appear in a sentence.’ (cf. Mohanan (1994), Kidwai (2000):78-80).

When the DO is a pronoun that refers to a human, it must be -ko marked → object shift is forced.

(23) vo ‘Dem’ i.e. he/she/it/that

(23a) Yusuf-ne [t, Nina-ko vo di-yaa] Yusuf-ERG Nina-Dat Dem give-Pfv.m

‘Yusuf gave that/’him to Nina.’


‘Yusuf gave him/her/???that to Nina.’

Object shifted direct objects behave the same as short scrambled direct objects w.r.t. the movement diagnostics.

(24a) WCO amensty:

unbhone [laRk—ko [us-ki maa]-ko _ _ _ _ ] laRk—ko di-yaa

they every boy-KO his mother-KO return GIVE-Pfv

‘They returned every boy, to his, mother.’

(24b) Cond. C Reconstruction not forced:

us-ne [Aditya, Aditya-kitaab-ko us-ko _ _ _ _ ] laRk—ko di-yaa

Dem-ERG Aditya-Gen.f book-KO Dem-KO return GIVE-Pfv

‘He gave Aditya, Aditya’s book to him.’

3.5 Assimilating the tests

- anaphor binding by the IO into a DP/NP scrambled into the Subj-IO medial site is not possible, showing that reconstruction is impossible.

- A DP/NP scrambled into this site can variable-bind (i.e. no WCO), showing that reconstruction is not obligatory.

- Scrambling into this site also amnesties Condition C violations, again showing that reconstruction is not obligatory.

- Short scrambling is similar in most ways to Object Shift.

Conclusion: Movement to the Subj-IO medial site can only be an A/L-related movement and this site can only be an A-site (cf. Mahajan (1990)).

Corollary: no A’/non L-related position is available at this site. If A’ sites are created by adjunction, this also indicates that adjunction cannot take place at this site.
4 Intermediate Scrambling

Intermediate Scrambling = movement beyond the subject but within the finite clause.

(26) a. Subj DO V
   Ram-ne rotii khaa-i
   Ram-Erg bread.f eat-Pfv.f
   ‘Ram ate bread.’

b. DO Subj V
   rotii Ram-ne khaa-i
   bread.f Ram-Erg eat-Pfv.f
   ‘Ram ate bread.’

Scrambling can cause ambiguity:

(27) billi machhlii khaa-tii hai
    fish.f eat-hab.f be.prs
    ‘The cat eats fish.’

   ‘Cat, The fish eats.’

4.1 Weak Crossover

Scrambling past the subject amnesties WCO violations.

(28) WCO with Quantifiers
   a. ???[us-kii behin]-ne [har larke]-ko (sigret pii-te hue) dekh-aa
      his sister-Erg every boy-Acc cigarette smoking see-Pfv
      ‘His, sister saw every boy, (smoking a cigarette).’

   b. [har larke]-ko [us-kii behin]-ne t (sigret pii-te hue) dekh-aa
      every boy-Acc his sister-Erg cigarette smoking see-Pfv
      ‘Every boy, was seen (smoking a cigarette) by his, sister.’

(29) WCO with wh-XPs
   a. ???[us-kii behin]-ne [kis larke]-ko (sigret pii-te hue) dekh-aa
      his sister-Erg which boy-Acc cigarette smoking see-Pfv
      ‘Which boy, did his, sister see (smoking a cigarette).’

   b. [kis larke]-ko [us-kii behin]-ne t (sigret pii-te hue) dekh-aa
      which boy-Acc his sister-Erg cigarette smoking see-Pfv
      ‘Which boy, was seen (smoking a cigarette) by his, sister.’

→ A-movement is an option.
(assuming that WCO amnesty → A-Movement)

4.2 Binding Theory Evidence

4.2.1 Condition A: Binding by the subject

Scrambling an anaphor past the subject does not affect binding possibilities.

(30) XP Reflexive: apne aap ‘self’s self’
   a. Ram-ne apne-aap-ko maar-aa
      Ram-Erg himself-Acc hit-Pfv
      ‘Ram hit himself.’

   b. apne-aap-ko, Ram-ne t maar-aa
      himself-Acc Ram-Erg hit-Pfv
      ‘Ram hit himself.’

(31) Reciprocal: ek dusre ‘one another’
   a. unho ne ek-duusre-ko maar-aa
      they-Erg each-other-Acc hit-Pfv
      ‘They hit each other.’

   b. ek-duusre-ko unho ne t maar-aa
      each-other-Acc they-Erg hit-Pfv
      ‘They hit each other.’

(32) X’/Possessive Reflexive: apne ‘self’s’
   a. Ram-ne [apne bhaai]-ko maar-aa
      Ram-Erg self’s brother-Acc hit-Pfv
      ‘Ram hit self’s brother.’

   b. [apne bhaai]-ko Ram-ne t maar-aa
      self’s brother-Acc Ram-Erg hit-Pfv
      ‘Ram hit self’s brother.’

(33) Possessive Reciprocal: ek dusre-ke ‘one another’s’
   a. unho ne ek-duusre-ke bhaai-ko maar-aa
      they-Erg each-other-Gen brothers-Acc hit-Pfv
      ‘They hit each other’s brothers.’

   b. [ek-duusre-ke bhaai]-ko unho ne t maar-aa
      each-other-Gen brothers-Acc they-Erg hit-Pfv
      ‘They hit each other’s brothers.’

→ scrambled phrase can reconstruct
→ A’-movement is an option.
4.2.2 Condition A: Binding into the subject

Mahajan (1994) presents contrasts like the following.

(34) a. *[apne, baccő]-ne Mohan-ko, maar-aa 
   self’s children-Erg Mohan-Acc hit-Pfv
   “Self’s children hit Mohan.”

b. ?/AX/ /VT/ ?/AX/ a [apne, baccő]-ne, tî, maar-aa 
   self’s children-Erg Mohan-Acc hit-Pfv
   “Self’s children hit Mohan.”

For Mahajan, the contrast in (34) shows the existence of an A-position before the subject.


They relate the marginal acceptability of a referential/’logophoric’ usage of X̱ reflexives in Hindi.

Binding into XP Reflexive/Reciprocal subjects is never possible.

(35) (from Dayal (1994):242)

a. [apne-aap]-ne, Mohan-kî, maar-aa 
   himself-Erg Mohan-Gen.f hit-Pfv
   “Self’s children hit Mohan.”

b. Mohan-kî, [apne-aap]-ne, tî, maar-aa 
   Mohan-Gen.f himself-Erg hit-Pfv
   “Self’s children hit Mohan.”

(36) (from Kidwai (2000):31-32)

a. *ek-duusre-ne, [mohan aur sita]-ko, maar-aa 
   each-other-Erg Mohan and Sita-Acc hit-Pfv
   “Each other hit Mohan and Sita.’

b. *[mohan aur sita]-ko, ek-duusre-ne, maar-aa 
   Mohan and Sita-Acc each-other-Erg hit-Pfv
   “Each other hit Mohan and Sita.’

→ No A-position in front of subject from which binding can take place.

4.2.3 Condition C Effects

(37) Scrambling an R-expression past the subject:

a. Base: 
   *us-ne, [Mohan-kî, kitaab] parh-ii 
   he-Erg Mohan-Gen.f book.f read-Pfv.f
   “He read Mohan’s book.”

b. Scrambled sentence:
   *[Mohan-kî, kitaab], us-ne, tî parh-ii 
   he-Gen.f book.f he-Erg read-Pfv.f
   “He, read Mohan’s book.”

Intermediate scrambling does not cause Condn. C amnesty 
→ Reconstruction is forced.

(38) Scrambling a pronoun past the subject:

a. Base: 
   [Mohan-kî, behin]-ne us-ko, dâ:t-aa 
   Mohan-Gen.f sister-Erg he-Acc scold-Pfv
   ‘Mohan’s sister scolded him,.’

b. Scrambled sentence:
   *us-ko, [Mohan-kî, behin]-ne tî, dâ:t-aa 
   he-Gen.f sister-Erg he-Erg scold-Pfv
   “He, read Mohan’s book.”

The pronoun can’t be fully reconstructing.

● Something like the copy theory seems necessary here.
  but then what about anaphors?
  A similar contrast seems to exists in English.

(39) a. Topicalization of anaphors:
  i. John, likes himself,
  ii. Himself, John, likes t.

b. Topicalization of pronouns:
  i. John’s, sister likes him,
  ii. ???Him, John’s, sister likes t.
4.2.4 Some Linear Precedence Effects

Linear Precedence also seems to play a role in determining coreference possibilities.

(40) (from Dayal (1994):253)

a. DO > Pronoun
   Ram-ne, Mohan-ko [us-kiii\_j\_j\_j, kitaab] lautta di-i
   Ram-Erg Mohan-Dat his-Gen.f book.f return GIVE-Pfv.f
   ‘Ram returned to Mohan, his book.’

b. [\_\_\_] Pronoun ..] > DO (Immediate Precedence
   Ram-ne, [us-kiii\_j\_j\_j, kitaab], Mohan-ko, t lautta di-i
   Ram-Erg his-Gen.f book.f Mohan-Dat return GIVE-Pfv.f
   ‘Ram returned to Mohan, his book.’

c. [\_\_\_] Pronoun ..] > Subj > DO (Non Immediate Precedence)
   [us-kiii\_j\_j\_j, kitaab], Ram-ne Mohan-ko, t lautta di-i
   his-Gen.f book.f Ram-Erg Mohan-Dat return GIVE-Pfv.f
   ‘Ram returned to Mohan, his book.’

(note: pronominal possessors have anti-subject orientation, which is unaffected by scrambling)

(41) a. [\_\_\_] Pronoun ..] > DO (Immediate Precedence
   [us-ke\_j\_j\_j, bacc\_o]-ne Ram-ko, khuub maar-aa
   his children-Erg Ram-Acc lots hit-Pfv
   ‘His children hit Ram a lot.’

b. DO > [\_\_\_] Pronoun ..]
   Ram-ko, [us-ke\_j\_j\_j, bacc\_o]-ne t, khuub maar-aa
   Ram-Acc his children-Erg lots hit-Pfv
   ‘His children hit Ram, a lot.’


a. [merii behin], aur [us-kaa, pati] don\_jaa-\_ege
   my sister and her husband both go-Fut.3MPI
   ‘My sister and her husband will both go.’

b. [us-kaa\_j\_j, pati] aur [merii behin], don\_jaa-\_ege
   her husband and my sister both go-Fut.3MPI
   ‘Her husband and my sister will both go.’

- A pronominal DP cannot refer to an R-expression that immediately follows the smallest DP that contains the pronominal DP. (cf. Dayal (1994):246-254, Rule II in Kidwai (2000):125-128)

Further embedding seems to help:

(43) [[us-kiii\_j\_j, pehiiii bivii]-ke bacc\_o]-ne Ram-ko, khuub maar-aa
   his first wife-Gen children-Erg Ram-Acc lots hit-Pfv
   ‘His first wife’s children hit Ram, a lot.’

4.3 Webelhuth’s Paradox and Mixed Positions

Intermediate Scrambling seems to have both A (WCO amnesty) and A'-properties (Re-construction).

Webelhuth (1989) takes this as an argument for a mixed position, with A and A’ properties.

(44) Simultaneous licensing of a Parasitic Gap and WCO Amnesty

   Peter hat [jeden Gast], [ohne t anzuschauen] [seinem Nachbarn] t, vorgestellt
   Peter has every guest without at-to-look [his neighbour introduced
   ‘Peter introduced every guest to his neighbour without looking at.’

(45) Mahajan’s analysis without a mixed position

   Peter hat [jeden Gast], [ohne t anzuschauen] t,’ [seinem Nachbarn] t
   Peter has every guest without at-to-look [his neighbour introduced
   ‘Peter introduced every guest to his neighbour without looking at.’

Step 1: ‘argument shift’/A-movement - WCO amnesty
Step 2: ‘XP adjunction’/A’-movement - Parasitic Gap licensing

Lee and Santorini (1994) argue that Mahajan (1990)/Mahajan (1994)’s proposal does not constitute a full solution to Webelhuth’s paradox.
Mahajan’s argument against mixed positions:

(46) a. *[[..... Pron, ......] wh-XP, ......] (WCO violation)

b. wh-XP, [[[..... Pron, ......] t, ......] (WCO amnesty)

c. [[[..... Pron, ......] [Anaph, NP], ......] (Reflexive Binding)

d. [Anaph, NP], [[[..... Pron, ......] t, ......] (Reflexive Binding preserved through reconstruction)

e. *[[..... Pron, ......] [Anaph, wh-XP], ......] (Reflexive Binding, but WCO)

f. *[[Anaph, wh-XP], [[[..... Pron, ......] t, ......] (Reflexive Binding preserved through reconstruction, but WCO)

Mahajan takes the impossibility of (46e, f) to show that mixed positions do not exist.

Given the plausible assumption that the wh-phrase and the possessive anaphor cannot take scope separately at LF (cf. Safir (1999)), the kind of position Mahajan is arguing against is a logical impossibility.

5 Long Scrambling

Long scrambling = movement out of a finite clause

(47) (from Gambhir (1981):303-304)

a. A inquires of B if he knows what time the stores open. B replies:
   dukane, [meraa khayal hai [ki t, nau baje khul 9 a-tii hE]]
   stores.f my idea be.Prs.Sg that 9 o’clock open GO-Hab.f be.Prs.PI
   ‘The stores, I think, open at 9 o’clock.’

b. Two friends are talking about their common friend, Ramesh. One of them adds:
   Ramesh-ko [mE-ne sun-aat hai [ki t, bank-mE naukrii mil gayii]
   Ramesh-Dat I-Erg hear-Pfv be.Prs.Sg that bank-in job.f ‘find’ GO-Pfv.f hail]
   be.Prs.Sg
   ‘Ramesh, I heard, has got a job in a bank.’

Long Scrambling can target almost any position except the immediately pre-complementizer position.

(48) a. MSsubj MOsubj V Comp ESsubj
   [mE-ne Sita-se kah-aa [ki Ramesh-ko bank-mE naukrii mil gayii]
   I-Erg Sita-Instr say-Pfv that Ramesh-Dat bank-in job.f ‘find’ GO-Pfv.f hail]
   be.Prs.Sg
   ‘I told Sita that Ramesh has got a job in a bank.’

b. ESsubj. MSsubj MOsubj V Comp t,
   Ramesh-ko, [mE-ne Sita-se kah-aa [ki t, bank-mE naukrii mil gayii]
   Ramesh-Dat I-Erg Sita-Instr say-Pfv that bank-in job.f ‘find’ GO-Pfv.f hail]
   be.Prs.Sg
   ‘Ramesh, I told Sita, has got a job in a bank.’

c. ??MSsubj ESsubj. MOsubj V Comp t,
   ??[mE-ne Ramesh-ko Sita-se kah-aa [ki t, bank-mE naukrii mil gayii]
   Ramesh-Dat I-Erg Sita-Instr say-Pfv that bank-in job.f ‘find’
   gayii hail]
   GO-Pfv be.Prs.Sg
   ‘Ramesh, I told Sita, has got a job in a bank.’

d. ??MSsubj MOsubj V ESsubj. Comp t,
   ??[mE-ne Sita-se kah-aa Ramesh-ko [ki t, bank-mE naukrii mil gayii]
   Sita-Instr Ramesh-Dat say-Pfv that bank-in job.f ‘find’
   gayii hail]
   GO-Pfv be.Prs.Sg
   ‘Ramesh, I told Sita, has got a job in a bank.’

e. *MSsubj MOsubj V ESsubj. Comp t,
   *[mE-ne Sita-se kah-aa Ramesh-ko [ki t, bank-mE naukrii mil gayii]
   Sita-Instr Ramesh-Dat say-Pfv that bank-in job.f ‘find’
   gayii hail]]
   GO-Pfv be.Prs.Sg
   ‘Ramesh, I heard, has got a job in a bank.’

The ungrammaticality of (48e) is not due to a putative V-C adjacency requirement.

(49) MSsubj V MOsubj Comp ESsubj
   [mE-ne kah-aa Sita-se [ki Ramesh-ko bank-mE naukrii mil gayii]
   I-Erg say-Pfv Sita-Instr that Ramesh-Dat bank-in job.f ‘find’ GO-Pfv.f hail]
   be.Prs.Sg
   ‘I told Sita that Ramesh has got a job in a bank.’
Generalization: material from the embedded clause cannot intervene between matrix V and C', but may otherwise appear in the matrix clause.

5.1 Properties of Long Scrambling

5.1.1 No WCO Amnesty

(50) No WCO amnesty
a. Base:
   "*[us-kii, behin]-ne soch-aa [ki Ram-ne [kaun-saa/har aadmiri] dekh-aa]
   his sister-Erg think-Pfv that Ram-ERG which/every man see-Pfv
   "Which man, did his, sister think that Ram saw t?"
   "His, sister thought that Ram saw [every man]."

b. Long Scrambling:
   *[kaun-saa/har aadmiri], [[us-kii, behin]-ne soch-aa [ki Ram-ne t, which/every man his sister-Erg think-Pfv that Ram-ERG dekh-aa]]
   see-Pfv
   "Which man, did his, sister think that Ram saw t?"
   "His, sister thought that Ram saw [every man]."

→ Long Scrambling is not A-movement.

5.1.2 Reconstruction Effects

(51) Anaphors
a. Base:
   [Sita, soch-tii hai [ki Ram, apne-aap-ko/ki, pasand kar-taa
   Sita think-Hab.f be.Prs.Sg that Ram himself-Acc like do-Hab.MSg
   hai]]
   be.Prs.Sg
   'Sita thinks that Ram likes himself.'

b. Scrambled:
   [apne-aap-ko/ki, pasand [Sita, soch-tii hai [ki Ram, t, pasand
   himself-Acc Sita think-Hab.f be.Prs.Sg that Ram like
   kar-taa hai]]
   do-Hab.MSg be.Prs.Sg
   'Sita, thinks that Ram, likes himself.'

→ Reconstruction is forced, Matrix binding not possible.

(52) Possessive Anaphors
a. Base:
   [Sita, soch-tii hai [ki Ram, apnii behin]-ko/ki, pasand
   Sita think-Hab.f be.Prs.Sg that Ram self's sister-Acc like
   kar-taa hai]
   do-Hab.MSg be.Prs.Sg
   'Sita thinks that Ram likes himself.'

b. Scrambled:
   [apnii, behin]-ko [Sita, soch-tii hai [ki Ram, t, pasand
   self's sister-Acc Sita think-Hab.f be.Prs.Sg that Ram like
   kar-taa hai]]
   do-Hab.MSg be.Prs.Sg
   'Sita, thinks that Ram, likes himself.'

→ Reconstruction is forced, Matrix binding degraded.

(53) Pronouns
a. Base:
   [Sita, soch-tii hai [ki Ram, us-ko/ki, pasand kar-taa
   Sita think-Hab.f be.Prs.Sg that Ram himself-Acc like do-Hab.MSg
   hai]]
   be.Prs.Sg
   'Sita, thinks that Ram likes her.'

b. Scrambled:
   [us-ko/ki, pasand [Sita, soch-tii hai [ki Ram, t, pasand kar-taa
   himself-Acc Sita think-Hab.f be.Prs.Sg that Ram like do-Hab.MSg
   hai]]
   be.Prs.Sg
   'Her, Sita, thinks that Ram likes.'

→ Weak Condition C effect from surface position
(54) Pronominal Possessors
a. Base:
   [Sita, soch-tii hai [ki Ram, [us-kii, behin]-ko pasand Sita think-Hab.f be.Prs.Sg that Ram his sister-Acc like kar-taa hai]]
do-Hab.MSg be.Prs.Sg
'Sita, thinks that Ram likes her sister.'
b. Scrambled:
   [us-kii, behin]-ko [Sita, soch-tii hai [ki Ram, t pasand his sister-Acc Sita think-Hab.f be.Prs.Sg that Ram like kar-taa hai]]
do-Hab.MSg be.Prs.Sg
'Her sister, Sita, thinks that Ram likes.'

→ Binding options unaffected by movement

(55) R-Expressions
a. Base:
   [vo, soch-tii hai [ki vo, Mona-ko, go pasand kar-taa she think-Hab.f be.Prs.Sg that he himself-Acc like do-Hab.MSg hai]]
be.Prs.Sg
'She, thinks that he, likes Mona.'
b. Scrambled:
   Mona-ko, go [vo, soch-tii hai [ki vo, t pasand kar-taa himself-Acc Sita think-Hab.f be.Prs.Sg that he like do-Hab.MSg hai]]
be.Prs.Sg
'Mona, she, thinks that he, likes.'

→ Strong Condition C effect w.r.t. matrix subject, Reconstruction forced.

(56) R-Expression Possessors
a. Base:
   [vo, soch-tii hai [ki vo, [Mona-ko, go behin]-ko pasand she think-Hab.f be.Prs.Sg that she Mona-Gen.f sister-Acc like kar-tii hai]]
do-Hab.FSg be.Prs.Sg
'She, thinks that she, likes Mona’s sister.'
b. Scrambled:
   [Mona-ko, go behin]-ko [vo, soch-tii hai [ki vo, t pasand Mona-Gen.f sister-Acc she think-Hab.f be.Prs.Sg that she like kar-tii hai]]
do-Hab.FSg be.Prs.Sg
'Mona’s sister, she, thinks that she, likes.'

Clearer examples:
(57) a. [Mona’s sister], [she,...... V [he...... t]
   [Mona-ko, go behin]-ko [vo, soch-tii hai [ki vo, t pasand Mona-Gen.f sister-Acc she think-Hab.f be.Prs.Sg that she like kar-taa hai]]
do-Hab.MSg be.Prs.Sg
'Mona’s sister, she, thinks that he, likes.'
b. [Mona’s sister], [he...... V [she,...... t]
   [Mona-ko, go behin]-ko [vo, soch-taa hai [ki vo, t pasand Mona-Gen.f sister-Acc she think-Hab.f be.Prs.Sg that he like kar-tii hai]]
do-Hab.MSg be.Prs.Sg
'Mona’s sister, he, thinks that she, likes.'

→ Strong Condition C effect w.r.t. matrix subject, Reconstruction forced.
→ Weak Condition C effect w.r.t. embedded subject.

Summa: Long Scrambling involves obligatory reconstruction, to at least the edge of the embedded clause and perhaps lower depending upon the base position of the scrambled phrase.
5.2 Floating Quantifiers

WCO was one test that grouped intermediate and short scrambling together.

Floating Quantifiers is another.

(58) Short/Intermediate scrambling allows floating quantifiers
a. Base: Subj IO [iQ Q DO-NP] V
   Ram-ne Mohan-ko [saarii kitaab̌e] lautaa di-i
   Ram-Erg Mohan-Dat all.f books.f return GIVE-Pfv.f
   ‘Ram returned all the books to Mohan.’

b. Base + Local Movement of DO-NP: Subj IO DO-NP [tQ] V
   Ram-ne Mohan-ko kitaab̌e, [saarii ti] lautaa di-i
   Ram-Erg Mohan-Dat books.f all.f return GIVE-Pfv.f
   ‘Ram returned all the books to Mohan.’

c. Short Scrambling of DO-NP: Subj DO [Q tQ] V

d. Intermediate Scrambling of DO-NP: DOx P, Subj IO [tQ] V

e. Short Scrambling of DO: Subj [iQ Q DO-NP] IO tQ V

f. Short Scrambling of DO + Local Movement of DO-NP:
   Subj DO-NP, [iQ Q tQ] IO tQ V

g. Intermediate Scrambling of DO-NP in (58f):
   DOx P, Subj [Q tQ] IO tQ V

h. Intermediate Scrambling of DO: [iQ Q DO-NP] Subj IO tQ V
  i. Intermediate Scrambling of DO + Local Movement of DO-NP:
     DOx P, [iQ Q tQ] Subj IO tQ V

(60) Mahajan’s classification:

a. Short scrambling: Object Shift (A)
   b. Intermediate scrambling: Peculiar non-WCO triggering A’ movement
   c. Long Scrambling: XP Adjunction (A’)

(61) a. Short scrambling: Object Shift (A)
   b. Intermediate scrambling: Peculiar non-WCO triggering A’ movement
   c. Long Scrambling: XP Adjunction (A’)

The absence of WCO effects with intra-clausal scrambling is taken by Bresnan (1997) and Dalrymple et al. (2001) to show that intra-clausal scrambling does not leave traces.

But this cannot be all, given the reconstruction facts.

Generalization: Floating Quantifiers can only be stranded in the clause where the QP originates.
References


