Questions in Urdu/Hindi: Moving beyond Movement

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  1. Not only takes i(nformation)-structure factors seriously
  2. But is **also** working within an architecture of grammar that lets one to naturally integrate i-structure information with syntactic, semantic and prosodic analyses (e.g., LFG).
- Examine different kinds of architectural assumptions and resulting perspectives on data.

Structure of Talk

1. Brief overview of questions in Urdu/Hindi
2. The core data for this talk
3. Architectural Issues
4. Previous analyses (all movement)
5. Alternative analysis
6. Conclusion

Background: Questions in Urdu/Hindi

Urdu/Hindi has traditionally been characterized as a **wh-in-situ** language (but see Bayer 2006 for a differentiated discussion and understanding of the phenomenon).

(1) a.

sita=ne d^{h}yan=se ram=ko dek^{h}-a t^{h}-a
Sita.F=Erg carefully Ram.M=Acc see-Perf.M.Sg be.Past-M.Sg
'Sita had looked at Ram carefully'

b.

sita=ne d^{h}yan=se kɪs=ko dek^{h}-a t^{h}-a?
Sita.F=Erg carefully who.Obl=Acc see-Perf.M.Sg be.Past-M.Sg
'Who had Sita looked at carefully?'

The default word order in Urdu/Hindi is **SOV**.

Background: Questions in Urdu/Hindi

But: **default** position for questions is actually the **preverbal** focus position (for topic/focus analyses of Urdu/Hindi, see Gambhir 1981, Butt and King 1996, 1997, Kidwai 2000).

(2) a.

sita=ne d^{h}yan=se ram=ko dek^{h}-a t^{h}-a
Sita.F=Erg carefully Ram.M=Acc see-Perf.M.Sg be.Past-M.Sg
'Sita had looked at Ram carefully'

b.

sita=ne kaise ram=ko dek^{h}-a t^{h}-a?
Sita.F=Erg how Ram.M=Acc see-Perf.M.Sg be.Past-M.Sg
'How had Sita managed to see Ram?'
(expresses some degree of wonder)

c.

sita=ne ram=ko kaise dek^{h}-a t^{h}-a?
Sita.F=Erg Ram.M=Acc how see-Perf.M.Sg be.Past-M.Sg
'How had Sita looked at Ram?' (default order for a how-question)

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- Besides the default position, wh-words can appear anywhere in the clause:
  1. they have exactly the same kind of scrambling possibilities as normal NPs (Manetta 2012).
  2. **But:** there is a difference in interpretation (cf. (2b) vs. (2c)).
- This has not been the subject of much discussion in the literature.
- For a comprehensive overview over the state-of-the-art around 2003, see Bhatt (2003).

Background: Questions in Urdu/Hindi

Some things people (e.g., Mahajan 1990, Srivastav 1991, Dayal 1994, 1996, Lahiri 2002, Bhatt and Dayal 2007, Manetta 2010, 2012) have worried about:

- The *wh*-word cannot take matrix scope if it is in an embedded clause ((3)).
- Analyses of the so-called *scope marking* ((4)) construction (Dayal in particular has written much on this).
- Why a finite CP-complement must appear post-verbally.

Embedded Questions

The *wh*-word **cannot** take matrix scope if it is embedded.

(3) ravi jan-ta t^{h}-a
Ravi.M.Nom know-Impf.M.Sg be.Past-M.Sg

[ke sita=ne d^{h}yan=se kɪs=ko dek^{h}-a t^{h}-a]
that Sita.F=Erg carefully who.Obl=Acc see-Perf.M.Sg be.Past-M.Sg
'Ravi used to know who Sita had looked at carefully'
*'Who did Ravi used to know Sita had looked at carefully?'

Better in the present tense in English: Who does Ravi know that Sita had looked at carefully?

Embedded Questions

Why is this fascinating?

- In LF-based approaches, the *wh*-word is assumed to have to move to a position where it can act as an operator (usually SpecCP) — classic example: English overt *wh*-movement.

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- In LF-based approaches, the *wh*-word is assumed to have to move to a position where it can act as an operator (usually SpecCP) — classic example: English overt *wh*-movement.
- Since the wh-word in Urdu/Hindi can stay in situ, LF-based approaches have to assume that the *wh*-word undergoes **covert movement** to the appropriate operator position.
- However, if covert movement is in principle possible, then what prevents it from applying in (3)?
- Won't go into this here, see cited articles for various solutions, Mycock (2006) for possible solutions within LFG.

Scope Marking Constructions

There are ways of getting matrix scope for embedded wh-words:

1. Wh-word appears in matrix clause ("movement")
2. So-called *scope marking* construction ((4))

(4) ravi kya jan-ta t^{h}-a
Ravi.M.Nom what.Nom know-Impf.M.Sg be.Past-M.Sg
[ke sita=ne d^{h}yan=se kɪs=ko dek^{h}-a t^{h}-a]
that Sita.F=Erg carefully who.Obl=Acc see-Perf.M.Sg be.Past-M.Sg
'Who did Ravi used to know Sita had looked at carefully?'
Lit.: 'What did Ravi used to know, who had Sita looked at carefully?'

Scope Marking Constructions

More natural sounding type of example that is usually cited:

(5) ravi kya jan-ta hɛ
Ravi.M.Nom what.Nom know-Impf.M.Sg be.Pres.3.Sg

[ke sita kɪs=ko pasand kar-ti hɛ]
that Sita.F who.Obl=Acc liking do-Impf.F.Sg be.Pres.3.Sg
'Who does Ravi know Sita likes?'
Lit.: 'What does Ravi know, who does Sita like?'

Again, I will not deal with this construction any further, see already cited literature for various approaches and Mycock (2006) for a related analysis within LFG.

Core Data and Taking Stock

The core set of data for this talk is in (6).

(6) a.

sita=ne d^{h}yan=se kɪs=ko dek^{h}-a t^{h}-a?
Sita.F=Erg carefully who.Obl=Acc see-Perf.M.Sg be.Past-M.Sg
'Who had Sita looked at carefully?'

b.

sita=ne d^{h}yan=se dek^{h}-a t^{h}-a kɪs=ko?
Sita.F=Erg carefully see-Perf.M.Sg be.Past-M.Sg who.Obl=Acc
'Sita had looked at carefully at who?' (echo question)

c.

sita=ne d^{h}yan=se dek^{h}-a kɪs=ko t^{h}-a ?
Sita.F=Erg carefully see-Perf.M.Sg who.Obl=Acc be.Past-M.Sg
Reading 1: 'Who had Sita really looked at carefully?' (rhetorical question)
(i.e., she had not looked at anybody carefully)

Note: (6c) can also be an information-seeking question, though with different emphasis in comparison to (6a) (R. Bhatt, p.c. May 2012)

Core Data and Taking Stock

The data is not new:

- The echo question interpretation was first noticed by Mahajan (1997).
- The order in (6c) was first noticed by Bhatt and Dayal (2007), though not its rhetorical question meaning (due to Ghulam Raza, p.c. May 2012).
- Recent analyses include Bhatt and Dayal (2007), Manetta (2012).

Core Data and Taking Stock

But the analyses proposed for the data so far have **movement** on the brain.

- I think this is because the overall treatment of wh-questions is so movement-oriented (cf. the assumed interaction of covert movment at LF and matrix wh-scope, examples (4)–(5)).
- This overshadows the fact that there is a clear **pragmatic** component that is playing a role in determining the interpretation of the wh-words in the different positions in a clause.

Taking Stock

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Taking Stock

- If one has looked at how i-structure works in Urdu/Hindi, it seems blindingly obvious that i-structure considerations play a large role.
- A theory like LFG, where different types of linguistic information are represented by means of different mutually constraining projections, has the advantage of removing movement as a distracting factor on the way to an insightful explanation.
- For example, the information-structural component is explicitly noted by Manetta (2012), but she draws different (and to me surprising) architectural consequences, which for her naturally have to involve movement.

Taking Stock

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- Remind everybody how nice and complex LFG architecture has become.

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- Present the state-of-the-art (Manetta 2012): basically encoding movement and question interpretation triggers in the lexicon (this means that a wh-word becomes multiply ambiguous).

Taking Stock

What comes next:

- Remind everybody how nice and complex LFG architecture has become.
- Work through the previous movement-based analyses of the core data to show how much work has been done to clear away theoretical distractions created by assumptions about movement.
- Present the state-of-the-art (Manetta 2012): basically encoding movement and question interpretation triggers in the lexicon (this means that a wh-word becomes multiply ambiguous).
- Present alternative analysis integrating Butt and King's (1997) i-structure analysis of Urdu/Hindi.

LFG's Projections

Over the years, more projections than the original core c-structure, f-structure and s(emantic)-structure have been argued for:

- a(rgument)-structure: place for thematic roles and information about predicate composition (complex predicates)
- i(nformation)-structure: place for information structural components (inspired mainly by Vallduví 1992).
- p(rosodic)-structure: place for intonational and prosodic information (Butt and King 1998, Mycock 2006).

Grammar Interfaces

- The precise relationship of the various projections to one another is still the subject of debate.
- Example: The prosody-syntax interface (Mycock 2006, Bögel et al. 2009, 2010, Dalrymple and Mycock 2011).
- This is good since it leads to a willingness to explore the interaction of information along the various dimensions of grammar.
- An understanding of the various dimensions of grammar is **imperative** for an understanding of how questions work.

Movement Analyses — Mahajan

- Mahajan (1990) was concerned with scrambling in Hindi.
- *Wh*-movement (or the lack of it) was one of various topics covered, but it was all about *wh*-words moving to the left.
- Mahajan (1997) took up *wh*-words found on the right ((7)).

(7)

sita=ne d^{h}yan=se dek^{h}-a t^{h}-a kɪs=ko?
Sita.F=Erg carefully see-Perf.M.Sg be.Past-M.Sg who.Obl=Acc
'Sita had looked at carefully at who?' (echo question)

Movement Analyses — Mahajan 1997

- Mahajan assumes an anti-symmetric approach to Hindi (Kayne 1994).
- This means that the basic underlying word order for Hindi/Urdu is taken to be SVO (and not SOV).
- This in turn means that Mahajan has to assume massive leftward movement to get a *wh*-word on the right periphery as in (7).
- This is illustrated on the next slide (based on Bhatt and Dayal 2007:296).

Movement Analyses — Mahajan 1997

(8) a. Start with: [V DO]

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(9) a. Start with: [V DO]

b. DO moves to specifier of Arg_o $\longrightarrow$

$[DO_j\ [t_j\ V]]$

Movement Analyses — Mahajan 1997

(10) a. Start with: [V DO]

b. DO moves to specifier of Arg_o $\longrightarrow$

$[DO_j\ [t_j\ V]]$

c. Subject (S), then Aux are merged $\longrightarrow$

$[Aux\ [S\ [DO_j\ [t_j\ V]]]]$

Movement Analyses — Mahajan 1997

(11) a. Start with: [V DO]

b. DO moves to specifier of Arg_o $\longrightarrow$

$[DO_j\ [t_j\ V]]$

c. Subject (S), then Aux are merged $\longrightarrow$

$[Aux\ [S\ [DO_j\ [t_j\ V]]]]$

d. Subject moves to Spec,Aux $\longrightarrow$

$[S_i\ Aux\ [t_i\ [DO_j\ [t_j\ V]]]]$

Movement Analyses — Mahajan 1997

(12) a. Start with: [V DO]

b. DO moves to specifier of Arg_o $\longrightarrow$

$[DO_j\ [t_j\ V]]$

c. Subject (S), then Aux are merged $\longrightarrow$

$[Aux\ [S\ [DO_j\ [t_j\ V]]]]$

d. Subject moves to Spec,Aux $\longrightarrow$

$[S_i\ Aux\ [t_i\ [DO_j\ [t_j\ V]]]]$

e. DO moves to a position above the subject $\longrightarrow$

$[DO_j\ [S_i\ Aux\ [t_i\ [t_j\ [t_j\ V]]]]]$

Movement Analyses — Mahajan 1997

(13) a. Start with: [V DO]

b. DO moves to specifier of Arg_o $\longrightarrow$

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e. DO moves to a position above the subject $\longrightarrow$

$[DO_j\ [S_i\ Aux\ [t_i\ [t_j\ [t_j\ V]]]]]$

f. Aux moves to a higher head $\longrightarrow$

$[Aux_k\ [DO_j\ \mathbf{[S_i\ t_k\ [t_i\ [t_j\ [t_j\ V]]]]}]]$

Movement Analyses — Mahajan 1997

(14) a. Start with: [V DO]

b. DO moves to specifier of Arg_o $\longrightarrow$

$[DO_j\ [t_j\ V]]$

c. Subject (S), then Aux are merged $\longrightarrow$

$[Aux\ [S\ [DO_j\ [t_j\ V]]]]$

d. Subject moves to Spec,Aux $\longrightarrow$

$[S_i\ Aux\ [t_i\ [DO_j\ [t_j\ V]]]]$

e. DO moves to a position above the subject $\longrightarrow$

$[DO_j\ [S_i\ Aux\ [t_i\ [t_j\ [t_j\ V]]]]]$

f. Aux moves to a higher head $\longrightarrow$

$[Aux_k\ [DO_j\ \mathbf{[S}_i\ \mathbf{t}_k\ \mathbf{[t}_i\ \mathbf{[t}_j\ \mathbf{[t}_j\ \mathbf{V]]]]}]]$

g. The bold-faced remnant is fronted $\longrightarrow$

$[\mathbf{[S}_i\ \mathbf{t}_k\ \mathbf{[t}_i\ \mathbf{[t}_j\ \mathbf{[t}_j\ \mathbf{V]]]]}][Aux_k\ [DO_j\ ]]$

Movement Analyses — Mahajan 1997

(15) a. Start with: [V DO]

b. DO moves to specifier of Arg_o $\longrightarrow$

$[DO_j\ [t_j\ V]]$

c. Subject (S), then Aux are merged $\longrightarrow$

$[Aux\ [S\ [DO_j\ [t_j\ V]]]]$

d. Subject moves to Spec,Aux $\longrightarrow$

$[S_i\ Aux\ [t_i\ [DO_j\ [t_j\ V]]]]$

e. DO moves to a position above the subject $\longrightarrow$

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$[\mathbf{[S}_i\ \mathbf{t}_k\ \mathbf{[t}_i\ \mathbf{[t}_j\ \mathbf{[t}_j\ \mathbf{V]]]]}][Aux_k\ [DO_j\ ]]$

h. "(certain traces and many functional heads are suppressed for readability)" (Bhatt and Dayal 2007:296)

Movement Analyses — Bhatt and Dayal 2007

- Bhatt and Dayal argue that Mahajan's (1997) analysis does not produce the right results in terms of scope of the *wh*-word.
- There is no explanation for why the post-verbal *wh*-word is not interpretable as a normal question.
- Furthermore, unnatural assumptions need to made to allow for the placement of the *wh*-word between the verb and the auxiliary.

(16) a.

sita=ne d^{h}yan=se dek^{h}-a t^{h}-a kɪs=ko?
Sita.F=Erg carefully see-Perf.M.Sg be.Past-M.Sg who.Obl=Acc
'Sita had looked at carefully at who?' (echo question)

b.

sita=ne d^{h}yan=se dek^{h}-a kɪs=ko t^{h}-a ?
Sita.F=Erg carefully see-Perf.M.Sg who.Obl=Acc be.Past-M.Sg
'Who had Sita really looked at carefully?'
(i.e., she had not looked at anybody carefully)

Movement Analyses — Bhatt and Dayal 2007

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- Leftward movement of DPs is allowed to specifier or adjoined positions.
- Verbs can optionally move to an aspectual head.
- Rightward movement is restricted to verbal projections (VPs).
- Question formation in Hindi/Urdu involves covert movement at LF — but can only move if in relevant domain.

Movement Analyses — Bhatt and Dayal 2007

Explanation for Echo-Question Effect:

The DO-wh cannot be interpreted as a normal question because it is trapped in a remnant VP, which acts as an island.

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Normal WH Interpretation:

The DO-wh is assumed to be interpreted as a normal question. There is no rightward movement involved and it is not trapped in an island.

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Movement Analyses — Bhatt and Dayal 2007

- Hindi/Urdu is back to being an SOV language.
- There are many less movements involved in the analysis.
- The scope facts appear to fall out of independently motivated constraints/movements.

Movement Analyses — Bhatt and Dayal 2007

- (25) in fact does not have a normal question interpretation, contrary to what is assumed by BD.

kɪs=ko

Movement Analyses — Bhatt and Dayal 2007

- (26) in fact does not have a normal question interpretation, contrary to what is assumed by BD.
- Some of the movements appear unmotivated. I.e., "short distance left-ward topicalization of the verb" used to get [Subj V DO-wh Aux].

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Movement Analyses — Bhatt and Dayal 2007

- (27) in fact does not have a normal question interpretation, contrary to what is assumed by BD.
- Some of the movements appear unmotivated. I.e., "short distance left-ward topicalization of the verb" used to get [Subj V DO-wh Aux].
- Despite using topicalization as a reason for movement, no awareness that i-structural information may play a role in general and should be integrated into the analysis.

kɪs=ko

Movement Analyses — Manetta 2012

- The Remnant-VP approach does not cover enough empirical ground.
- Instead, one should return to a notion of scrambling.
- Scrambling can be both leftwards and rightwards.
- Reasons for scrambling:
  - probe-goal relationships (i.e., certain features motivate scrambling)
  - Some features that can trigger scrambling: EPP, Q(uestion), wh, E(cho)

Movement Analyses — Manetta 2012

- Manetta refers to some existing work on information structure of Urdu/Hindi (Gambhir 1981, Butt and King 1996, Dayal 2003) and concludes:
  - Topic/Focus result of leftward scrambling
  - Backgrounded/Old Information result of rightward scrambling
- Integrates this into her analysis via features on lexical items.
  - An echo reading is taken to be connected to old information status of the *wh*-word.
  - So *wh*-word in postverbal position carries an E(cho) feature.

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- The differing feature specifications (u(ninterpretable) or i(nterpretable)) lead to different movements (via probe-goal relations).

Regular *wh*-word	Echo *wh*-word
[*i*wh]	[*i*wh]
[*u*Q]	[*u*E]

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- Manetta analyzes this as being due to due different feature specification in the lexicon.
- The differing feature specifications (u(ninterpretable) or i(nterpretable)) lead to different movements (via probe-goal relations).

Regular *wh*-word	Echo *wh*-word
[*i*wh]	[*i*wh]
[*u*Q]	[*u*E]

- The echo interpretation is assumed to be provided by a C head which introduces an *echo operator* as defined in Dayal (1996:125) via the feature [*i*E].

Movement Analyses — Manetta 2012

- Scrambling has been reintroduced as a useful notion, simplifying overall assumptions about movement.
- Information-structural considerations are explicitly recognized as playing a systematic role.

- Movement (including scrambling) is now *feature-driven*.
- Features are specified on lexical items and on nodes in the syntactic tree.

Movement Analyses — Manetta 2012

- Manetta's approach would seem to locate the variation in pragmatic readings squarely in the lexicon.
- This is bound to lead to massive lexical ambiguity.
- Something that is a syntactic/positional effect is being encoded via features attached to lexical items.
- There is no truly systematic incorporation of the insight that information-structural factors play a role in the placement and interpretation of *wh*-words.

Sketching an LFG Analysis

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  - That is, questions are a quintessential **interface** phenomenon.
  - Any analysis concentrating almost exclusively on a syntactic analysis will fail to do justice to the full range of facts and possibilities.

Urdu/Hindi Information Structure

Accounting for the Core Data

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- The correlation of a rhetorical question interpretation with the placement of a *wh*-word within the verbal complex is more interesting:
  - BK's theory of Urdu/Hindi information structure has nothing to say about positions within the verbal complex
  - The structure of the Urdu/Hindi verbal complex itself is not as yet well-understood (by anybody).

The Echo Question

- At c-structure NPs can be placed freely anywhere in the clause (leading to the effect of Urdu/Hindi as a free word order language).
- However, certain positions/areas (cf. German's topological fields) correlate with certain i-structural notions (see table on previous slide).
- Postverbal NPs tend to be unstressed and have falling intonation — the position is correlated with known/old information that is not prominent.

Analysis of Postverbal Echo Question:

When a *wh*-word appears post-verbally, it cannot be interpreted as a typical information-seeking question, but receives an echo-question interpretation.

The Rhetorical Question

kɪs=ko

- (29) is apparently ambiguous between a rhetorical (did she really actually look at anybody?) and an information-seeking meaning.
- However, (29) differs in pragmatic import from the version where the *wh*-word is in preverbal focus position.
- It is also correlated with contrastive type stress on the *wh*-word.
- In the information-seeking reading, it is a more emphatic question (but tell me now, WHO did she look at carefully?)

The Rhetorical Question

- Understand intonational patterns in relation with different types of questions.
- Understand the pragmatics of the construction more deeply.

Proposal:

In addition to the preverbal focus position, there is another postverbal focus position within the verbal complex which is used for contrastive focus (cf. the situation in Romance; Zubizarreta 1998, Samek-Lodovici 2005).

Wh-words and the Urdu Verbal Complex

- fairly templatic in nature
- difficult to comprehend because different kinds of complex predicates interact with each other, with the passive auxiliary and with different kinds of aspectual and temporal auxiliaries.

Wh-words and the Urdu Verbal Complex

- The **Answer** seems to be no.
- In (30) the only felicitous place for the *wh*-word is right after the main verb.

Proposal:

In addition to the preverbal focus position, there is another focus position which is to the right of the verb (main or light) and which is used for contrastive focus (cf. the situation in Romance; Zubizarreta 1998, Samek-Lodovici 2005).

Discussion

- The analysis of the echo question presented here is essentially along the lines of Manetta.
- **Differences:**
  - Manetta locates the trigger for echo question interpretation in the **lexicon**.
  - Presumably she would have to do the same for the rhetorical question (right now she treats it as a normal information-seeking question).
  - Even for a lexicalist theory like LFG, this would appear to be the wrong appraoch.
  - The analysis here instead makes use of a general **structural** understanding of how information-structure is encoded positionally.
  - Given this, one can begin to understand how information structure interacts with question semantics to result in various different pragmatic interpretations.

Conclusion

- There is a lot more to be understood about how questions work in "wh-in-situ" "free word order" languages like Urdu/Hindi.
- Working within theories that assume movement alerts one to issues of scope and island effects.
- However, it also seems to have precluded a systematic investigation and integration of information-structural properties into the analyses.
- The assumption of a modular architecture of grammar in which syntax, semantics, pragmatics and intonation all interact in a well-defined manner would seem to have the following advantages:
  - Awareness of the various modules of grammar.
  - Less chance of giving short shrift to one module over another.
  - Clearer understanding of phenomenon at hand.
  - Simpler overall analysis.

Acknowledgements

References I

References II