

FASAL 2012

March 17, 2012

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Copy theory in wh-in-situ languages: Sluicing in Hindi-Urdu

1. Introduction

As has been widely reported in the literature, Hindi-Urdu, traditionally understood to be a wh-in-situ language, features a construction that appears to be sluicing:

- (1) MaiN-ne yahaaN kisi-ko dekh-aa lekin mujjhe nahiiN pat-aa kis-ko.
1SG-ERG there someone-ACC see-PFV but 1SG.DAT not know-PFV who-ACC
'I saw someone there, but I don't know who.'

Many have suggested that apparent sluicing in wh-in-situ languages challenges the influential approach to sluicing which posits that the syntax of a sluice is the syntax of an ordinary wh-question (Ross 1969, Merchant 2001), and have proposed alternative strategies for deriving the sluicing-like string:

- reduced copular clauses (RCCs) (Kizu 1997, Merchant 1998, Gribanova 2011 *i.a*),
- focus fronting (Toosarvandani 2008, Malhotra 2009)
- (exceptional) movement to the CP domain (Manetta 2011, Bhattacharya & Simpson, to appear)
- ellipsis of constituents smaller than a clause/TP (Manetta 2006).

Proposal:

Merchant's (2001) core approach to sluicing can be maintained if we:

- adopt the copy theory of movement (Chomsky and Lasnik 1993, Chomsky 1993, *i.a*)
- understand "wh-in-situ" in Hindi-Urdu to be a preference for pronunciation of the lower copy in a wh-movement chain (Groat and O'Neil 1996; Reintges, Lesourd, & Chung 2006; Reintges 2007; see also Bošković and Nunes 2007; Bošković 2011)
- analyze sluicing in Hind-Urdu as an exceptional instance of the pronunciation of the higher copy in the wh-chain (located in Spec, CP) under pressure from RECOVERABILITY (Pesetsky 1998).

(2) I saw someone there, but I don't know...

REGULAR WH

a. ...~~kis-ko~~ main-ne yahaan kis-ko dekh-aa

SLUICE

b. ...kis-ko ~~main-ne yahaan kis-ko~~ ~~dekh-aa~~

...who-ACC 1SG-ERG there who-ACC see-PFV

'...who (I saw there).'

Components of this argument:

- Evidence that apparent sluicing in Hindi-Urdu is the elision of a clause-sized constituent and has the characteristics of genuine sluicing in wh-movement languages
- Evidence that we might best understand regular wh-in-situ constructions in Hindi-Urdu as an instance of pronunciation of the lower copy in wh-chain
- Mechanisms of sluicing as top copy pronunciation (“top-copy sluicing”)
- Conclusions: intralinguistic variation in sluicing and wh-in-situ

2. Sluicing in Hindi-Urdu

There is significant evidence that apparent sluicing in Hindi-Urdu is the elision of a clause-sized constituent following wh-movement.

2.1 Evidence for movement:

Hindi-Urdu exhibits full case-connectivity (3) & (4) – the wh-remnant must be marked with the same case it would exhibit in the non-elided structure.

- (3) MaiN-ne yahaaN kisi-ko dekh-aa, lekin mujjhe nahiiN pat-aa kis-ko/
1SG-ERG there someone-ACC see-PFV but 1SG.DAT not know-PFV who-ACC
*kis-ne/*kaun

*who-ERG/*who.NOM

‘I saw someone there, but I don’t know who.’

- (4) Kisi-ne Aisha-ko dekh-aa par mujhe nahiiN pa-taa kis-ne/
Someone-ERG Aisha-ACC see-PFV but 1SG.DAT not know-HAB who-ERG/
*kaun/*kis-ko

NOM/ who-ACC

‘Someone saw Aisha, but I don’t know who.’

Hindi-Urdu requires that post-positions be pied-piped in general, and they must be pied-piped in a sluiced structure as in (5):

- (5) Sita khaana pakaa rahii hai, par Ali-ko nahiiN pa-taa
Sita food cook PROG AUX.PRS but Ali-DAT NEG know-HAB
kis-ke liye:/*kis/*kaun

who-for/who.OBL/who.NOM

‘Sita is cooking but Ali doesn’t know for whom’.

2.2 Evidence that the ellipsis site is clause (TP)-sized: sluicing in Hindi-Urdu is not elision of a projection of a vP (contra Manetta 2006):

The tense auxiliary *hai*, located in T, is elided in a sluice (6):

- (6) Ali koi kitaab caah-taa hai. Ham-eN nahiiN pa-taa kaunsii Ali _____
Ali some book want-HAB AUX. we-DAT NEG know-HAB which.F Ali _____
~~caah-taa-hai~~

want-HAB AUX

‘Ali wants to buy a book. We don’t know which one.’

2.3 Sluicing in Hindi-Urdu is not an RCC:

A reduced copular clause (RCC) is derived via dropping of at least a subject and copula (schematized in English in (7b), in contrast to a sluice in (7a).

- (7) a. I know you saw someone, but I don't know [who (you saw ___)] SLUICE
b. I know you saw someone, but I don't know [who (it) (was)] RCC

Hindi-Urdu has a (limited?) cleft strategy, and as in English the pivot of the cleft can be a wh-phrase (8):

- (8) kyaa he jo mez kii daayii taraf hai
what be.PRS REL table GEN right side be.PRS
'What is it that is to the right of the table?'

In an RCC the wh-pivot is typically nominative or unmarked, but as we have seen apparent sluices in Hindi-Urdu require full case-connectivity.

Hindi-Urdu does not generally permit the copula to be dropped – an operation that we might expect to exist independently if apparent Hindi-Urdu sluices were actually RCCs.

- (9) Siitaa mer-ii dost *(he/thii/hog-ii).
Sita my-F friend. F COP.PRES.3SG/COP.PAST-3SGF/COP.FUT-3SGF
'Sita is/was/will be my friend.'
(10) Tum kis-ke-saat *(ho)? (Koul 2008)
You who-with COP.PRES.2SG
'Who are you with?'
(11) Siitaa mer-ii dost nahiiN (he).
Sita my-F friend. F NEG COP.PRES.3SG
'Sita is not my friend.'

Sluicing with adjunct wh-phrases is grammatical in Hindi-Urdu, but clefting with adjunct wh-pivots is not (unlike with arguments, as in (14)).

- (12) Us-ne gaRi-ko fix kiy-aa, magar mujhe nahiiN pa-taa kese (*thaa).
He-ERG car-ACC fix do-PRF.M but 1SG.DAT NEG know-HAB.M how (was)
'He fixed the car, but I don't know how (*it was).' (e.g. with what tool)
(13) Subhan Ali aay-aa, magar mujhe nahiiN pa-taa kyooN (*thaa).
Subhan Ali come-PRF.M, but 1SG.DAT NEG know-HAB.M why (was)
'Subhan Ali came, but I don't know why (*it was)'
(14) Us-ne koi gaRi fix kii, magar mujhe nahiiN pa-taa kaunsii
He-ERG some car fix do-PRF.F but 1SG.DAT NEG know-HAB.M which one
(thii).
(was)
'He fixed some car, but I don't know which one (it was).'

For clefts with wh-pivots, only an exhaustive reading is available (15B). On the other hand, sluices are compatible with a 'mention-some' non-exhaustive interpretation (15B').

- (15) A: Aap-ko kisi officer se baat karnii caahiye
2PL-ERG some officer with talk do-INF want
'You should speak with an officer.'

- B: #Kaun hai, masail ke tor par?
 Who is example manner as
 ‘Who is it, for example?’
- B’: Masail ke tor par, kis-se?
 Example manner as who-INSTR?
 ‘For example, who?’

If RCCs are an instance of what Hankamer & Sag (1976) call deep anaphora, then material that seems to be missing should be recoverable pragmatically, not necessarily under linguistic identity. In Hindi-Urdu, as in English, sluicing appears to be surface anaphora, requiring a linguistic antecedent.

- (16) [Shown a picture of an unknown woman]
- #I don’t know who.
 - I don’t know who she is.
 - #Mujhe nahiiN pa-taa kaun.
 1SG.DAT NEG know-HAB.M who
 ‘I don’t know who.’
 - Mujhe nahiiN pa-taa kaun hai.
 1SG.DAT NEG know-HAB.M who be.PRS
 ‘I don’t know who it is.’

2.4 Sluicing in Hindi-Urdu is not stripping (Hankamer 1979)

Hankamer (2011) proposes that putative instances of sluicing in Turkish can be analyzed as stripping, an ellipsis in which all constituents but one of a second conjunct go missing (Hankamer 1979, Merchant 2003).

- (17) Amit left for Delhi, and Jamal too.

First, stripping is not possible in embedded contexts (unless the antecedent clause too is embedded), but apparent sluicing in Hindi-Urdu is.

- (18) *Amit left for Delhi, and I know Jamal too.
- (19) Amit kahiiN gay-aa, aur mujjhe lagtaa he ki main jaantii huN
 Amit somewhere go-PFV.M and I.OBL strike AUX.3SG that I. NOM know AUX.1SG
 kahaaN.
 where
 ‘Amit went somewhere, and it seems to me that I know where.’

Second, stripping cannot precede its antecedent (backward anaphora). Sluicing in Hindi-Urdu, on the other hand, can.

- (20) *Jamal too, and Amit left for Delhi.
- (21) Mujjhe nahiiN pat-aa kahaaN, lekin maiN jaant-ii huN ki Amit
 1SG.OBL NEG know- PFV.M where but I.NOM know- PFV.F AUX.1SG that Amit
 kahiiN gay-aa.
 somewhere go-PFV.M
 ‘I don’t know where, but I know Amit went somewhere’.

2.5 Sluicing in Hindi-Urdu is not fed by movement to a high focus projection

Toosarvandani 2008 claims that sluicing in Persian is fed by movement to a high focus projection (above TP). There is evidence that this position is independently active in Persian for contrastive focus (Karimi 1999, 2003):

- (22) [faghat be Kimea]_i man t_i se tâ ketab dâd-am
only to Kimea 1SG three PART book gave-1SG
'It was only to Kimea that I gave three books.'

Similarly, we see high positional focus in languages like Italian and Gungbe, below (see Cinque 1990, Zubizarreta 2001, Rizzi 1997, Belletti 2004, Zubizarreta 2010).

- (23) Qualcosa, di sicuro, io farò. (Cinque 1990: 15)
SOMETHING, surely, I do.FUT
(24) Mótò we Dòsú kù wá. (Aboh 2007)
Car FOC Dosu drive come
'Dosu came by CAR'.

However, previous work (Butt and King 1996, Kidwai 1999, 2000) suggests that the unmarked position for both interrogative and non-interrogative focus in Hindi-Urdu is low/preverbal (within vP):

- (25) MaiÑ-ne kamre meN [in-hii ti:n laṛkoÑ-ko] bheeja.
1SG -ERG room to [these-FOC three boys-ACC] sent
'I sent *these* three boys to the room.' (Butt and King 1996)
(26) KitabenN kal maiN laaya thaa.
books yesterday 1SG brought AUX
'I brought the books yesterday (It is I who brought the books yesterday)'
(Kidwai 2000)
(27) Aap-ne kis-ko dekh-aa
2PL-ERG who-ACC see-PFV
'Who did you see?'

Summary:

Putative sluices in Hindi-Urdu have the following properties:

- Involve elision of clause-sized constituent
- A displaced wh-remnant is at the clause edge

The simplest conclusion is that apparent sluicing structures in Hindi-Urdu are just that: sluicing structures. But there must be something exceptional about them, because there is no (visible) regular process of wh-movement to the clause edge.

3. "Wh-in-situ" is lower copy pronunciation

Among languages that exhibit wh-in-situ characteristics, recent work has explored the possibility that the copy privileged for phonological realization might be the lowest copy in a wh-chain (Groat and O'Neil 1996; Reintges, Lesourd, & Chung 2006; Reintges 2007; *i.a.*).

3.1 Instances of lower copy pronunciation should exhibit features of "overt" wh-movement:

- Morphological evidence (Reintges, LeSourd, and Chung 2006; Reintges 2007)
 - No wh-agreement in Hindi-Urdu, though see discussion of wh-expletive below
- Island effects: Hindi-Urdu exhibits the full range of island sensitivities, as in languages with overt movement (Malhotra 2011:6, 86; Bhattacharya and Simpson, to appear)

Complex NP Island

(28) *saraa-ne [yeh afvaahaa [ki raam-ne kis-ko dekhaa] phelayii
 Sara-ERG this rumor COMP Ram- ERG who-ACC saw spread
 ‘Who did Sara spread the rumor that Ram saw?’

Adjunct Island

(29) *siitaaa bazaar jaa-yegii [kyunki mohan kyaa nahiN laay-aa]
 Sita market go-FUT because Mohan what NEG bring-PFV
 ‘What will Sita go to the market because Mohan didn’t bring?’

- Parasitic gaps are licensed by “wh-in-situ” (Mahajan 1994: 317-323; see also Bošković 2002, Lin 2005)

(30) Ali-ne [paRhne se pehle] kaunsi kitaab pheNk d-ii
 Ram-ERG read-INF of before which book throw give-PST.F
 ‘Which book did Ali throw away before reading’¹

3.2 Lower copy pronunciation

(31) [_{CP} kis-kə [_{CP} aap-ne yahaan kis-ko dek-aa]]
 who-ACC 2PL-ERG there who-ACC see-PFV
 ‘Who did you see there?’



Note that this is not an exceptional/last resort instance of lower copy pronunciation (as in Bošković 2002, Nunes 2004), but instead a language-wide preference for lower-copy pronunciation in wh-chains.

3.3 Unresolved issues:

- What copy is being pronounced? If the privileged position for wh-focus is the preverbal position (Kidwai 2000), is it the lowest copy that is being pronounced (the in-situ copy) or some intermediate copy (Manetta 2010; for Bahasa Indonesia see Fanselow and Cavar 2001)?
- Scope in Hindi-Urdu is clause-bound. In order to take matrix scope out of an embedded clause, wh-phrases must either appear displaced into the clause over which they take scope (though not to its edge), or the wh-expletive *kyaa* must be used (see below).

¹ For arguments that these are in fact PGs, see Malhotra 2009.

- (32) a. Sita-ne **kis-ko** socaa ki Ravii-ne _____ dekhaa?
 Sita-ERG who-ACC thought that Ravi-ERG _____ saw
 ‘Who did Sita think that Ravi saw?’
- b. Sita-ne **kyaa** socaa ki Ravii-ne **kis-ko** dekhaa?
 Sita-ERG EXPL thought that Ravi-ERG who-ACC saw
 ‘Who did Sita think that Ravi saw?’

In Manetta 2010 this is attributed to the EPP on v in the matrix clause. Under the present proposal, this might be attributed to a constraint favoring overt phonetic content in interrogative Spec, vP.

- Could we analyze *kyaa* as an alternate pronunciation of a higher copy? In particular, could it be the result of *fusion* of a [+wh] head (v according to Manetta 2010) and the moved wh-word, resulting in phonetic realization of multiple copies (Nunes 2004)?

Evidence: Island effects persist in scope-marking structures (Malhotra 2011, Malhotra and Chandra 2007)

- (33) a. *[raam-ne kyaa kaha [ki ravii-ko [yeh baat [ki miiraa kyaa
 Ram-ERG EXPL said that Ravi-ACC this fact that Mira what
 khaaye-gii] pataa hai]]
 eat-FUT know AUX
 ‘What did Ram say that Ravi knows the fact that Mira will eat?’
- b. *raam-ne kyaa kaha [ki siitaa bazaar jay-egii [kyunki mohan kyaa
 Ram-ERG EXPL said that Sita bazaar go-FUT because Mohan what
 nahiiN lay-aa]
 NEG bring-PFV
 ‘What did Ram say that Sita will go to the market because Mohan didn’t bring?’

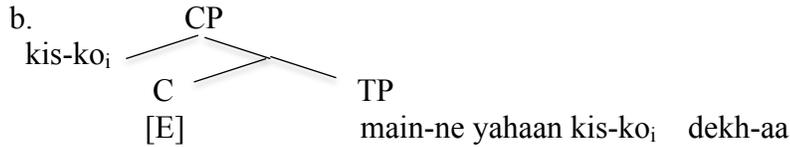
4. Top-copy sluicing

We will follow Franks (1998) (see also Bošković and Nunes 2007, Reintges 2007, Bošković 2011) in assuming that in a given language the pronunciation of a particular copy in a wh-chain at PF is a matter of preference, which can be overridden if pronunciation in the preferred position leads to a PF violation.

What happens to the lower copy in a sluice?

A sluicing structure in Hindi-Urdu is a marked instance in which the lower copy cannot be pronounced, as it resides in a TP marked for non-pronunciation (due to the [E] feature on C).

(34) a. I saw someone there, but I don't know who.



The top copy must be pronounced or else the sluiced structure will violate RECOVERABILITY:

(35) RECOVERABILITY: A syntactic unit with semantic content must be pronounced unless it has a sufficiently local antecedent (Pesetsky 1998:342)

(36b) is the favored output, as the preference for non-pronunciation of the top copy in Hindi-Urdu is overridden by the need to pronounce *kis-ko*

(36) I saw someone there, but I don't know...

- a. ...~~kis-ko~~ main-ne yahaan ~~kis-ko~~ dekh-aa *RECOVERABLE
 b. ...kis-ko ~~main-ne yahaan~~ ~~kis-ko~~ ~~dekh-aa~~ SLUICE
 who-ACC 1SG-ERG there who-ACC see-PFV
 '...who I saw there?'

This analysis then correctly predicts that Hindi-Urdu sluiced structures have properties quite similar to genuine sluices in languages like English (unlike wh-in-situ languages which employ other strategies to derive sluicing-like strings – see e.g. Gribanova 2011 for the use of the RCC strategy in Uzbek).

The following properties find clear explanation in this analysis:

- Case connectivity
- post-position pied-piping
- the elision of material in the Tense head
- the potential for island repair -- The claim: these island violations are repaired under sluicing (Malhotra 2011:35; c.f. Bhattacharya and Simpson, to appear):

(37) a. *[CP kyaa [IP ravii-ko [DP yeh baat [CP ki [IP Miiraa t khaaye-gii]]]
 what Ravi-DAT this fact that Mira eat-FUT
 pataa hai]]
 knows AUX

'What does Ravi know the fact that Mira will eat?'

b. [CP [IP raviii-ko [DP yeh baat [CP ki [IP miiraa [vP [DP kuch] khayeegii pataa
 Ravi-DAT this fact that Mira something eat-FUT knows
 hai]]]] par [CP [IP maiN nahiN jantaa [CP kyaa {---}]]]
 AUX but 1SG NEG know what

'Ravi knows the fact that Mira will eat something, but I don't know what.'

5. Conclusions

The analysis presented here:

- aims to capture the empirical particulars of sluicing-like constructions in Hindi-Urdu

- pursues continued refinement in the implementation of copy theory in wh-in-situ languages
- contributes to the current line of work investigating intra-linguistic variation among types of wh-in-situ (e.g. Reintges, LeSourd, and Chung 2006, Bhattacharya and Simpson, to appear)
- is the first step of a larger project concerned with the way that certain constellations of properties of wh-dependencies and ellipsis processes in wh-in-situ languages are best understood (Gribanova and Manetta, in prep)
 - Crosslinguistic investigation has demonstrated that “wh-in-situ” status alone does not predict whether/what kind of sluicing is available
 - Even languages with many overlapping wh-in-situ properties may not behave precisely the same with respect to sluicing processes (e.g. Hindi-Urdu and Bangla as in Bhattacharya and Simpson, to appear)
 - Some Indic languages (more or less) behave like Hindi-Urdu in allowing a form of genuine sluicing while some Turkic languages seem to use RCC-like strategies (see, for instance, Hankamer 2011, Gribanova 2011) – from what formal properties of these languages does this split follow?

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