

Levels of Disjunction in Hindi-Urdu Questions

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1 Overview

This talk is about disjunction in Hindi-Urdu interrogatives. We know a lot about disjunction in English – in declaratives *or* implies epistemic uncertainty about the disjuncts, in interrogatives it leads to a Y/N reading or an AltQ reading, depending on prosody. When we turn to Hindi-Urdu we note that there is more than one disjunction, there is *ya:*, there is *ki*, and there is *ya: ki* but they are not in free variation.¹ Differences between *ya:* and *ki* is the focus of this talk.

2 Two Disjunctions in Hindi-Urdu

2.1 *ya:*

The general disjunction in Hindi-Urdu is *ya:*. It can be used to disjoin any XP that can be disjoined. More specifically it can be used to disjoin nominals as well as clauses.²

- (1) Clausal disjunction:

a:j Ram ga:-egaa ya: Mina na:c-egii
today Ram.m sing-Fut.3MSg or Mina.f dance-Fut.3FSg
'Today Ram will sing or Mina will dance.'
(Declarative: Yes, Interrogative: Yes)

- (2) Nominal Disjunction: disjunction of KPs

a:j Mina Ravi=ko ya: Madhu=ko cun-egii
today Mina.f Ravi=Dat or Madhu=Dat pick-Fut.3FSg
'Today Mina will pick Ram or Madhu.'
(Declarative: Yes, Interrogative: Yes)

¹There is a difference in form between Hindi and Urdu. What we are presenting as *ki* is *ke* in Urdu. What we say about Hindi *ki* holds equally for Urdu *ke*, as far as we can tell.

²There is also an either-or structure, shown below, that we will not discuss further here.

- i. a:j ya: to Ram ga:-egaa ya: phir Mina na:c-egii
today or then Ram.m sing-Fut.3MSg or then Mina.f dance-Fut.3FSg
'Today either Ram will sing or Mina will dance.'

- (3) Nominal Disjunction: disjunction of DPs, below KP
 a:j Mina Ravi ya: Madhu=ko cun-egii
 today Mina.f Ravi or Madhu=Dat pick-Fut.3FSg
 ‘Today Mina will pick Ram or Madhu.’
 (Declarative: Yes, Interrogative: Yes)

We see above that *ya:* can disjoin nominals as well as clauses. It is also semantically quite unrestricted; (1-3) all allow for a declarative as well as an interrogative reading. And within interrogatives, it allows both Y/N and Alt-Q readings.³

2.2 *ki/ya: ki*, the alternative disjunction

In addition to *ya:*, Hindi also has *ki*. Unlike *ya:*, *ki* is restricted both syntactically and semantically. Consider the *ki* counterpart of (1), shown below:

- (4) a. Disjunction of clauses with *ki*:
 a:j Ram ga:-egaa ki Mina na:c-egii
 today Ram.m sing-Fut.3MSg or Mina.f dance-Fut.3FSg
 ‘Will Ram sing today or will Mary sing?’
 (Decl: *, AltQ: yes, YN: *)
- b. Disjunction of clauses with *ya:*
 a:j Ram ga:-egaa ya: Mina na:c-egii
 today Ram.m sing-Fut.3MSg or Mina.f dance-Fut.3FSg
 ‘Will Ram sing today or will Mary sing?’
 (Decl: yes, AltQ: yes, YN: yes)

The declarative reading that was available in (1=4b) is lost. (4a) can only be interpreted as an interrogative, crucially as an Alternative Question. We will see that this is true of *ki* disjunctions quite generally.

At first glance it seems that like *yaa*, *ki* can disjoin both clauses and nominals.

- (5) Disjunction of KPs with *ki*
 a:j Mina Ravi=ko ki Madhu=ko cun-egii
 today Mina.f Ravi=Dat or Madhu=Dat select-Fut.3FSg
 ‘Will Mina select Ravi today or Madhu?’
 (Declarative:*, AltQ:OK, YN:*)

However, for one of us (Rajesh), *ki* disjunction below the KP level is simply ungrammatical. For the other (Veneeta), it is degraded but to the extent it is grammatical, it only has an AltQ reading.

- (6) Disjunction of DPs with *ki* (below KP)
 *_{RB/?VD} a:j Mina Ravi ki Madhu=ko cun-egii
 today Mina.f Ravi or Madhu=Dat select-Fut.3FSg
 ‘Will Mina select Ravi or Madhu today?’
 (Declarative:*, AltQ: *_{RB/?VD}, YN:*)

³There is some variability in the availability of the AltQ reading in (2-3), having to do with the ease or difficulty of the strings being amenable to the prosody needed for such readings rather than a fact about *ya:*.

So far we have presented disjunctive *ki* as being a lexical alternative to *ya:* but in fact as we noted in version 1 of Bhatt & Dayal (2020), disjunctive *ki* is very likely not an independent disjunction. This was based on the fact that as far as we can tell, it can always be replaced by the sequence *ya: ki* without change in meaning (though sometimes it may be more natural to leave *ya:* covert).

- (7) Disjunction of clauses with *ya: ki*:
 a:j Ram ga:-egaa ya: ki Mina na:c-egii
 today Ram.m sing-Fut.3MSg or or Mina.f dance-Fut.3FSg
 ‘Will Ram sing today or will Mina dance?’
 (Decl: *, AltQ: yes, YN: *)

We assume from here onwards that disjunctive *ki* is underlyingly always *ya: ki*, with the disjunction *ya:* silent. So there is in fact only one disjunction *ya:* in Hindi-Urdu and *ki* signals something about the nature of the disjunction involved.

We would like to note here that Bhadra (2017) has described Bangla *ki na* in exactly these terms. However, the account she develops is substantively different from ours. We will not make any sustained comparisons between Bangla and Hindi disjunctions in this talk.

2.3 Subordinator *ki* versus Disjunctive (*ya:*) *ki*

Note that *ki* in disjunction is identical to the finite complementizer *ki* so it is worth exploring whether this is simply a case of accidental homophony or whether there is some intrinsic connection between them. Consider the following paradigm, where both subordinator and disjunctive *ki* must precede the PQP *kya:*:

- (8) order of subordinator/disjunctive *ki* and PQP *kya:*
- a. *ki_C kya:*: ok
 us=ne mujh=se puuch-aa [ki_C kyaa Mina a:-egi]
 s/he=Erg me=from ask-Pfv that PQP Mina come-Fut.3FSg
 ‘S/he asked me whether Mina would sing.’
- b. *kya: ki_C*: *
 *us=ne mujh=se puuch-aa [kyaa ki_C Mina a:-egi]
 s/he=Erg me=from ask-Pfv PQP that Mina come-Fut.3FSg
 intended: ‘S/he asked me whether Mina would sing.’

- c. *ki_v kya:*: ok
 us=ne mujh=se puuch-aa [ki_C [[Mina a:-egii] ya: [ki_{OR} kya: mEN
 s/he=Erg me=from ask-Pfv that Mina.f come-Fut.3MSg or PQP I.m go-Fut.1MSg
 ja:-ũga:]]]

‘S/he ask me whether Mina would come or I would go.’

- d. *kya: ki_v*: *
 *us=ne mujh=se puuch-aa [ki_C [[Mina a:-egii] ya: [kya: ki_{OR} mEN
 s/he=Erg me=from ask-Pfv that Mina.f come-Fut.3MSg PQP or I.m go-Fut.1MSg
 ja:-ũga:]]]

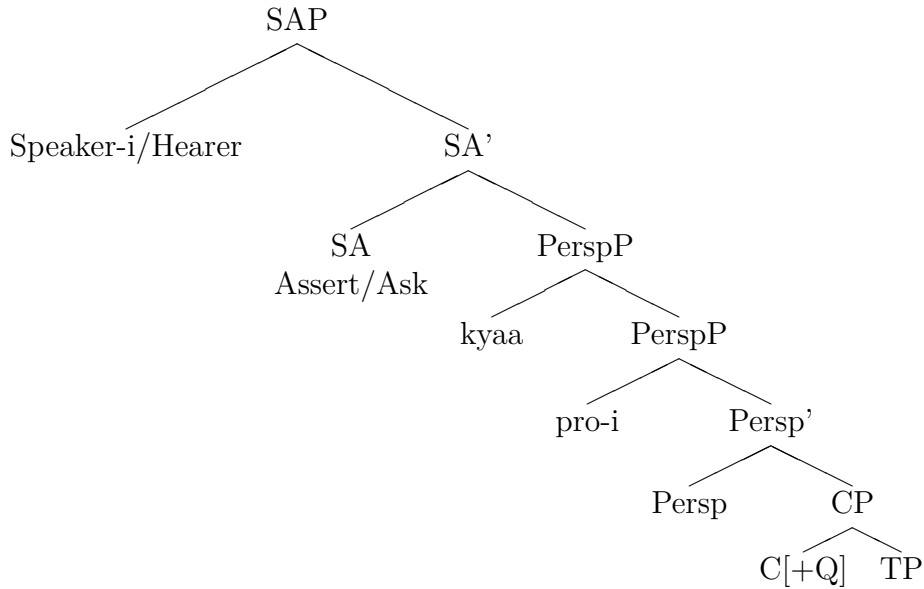
intended: ‘S/he ask me whether Mina would come or I would go.’

... ki_C/ki_v > kyaa > CP

Note that subordinator *ki* and disjunctive (*ya:*)-*ki* co-occur in (8c). We can conclude that the two are not the same.

As claimed in Bhatt and Dayal (2020), CP is the point at which interrogatives are semantically distinguished from declaratives (set of propositions vs. propositions), and *kya:* resides at a level higher than CP, whether it occurs in matrix clauses or in quasi-subordinated clauses. Following Dayal (2023), we posit two projections in this higher structure, thereby articulating three points in the interrogative left periphery for building up question meaning. The middle projection, PerspP (Perspectival Phrase), in addition to housing *kya:*, also introduces a null PRO that is bound by the speaker in matrix clauses (as shown below) or by a matrix argument in quasi-subordinated clauses. The pragmatics attached to this projection ascribes uncertainty about the answer to the question for the referent of PRO (and its eventual binder) but this will not be of concern in this talk. One further aspect of the proposal which may be of relevance later is that the feature that is interpreted prosodically as the contour associated with an interrogative is introduced at PerspP. To return to the three-level structure, PerspP is under a top-level SAP where discourse co-ordinates are located and which occurs only in matrix clauses and quotations.

(9)



What we can say definitively on the basis of the data in (8) is that both subordinator and disjunctive *ki* appear higher than *kyaa*: but we leave it open for now whether they are at the left edge of PerspP or higher up.

Interestingly, we cannot rule out the occurrence of subordinator *ki* at SAP, since it can occur in quotations though not in matrix clauses. This may be orthogonal to the issues we will focus on but it is still worth mentioning that the term 'subordinator' is more appropriate for it than the term 'complementizer'. The distribution of *ki* goes beyond the introduction of complements; it can also introduce certain adjuncts.

- (10) vo a:-ya: hi: tha: **ki** bacce shor macaa-ne lag gaye
 he come-Pfv.MSg only was that childred noise make-Inf.Obl start go.Pfv.MPI
 'Barely had he arrived and the children started making noise.'

We know from the fact that they can co-occur (see 8c) that subordinator *ki* and disjunctive (*ya:*)-*ki* are not the same. What they have in common is that they both mark subordination of the clause they appear on.

3 Deriving the differences between *ya:* and (*ya:*)-*ki*

3.1 Restricting disjunction (*ya:*)-*ki* to Alt-Q readings

We will assume, following standard views in current literature, that disjunction is underlyingly an alternative generator at any level (DP, KP, TP) and composition works via point-wise functional application (cf. Kratzer and Shimoyama). At the level of TP, however, an operator EX can optionally be inserted which takes a set of proposition and converts it into a proposition with boolean 'or':

- (11) Booleanization
 a. $\llbracket \llbracket_{TP} p \text{ or } q \rrbracket \rrbracket = \{p, q\}$

- b. $\llbracket \text{EX} \rrbracket = \lambda Q \lambda w \exists q' [q' \in Q \wedge q'(w) = 1]$
 c. $\llbracket \text{EX} [_{TP} p \text{ or } q] \rrbracket = \lambda w. p(w) \vee q(w)$ –we will express this as $p \vee q$

We further assume that $C[+Q]$ is a function that must end in a set of propositions: if TP denotes a set of propositions $\{p, q\}$ it is an identity function. The final meaning at the level of SAP is something like: the speaker puts the addressee under obligation to choose the single true proposition in the set $\{p, q\}$. This is the Alt-Q reading.

If TP denotes a proposition p , $C[+Q]$ takes p and converts it into a singleton set $\{p\}$, which at the level of PerspP and/or SAP can be coerced into $\{p, \neg p\}$. The addressee is asked to choose the single true proposition in the set. This is the Y/N meaning. The internal structure of p is not relevant.

Now, note that under this approach, the fact that *ki* disjunction does not allow a Y/N reading simply follows from the fact that *ki* does not allow declarative readings. We can reasonably conclude that *ki* is incompatible with booleanization of OR. That is, the following structure is ruled out:

- (12) non-booleanization of disjunctive *ki*
 $*[_{CP} C[+Q] [_{TP} \text{EX} [_{TP} p \text{ OR-}ki \text{ } q]]]$

3.2 Are there other restrictions on disjunctive *ki*?

The following paradigm reveals an interesting contrast between what has been called Cancellation and Choice Readings with English *or* (cf. Szabolcsi 2016, Hirsch 2018).⁴

Consider a context in which A is looking for the medical records of his uncle and goes up to B, the person in charge of medical records. B says to A:

- (13) cancellation
 What is his name? Or (rather) what is his SS#?
 $[_{\text{SAP}} \text{B puts A under obligation to answer Q1}] \text{ OR (rather) } [_{\text{SAP}} \text{B puts A under obligation to answer Q2}]$

Here speaker B poses one question: what is his name?. Then **cancel**s that question and provides a better one: What is his SS#?

In the same context, let's say B could work equally well with either piece of information and leaves the **choice** of which question to answer to A:

- (14) choice
 $[_{\text{SAP}} \text{B puts A under obligation to answer } [[_{\text{PerspP}} \text{What is his name}] \text{ OR } [_{\text{PerspP}} \text{what is his SS\#}]]]$?

⁴Note that SAP conjunction but not disjunction has been argued to be possible by Szabolcsi as well as Krifka.

Cancellation and choice readings are possible in Hindi-Urdu with *ya:* but not (*ya:*)-*ki*:

- (15) Context: A is trying to locate an old friend and has been told that the friend now lives in a large assisted living facility. A is describing his friend to the person at the front desk. B is trying to narrow down the parameters to see if A's friend is a resident. He asks A:

a. cancellation:

vo shadi-shuda hain? *yaa* (*phir*)/**ki* un-ke bacce aas-paas meN rah-te
s/he married are or then or they-Gen children near in live-Impfv.MPI
haiN?

are

'Is he/she married or rather do her/his children live nearby?'

b. choice:

vo shadi-shuda hain? *yaa* (**phir*)/**ki* unke bacce aas-paas meN rahte
s/he married are or then or they-Gen children near in live-Impfv.MPI
haiN?

are

'Is he/she married or do her/his children live nearby?'

In (15a) we have the cancellation reading. The speaker presents one way of narrowing down the search by limiting the possible residents to married men (as opposed to widowers) but then thinks a better way of narrowing it down would be to find out if the friend has children who visit him often. We find that disjunctive *ki* is ruled out.

Similarly, if the speaker thinks that either piece of information would be equally helpful in narrowing down the search, B could ask A (15b), leaving the choice of which question to answer up to A. Once again, *ki* is unacceptable.⁵

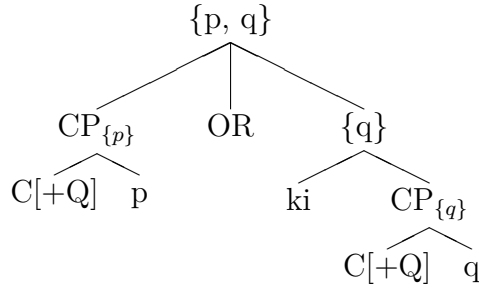
You would have noticed that in discussing the Hindi versions of cancellation and choice, we switched to polar instead of *wh*-questions. The reason for this is that (*ya:*) *ki* is unacceptable with *wh* questions as disjuncts.

Where does this leave us then with respect to the level at which *ki* disjunction is possible?

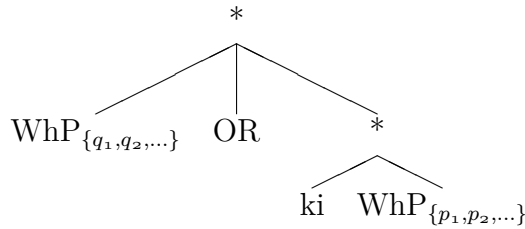
Putting everything together, we can say that *ki* disjunction requires its disjuncts to be singleton sets, effectively ruling out declaratives (propositions), *wh* questions (plural sets of propositions), and choice/cancellation readings of polar questions which arise when two questions (plural sets of propositions) are involved. This leaves only AltQ as a permissible option.

⁵We note that Bhadra (2017) does not discuss choice and cancellation readings but informs us (personal communication) that the same holds for Bangla *ki na*.

(16) a. AltQ: ok



b. Wh Questions: * due to violation of singleton set requirement



The singleton set requirement of *ki* is identical to the one proposed by Bhatt & Dayal (2020) for PQP *kyā*:

Note that in Hindi-Urdu, a simplex Y/N question *p?* (i.e. $\{p, \neg p\}$) is only possible at PerspP, not at CP (Dayal 2023):

- (17) a. Anu jaan-tii hai [_{CP} ki uma gayii *(ya:/ki nahī:)]
 Anu.f know-Impfv.f is that Uma.f go.Pfv.f or/or Neg
 ‘Anu knows whether Uma left.’
- b. Uma vahaan ja:-egii *(ya/ki nahii) anu par nirbhar kar-taa hai
 Uma.F there go-Fut.3FSg or/or Neg Anu.f on depend do-Impfv is
 ‘Whether Uma will go there depends on Anu.’

→ In a polar question, C[+Q] on its own only delivers us a singleton set; to get to a 2-valued set we either need an explicit disjunction or a PerspP. With the above predicates, an embedded PerspP is not an option so an overt disjunction is required if we want an embedded question.

- (18) a. The *ki* disjunctive indicates the presence of a high (PerspP or CP, not TP) *yaa* disjunction.⁶
 b. The disjunction can be used as an alternative question.
 c. It cannot be used for cancellation/choice readings.

⁶To keep the discussion focused we are setting aside potential instances where *ki* might function as a non-clausal level disjunction.

- (19) Restrictions on disjunctor *ki*
- a. semantic: its sister must be a singleton set of type $(st)t$ (i.e. $\{p\}$)
(same as that of *kya:*, not shared with subordinator *ki*)
 - b. syntactic: appears at left edge of its extended projection
(shared with subordinator *ki*, hence **kya: ki*)

In contrast, *yaa* is the general disjunctive which can appear at all heights and which imposes no restrictions on the objects it combines with.

We present the various options we have considered on the next page.

- (20) Baseline for YN question (= {p, ¬p})
 Structure: [SAP [PerspP_{p,¬p} [CP_{p} C[+Q] TP_p]]]
unattested structure, cf. (17): [SAP [PerspP [CP_{p,¬p} C[+Q] TP_p]]]
- (21) Name, Disjunctive, Set (Structure)
- a. Cancellation, *ya:/*ki/ya: phir*, {{p,¬p}, {q,¬q}}
 Structure: [SAP [PerspP_{p,¬p} [CP_{p} C[+Q] TP_p]]]
 OR [SAP [PerspP_{q,¬q} [CP_{q} C[+Q] TP_q]]]
- b. Choice, *ya:/*ki/*ya: phir*, {{p,¬p}, {q,¬q}}
 Structure: [SAP [PerspP_{{{p,¬p},{q,¬q}}} [PerspP_{p,¬p} [CP_{p} C[+Q] TP_p]]]
 OR [PerspP_{q,¬q} [CP_{q} C[+Q] TP_q]]]
- c. AltQ1, *ya:/ki/*ya: phir*, {p,q}
 Structure: [SAP [PerspP_{p,q} [PerspP_{p} [CP_{p} C[+Q] TP_p]]]
 OR [PerspP_{q} [CP_{q} C[+Q] TP_q]]]
- d. AltQ2, *ya:/ki/*ya: phir*, {p,q}
 Structure: [SAP [PerspP_{p,q} [CP_{p,q} [CP_{p} C[+Q] TP_p]]]
 OR [CP_{q} C[+Q] TP_q]]]
- e. AltQ3, *ya:/*ki/*ya: phir*, {p,q}
 Structure: [SAP [PerspP [CP_{p,q} C[+Q] [TP_{p,q} [TP_{p}}]]]
 OR TP_q]]]
- f. YN, *ya:/*ki/*ya: phir*, {p∨q, ¬(p∨q)}
 [SAP [PerspP_{p∨q, ¬(p∨q)} [CP_{p∨q} C[+Q]
 [TP_{p∨q} EX [TP_{p,q} TP_{p}}]]]
 OR TP_q]]]

Note that we allow several ways of getting Alt-Q readings. One issue that may help us decide amongst various options is prosody. As mentioned earlier, we take the relevant feature influencing matrix boundary tone to enter the derivation at the level of PerspP, not CP or TP (though stress on individual clause-internal constituents could be determined at the lower levels).⁷

⁷The importance of including prosody is highlighted in Mumtaz et al's talk at this workshop. We would

4 Yes/No Readings of Disjunctive Sentences

With this background on the different heights of disjunction in hand, we turn to the distribution of Yes/No readings in disjunctive sentences. Let us start with a puzzle posed by gapping structures in Hindi-Urdu (SOV and (S)O orders), namely the impossibility of Yes/No readings. The unacceptability remains even with the addition of a PQP:

- (22) Ram cha:i pi-egaa yaa coffee
Ram.m tea drink-Fut.3MSg or coffee
'Ram will drink coffee or tea./Will Ram drink tea or coffee?'
(Declarative: ok, AltQ: ok, YN: *)

- (23) kyaa Ram chaai pi-egaa yaa coffee
PQP Ram.m tea drink-Fut.3MSg or coffee
'Will Ram drink tea or coffee?'
(AltQ: ok, YN: *)

After all, a Yes/No question simply requires a nucleus proposition to construct a question. Why should the internal syntactic structure of the nucleus proposition make a difference?

4.1 The absence of a Verb in the final clause

We presented the puzzle of the missing Y/N reading in (22) by flagging the gapping structure but gapping per se cannot be the problem. English gapping readily allows for Y/N readings.

- (24) a. Vina likes apples or Mary bananas.
b. Does Vina like apples or Mary bananas?

We can gain some insight into the problem if we start from the basic assumption that it should be possible to turn any declarative into a Y/N question: $p \rightarrow p?$. Whether p contains a disjunction in it should not matter. And in fact, we see this play out in other structures with DP disjunction.

- (25) Ram cha:i yaa coffee pi-egaa
Ram.m tea or coffee drink-Fut.3MSg
'Ram will drink tea or coffee/Will Ram drink tea or coffee?'
(Declarative: OK, AltQ: %OK, YN: OK)
- (26) kyaa Ram chaai yaa coffee piegaa
PQP Ram.m tea or coffee drink-Fut.3MSg
'Will Ram drink tea or coffee?'
(AltQ: %OK, YN: OK)

Though this may suggest that the distinction is between DP disjunction vs. clausal disjunction, that cannot be the critical factor since declarative and Y/N readings are possible also with Right Node Raising (SO and SOV), where the disjunction has to be clausal.

like to point out that the prediction that the prosody of a Y/N question is only predicted to carry over to questions with disjunction in the case of cancellation and choice readings. Only in these two cases is there no further restriction imposed by the particular prosodic demands of AltQ's.

- (27) a. Gapping with *ya*:
 Ram cha:i pi-ega: ya: Ravi coffee
 Ram.m tea drink-Fut.3MSg or Ravi coffee
 ‘Ram will drink tea or Ravi coffee/Will Ram drink tea or Ravi coffee?’
 (AltQ:ok, Decl:ok, YN:*)
- b. Right Node Raising with *ya*:
 Ram cha:i ya: Ravi coffee pi-ega:
 Ram.m tea or Ravi.m coffee drink-Fut.3MSg
 ‘Ram will drink tea or Ravi coffee/Will Will Ram drink tea or Ravi coffee?’
 (AltQ:ok, Decl:ok, YN:ok)

If the nominal vs. clausal distinction is not at play, what is it that singles out the gapping structure in H-U for blocking this reading? We start by drawing attention to the well-known fact that English Y/N questions have a syntactic reflex, namely inversion that Hindi lacks. Building on that we note that the crucial difference between gapping and nominal disjunction as well as RNR then can be traced to the absence of a final verbal sequence. We suggest that given that the only cue for marking the shift from $p \rightarrow p?$ is prosody, that prosody needs a finite verb as a host. In the next section we will explore this idea further.

4.2 The nature of the verbal host requirement

Inversion in a disjunctive gapping structure in English (see 24b) puts the finite verb in a position where it takes scope over the disjunction. This is an attractive idea and it predicts that Hindi-Urdu nominal disjunction structures and RNR structures should allow for YN readings. In both the unique finite verb takes scope over the disjunction.

- (28) a. Nominal Disjunction:
 [[S [O or O] t_v] **V+T**]
- b. Right Node Raising:
 [[[S1 O1 t_V] OR [S2 O2 t_V]] **V+T**]

The finite verb in the corresponding Hindi-Urdu gapping structure appears only in the first disjunct and does not plausibly take scope over the disjunction. Unfortunately the requirement that for a disjunction to yield a YN reading, there must be a finite verb sequence that takes scope over the disjunction is too strong. It predicts that disjunctions and conjunctions of unreduced finite clauses should also lack YN readings as these would lack a suitable location for YN prosody that takes scope over the disjunction/conjunction.

- (29) [S1 O1 **V1+T1**] or/and [S2 O2 **V2+T2**]
 (no unique finite verb that takes scope over disjunction)
 → no location for YN prosody

At first blush, this prediction seems to be borne out.

- (30) a. disjunction of unreduced finite clauses:
 Ram ca:i bana:-egaa ya: Ravi coffee order kar-ega:
 Ram.m tea make-Fut.3MSg or Ravi.m coffee order do-Fut.3MSg
 ‘Ram will make tea or Ravi will order coffee/Will Ram make tea or Ravi order coffee?’ (Declarative:ok, AltQ: ok, YN:???)
- b. conjunction of unreduced finite clauses:
 Ram ca:i bana:-egaa aur Ravi coffee order kar-ega:
 Ram.m tea make-Fut.3MSg and Ravi.m coffee order do-Fut.3MSg
 ‘Ram will make tea and Ravi will order coffee/Will Ram make tea and Ravi order coffee?’ (Declarative:ok, YN:???)

However closer examination reveals that YN question readings are sometimes available with disjunctions/conjunctions of finite clauses.

- (31) a. Context: For the ventilation of the house, either the door must be open or the window must be closed. As long as one of those two hold, we are good.
 Ram-ne darwaazaa khol-aa yaa Sita-ne khiRkii band kii?
 Ram-Erg door.m open-Pfv.Msg or Sita-Erg window.f close do.Pfv.f
 ‘Did Ram open the door or Sita close the window?’
 (I want to know if one of these two events happened.)
- b. Ram ga:-ega: ya: Sitaa na:c-egi?:
 Ram.m sing-Fut.3MSg or Sita.f dance-Fut.3FSg
 ‘Will Ram sing or Sita dance?’
 (I don’t care which of the two happen; as long as one of the two is true, I am happy.)
- c. Conjunction:
 Ram ga:-ega: aur Sita: na:c-egi: (na:)?
 Ram.m sing-Fut.3MSg and Sita.f dance-Fut.3FSg Neg
 ‘Won’t Ram sing and Sita dance?’

We conclude that we need a finite verbal host in the second disjunct. One final refinement is that the finite verbal host of YN prosody does not need to be final in its clause. This is revealed by structures where nominal material appears postverbally.

- (32) a. Finite Verb Final:
 Ram Dilli gaya: tha:
 Ram.m Delhi go.Pfv.MSg be.Pst.MSg
 ‘Ram had done to Delhi/Had Ram gone to Delhi?’
 (Declarative: ok, YN: ok)
- b. Finite Verb Not Final:
 Ram [gayaa thaa]_{YN} [Dilli]
 Ram.m go.Pfv.MSg be.Pst.MSg Delhi
 ‘Ram had done to Delhi/Had Ram gone to Delhi?’
 (Declarative: ok, YN: ok)

Such structures allow for YN readings; the YN prosody is still realized on the finite verb and not on the final element.

5 Final *kyaa* and Disjunction

5.1 Final *kyaa* as a realization of prosody

kya: can also appear clause-finally. Bhatt & Dayal (2020) assimilate final and non-final *kya:*, deriving final *kya:* via clausal topicalization.

- (33) a. [kya: C[+Q] [you tea drink]]
 b. [[you tea drink]_i [kyaa C[+Q] t_i]]

Other scholars have kept the two apart (Biezma et al (2023), Deo (2023)). We will follow their lead and offer a non-uniform characterization of final and non-final *kyaa*. We begin with the observation that while there can be only one non-final *kya:* (see 34), non-final and final *kya:* can appear together in the same minimal clause. In a simple non-disjunctive clause, we can only get one non-final *kyaa*.

- (34) a. kya: Ram kal a:-ega:?
 PQP Ram.m tomorrow come-Fut.3MSg
 ‘Will Ram come tomorrow?’
 b. Ram kyaa kal a:-ega:?
 Ram.m PQP tomorrow come-Fut.3MSg
 ‘Will Ram come tomorrow?’
 c. *kyaa Ram kyaa kal a:-ega:?
 PQP Ram.m PQP tomorrow come-Fut.3MSg
 intended: ‘Will Ram come tomorrow?’

- (35) a. ?Ram kya: cha:i pi-ega: kya:
 Ram.m PQP tea drink-Fut.3MSg PQP
 ‘Will Ram drink tea?’
 b. ?kya: Ram cha:i pi-ega: kya:
 PQP RAM.m tea drink-Fut.3MSg PQP
 ‘Will Ram drink tea?’

The only one non-final *kya:* restriction follows within Bhatt & Dayal’s proposal that *kyaa* is generated in the left periphery, the difference between initial and medial *kyaa* reducing to whether there are subsequent operations that display material to its left. That final *kya:* can co-occur with a non-final *kya:* is not predicted.

We further note that final *kyaa* targets the final finite verb rather than the final position in the sentence.

- (36) a. kya: Ram Dilli ja:-ega:?
 PQP Ram.m Delhi go-Fut.3Msg
 ‘Will Ram go to Delhi?’
- b. Ram Dilli ja:-ega: kya:?
 Ram.m Delhi go-Fut.3Msg PQP
 ‘Will Ram go to Delhi?’
- c. kya: Ram ja:-egaa Dilli?
 PQP Ram.m go-Fut.3Msg Delhi
 ‘Will Ram go to Delhi?’
- d. Ram ja:-ega: kya: Dilli?
 Ram.m go-Fut.3Msg PQP Delhi
 ‘Will Ram go to Delhi?’
- e. ???/*Ram ja:-ega: Dilli kyaa?
 Ram.m go-Fut.3Msg Delhi PQP
 ‘Will Ram go to Delhi?’

This is parallel to the prosodic profile of sentences without *kya:* - recall (32), repeated below.

- (37) a. Finite Verb Final:
 Ram Dilli gayaa thaa
 Ram.m Delhi go.Pfv.MSg be.Pst.MSg
 ‘Ram had gone to Delhi/Has Ram gone to Delhi?’
 (Declarative: ok, YN: ok)
- b. Finite Verb Not Final:
 Ram [gayaa thaa]_{YN} [Dilli]
 Ram.m go.Pfv.MSg be.Pst.MSg Delhi
 ‘Ram had gone to Delhi/Has Ram gone to Delhi?’
 (Declarative: ok, YN: ok)

What we see here is that the prosodic marking appears on the finite verb and not on the final XP in the sentence. Therefore we speculate that final *kyaa* makes overt the prosodic profile that such questions have. Final *kyaa*, like non-final *kyaa*, is associated with PerspP; the difference is that non-final *kyaa* is realized as a free-standing left branching element while final *kyaa* appears as a right branching element on the verbal complex.

- (38) [_{PerspP} [_{CP} [_{TP} S O t_{V+T}] V+T+kyaa]

Locating final *kya:* in PerspP helps derive the fact that its distribution in complement clauses is determined by the embedding predicate in the same way as the distribution of non-final *kya:* is – good with rogatives and not good with responsives.

- (39) a. final *kya:* in complement of responsive: *
 *Sita ja:n-ti: hai ki Ram a:-ega: kya:
 Sita.f know-Impfv.F is that Ram come-Fut.3MSg PQP
 Intended: ‘Sita knows whether Ram will come.’
- b. final *kya:* in complement of rogative: ok
 Sita-ne pu:ch-a: ki Ram a:-ega: kya:
 Sita-Erg ask-Pfv that Ram come-Fut.3MSg PQP
 ‘Sita asked whether Ram would come.’

One important consequence of this reformulation is that final *kyaa* **needs** to be realized on a verbal host; if there is no verbal host to its immediate left, final *kyaa* will be unacceptable. This plays an important role in the next section.

5.2 Interaction with Disjunction

Non-final and final *kyaa* also differ in their interaction with disjunction. Unlike initial and medial *kyaa* which seem to appear freely in disjunctive questions, the distribution of final *kyaa* in such questions is restricted.

- (40) a. *Ram cha:i pi-ega: ya: coffee kya:
 Ram.m tea drink-Fut.3MSg or coffee PQP
 Intended: ‘Will Ram drink tea or coffee?’
 (AltQ:*, YN:*)
- b. Ram cha:i ya: coffee pi-ega: kya:?
 Ram.m tea or coffee drink-Fut.3MSg
 ‘Will Ram drink tea or coffee?’
 (AltQ:*, YN:ok]
- (41) a. *or not*: ok
 Ram a:-ega: ya: nahī:
 Ram come-Fut.3MSg or Neg
 ‘Will Ram come or not?’
- b. *or not kya.:* *
 *Ram a:-ega: ya: nahī: kya:
 Ram come-Fut.3MSg or Neg PQP
 intended: ‘Will Ram come or not?’

The generalization seems to be as follows:

- (42) In a disjunctive structure,
- a. Final *kya:* is only acceptable on a finite verb. If there is no finite verb in the final clause, final *kya:* leads to ungrammaticality.
 - b. When acceptable, it is only acceptable with a YN reading.

The pattern in (42) is similar to what we found with the distribution of YN readings with disjunctive sentences – the presence of a finite verb is crucial for a YN reading to be available.

The restriction to YN readings can be brought into sharper focus if we replace *ya:* with disjunctive *ki*, which as we know only allow for AltQ readings. The result is that the *ki* counterpart of (44a) is just ungrammatical.

- (43) *p ki q kya:* *
- *Ram na:c-ega: ki Sita ga:-egi: kya:
Ram.m dance-Fut.3MSg or Sita.f sing-Fut.3FSg PQP
Intended: ‘Will Ram dance or will Sita sing?’

If we take as a given that final *kya:* only yield YN readings, then we are all set. But why should this be so? The prosodic explanation handles the cases where there is no finite verb in the final clause. More needs to be said to explain why (44a) lacks AltQ readings, in particular when its mirror image (44b) allows AltQ readings.

- (44) a. *p OR q kya:*
 (YN: ok, AltQ: *)
- b. *kya: p OR q*
 (YN: ok, AltQ: ok)
- (where *p*, *q* are full finite clauses)

We need to say that final *kya:* always takes widest scope (i.e. $[[p \text{ OR } q] \text{ kya:}]$ but not $[p \text{ OR } [q \text{ kya:}]]$). The widest scope structure blocks AltQ readings due to the singleton set requirement of *kya:*. What remains to be explained is why final *kya:* can only take widest scope.

5.3 Final *kyaa* and Cancellation Readings

We have so far indicated that AltQ readings with final *kyaa* are completely impossible; we showed this with using the *ki* disjunction. But the facts are more complex. With *ki*, we definitely get ungrammaticality. But with *yaa*, a particular prosody allows us to get a grammatical structure albeit with a different interpretation.

- (45) tum a:-oge // yaa vo ja:-egaa kyaa?
you come-Fut.3MPI or he go-Fut.3MSg PQP
'Will you come, or rather will he go?'

Here the result is close to that of an AltQ but not identical. The intuition is that the second question replaces the first question. This meaning is brought out even more explicitly with the disjunctive *yaa phir* 'or then'.

- (46) tum a:-oge // ya: phir vo ja:-egaa kya:?
you come-Fut.3MPI or then he go-Fut.3MSg PQP
'Will you come, or rather will he go?'

These are the cancellation readings discussed in §3.2.

6 Major Results

- (47) Hindi-Urdu has
- a disjunctive *ki* that is exclusively associated with AltQ readings
 - a final *kyaa*: that is exclusively associated with YN readings

Using disjunctive *ki* and cancellation readings as a probe, we have identified three levels where disjunction can apply:

- (48)
- SAP: cancellation readings (*yaa*, *yaa phir*)
 - PerspP: Choice reading (*yaa*)
 - PerspP/CP: Set Union/AltQ readings (*yaa*, *ki*, *yaa ki*)
 - TP and lower: AltQ/YN readings (*yaa*)
- (49)
- The *ki* disjunctive is limited to the PerspP/CP level and it imposes a singleton set requirement on its argument.
 - kyaa*: if present must follow *ki*, subordinator *ki* or disjunctive *ki*. This restriction does not follow from the semantics; we derive it from the property of appearing at the left edge of its extended projection that both *ki*'s share.
 - yaa* is the general disjunctive which can appear at all heights and which imposes no restrictions on the objects it combines with.