Scope parallelism in a surface-scope language: Evidence from Hindi-Urdu sluicing

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ABSTRACT

This paper investigates sluicing constructions in Hindi-Urdu, a so-called surface scope language. We argue in favour of a wh-fronting analysis of sluicing in Hindi-Urdu, and we demonstrate that wh-fronting in sluicing contexts is subject to constraints on scope. Based on novel data from intervention configurations in sluicing contexts we show that, unlike wh-fronting in questions, wh-fronting in sluicing does not ameliorate intervention effects. This is due to scope parallelism which must be evaluated in a stepwise manner: *the scope fixed for the correlate within the antecedent is the only scope available to the WH-remnant within the sluice*. Such a statement of parallelism rules out the undesirable possibility that otherwise unattested exceptional scope of the correlate is coerced only in sluicing constructions, and it correctly predicts that elements independently prohibited from taking wide scope can never be correlates for sluicing.

1 Introduction

The *Ross-Merchant* approach (Ross 1969, Merchant 2001 and later; Giannakidou & Merchant 1998) treats sluicing as "the non-pronunciation of a syntactically complete WH-interrogative to the exclusion of the WH-expression, under identity with a suitable antecedent". Under this view, the structure corresponding to (1a) is (1b), showing WH-fronting followed by ellipsis of the sentential part of the constituent question it originated from. The WH-phrase is the *remnant*, and its clause the *sluice*. The preceding clause is the *antecedent* and contains the *correlate* of the WH-remnant.

(1) a. Gita ate something but I don't know what.
b. Gita ate something but I don't know [$_{CP}$ **what$_i$** ~~Gita ate **t$_i$**~~]

The Ross-Merchant approach assigns to sluices the same syntax and semantics as regular unsluiced interrogatives—WH movement is required in both cases. Languages such as Hindi-Urdu (HU) which are WH in situ but nonetheless license sluicing present a *prima facie* challenge for a view which *requires* WH-movement for sluicing (see Gribanova & Manetta 2017 for recent discussion).

(2) giitaa-ne kisii-ko saaRii dilaayii par mujhe nahii pataa **kis-ko**
Gita-ERG someone-DAT sari buy.PFV but I-DAT NEG know who-DAT
'Gita bought someone a sari but I don't know who.'

Following prior work on HU sluicing (Bhattacharya & Simpson 2012, Manetta 2013, Bagasur 2014), we make the baseline assumption that sluicing remnants in HU are instances of WH-fronting, and that the utterance in (2) has the structure in (3), wherein ellipsis of the full clausal structure takes place after WH-fronting. This and other basic properties of HU sluicing are discussed in §2. We present further evidence for the claim that sluicing involves WH-fronting in §3—in both questions and sluicing, the WH has the same locality conditions.

(3) giita-ne kisi-ko saaRii dilayii par mujhe nahi pata **kis-ko$_i$**
Gita-ERG someone-DAT sari buy.PFV but I-DAT NEG know who-DAT

[$_{CP}$ ~~giita-ne **t$_i$** saaRii dilayii~~]
[$_{CP}$ Gita-ERG sari buy.PFV]
'Gita bought someone a sari but I don't know who.'

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However, we argue in §4, on the basis of novel intervention data, that sluicing in HU cannot be completely reduced to WH-fronting (followed by deletion), as the two constructions diverge in specific ways. Specifically, WH-fronting ameliorates intervention effects, while sluicing *by itself* fails to do so. We demonstrate that it is only in a special case that HU sluicing is able to ameliorate an otherwise ungrammatical intervention configuration: ***iff*** the correlate in the antecedent clause is fronted such that its scope is highest, i.e. parallel to that of the WH-remnant. The observation that *scope parallelism* (Romero 1998, Johnson 2001) is a necessary condition on sluicing in the surface scope language HU, see §5, constitutes the first theoretical contribution of this paper.

Our second contribution relates to the specific formulation of this constraint for HU which builds in its surface scope characterization. We argue that scope parallelism must be evaluated in a stepwise manner in HU: first determine the scope relations in the antecedent clause, then determine whether the scope relations in the sluiced clause are parallel. Put differently, the scope fixed for the correlate (within the antecedent) is the only scope available to the WH-remnant (within the sluice). Such a statement of parallelism achieves two ends: (a) it rules out the undesirable possibility that otherwise unattested exceptional scope of the correlate is coerced only in sluicing constructions, and (b) it makes the prediction that elements independently prohibited from taking wide scope can never be correlates for sluicing. This prediction is borne out, illustrated in §6 by the case of reduplicated numerals which have frozen low scope. Fronting these numerals does not impact scope configurations, and therefore cannot turn them into good correlates for sluicing. In $7, we conclude with a brief discussion of the typology of sluicing for surface-scope and inverse scope languages.

2 Basic Properties of Hindi-Urdu sluicing

Here we outline the basic properties of HU sluicing: isomorphism and island insensitivity.

2.1 Isomorphism in Sluicing

The Ross-Merchant approach argues for isomorphism, i.e. syntactic identity, between the antecedent clause and the sluiced clause. Vincente (2014) argued that constructions appearing sluicing-like may be non-isomorphic, that is they may have a source form different from the antecedent clause. Bhattacharya and Simpson (2012) rule out the possibility of non-isomorphic sources for sluicing in HU. One piece of evidence for isomorphism comes from case connectivity: case on the WH-phrase in the sluice must match the case associated with the predicate in the antecedent (4). The underlying structure of the sluice must therefore be isomorphic with the antecedent. It cannot be a non-isomorphic source like a (null) copular clause because in that case the WH-remnant would be expected to bear invariant nominative[2] (5). The absence of a null copula construction elsewhere in the language is further evidence (see Bhattacharya and Simpson 2012 for full argument). Thus, HU displays true sluicing, with isomorphism between antecedent and sluice.

(4) kisi-**ko** vo saaRii khariidnii caahiye par mujhe nahi pata
someone-DAT that sari buy.INF should but I-DAT NEG know

[$_{CP}$ ki kis-**ko** ~~vo saaRii khariidnii caahiye~~]
[$_{CP}$ COMP who-DAT that sari buy.INF should]
'Someone should buy that sari but I don't know [$_{CP}$ who ~~should buy that sari~~]'

[2] A caveat is in order: for some cases/postpositions, some speakers allow the exponent of case on the WH-remnant to be a subset of full case morphology (Bagasur 2014)—(5) grammatical but (4) preferred. HU therefore requires a weakening of the principle of exact morphological 'Fit' between correlate and remnant (Abels 2014). The existence of (4) makes the point nevertheless.

(5) *kisi-**ko** vo saaRii khariidnii caahiye par mujhe nahi pata
someone-DAT that sari buy.INF should but I-DAT NEG know

[CP ki kaun]
[CP COMP who]
'Someone should buy that sari but I don't know [CP who ~~should buy that sari~~].'

2.2 Island-insensitivity

HU shows island effects (Dayal 1996, Malhotra 2009, Bhattacharya & Simpson 2012 a.o.). Below is an example of a relative clause island: baseline relative clause in (6a), island effect due to WH for fronted and non-fronted WH-phrases in (7). Other islands in HU, like complex NPs and co-ordinate structures, also behave the same.

(6) a. giita-ne vo saaRii [RC jo aniisaa-ne dekhii thii] khariidii
Gita-ERG that sari [RC REL.PRON Anisa-ERG see.PFV be.PST] buy.PFV
'Gita bought a sari that Anisa had seen.'

(7) a. ***kis-ne**$_i$ giita-ne vo saaRii [RC jo **t**$_i$ dekhii thii] khariidi
who-ERG Gita-ERG that sari [REL.PRON see.PFV be.PST] buy.PFV
INTENDED: 'Who was such that Gita bought a sari that they had seen?'

b. giita-ne vo saaRii [RC jo **kis-ne** dekhii thii] khariidii
Gita-ERG that sari [RC REL.PRON who-ERG see.PFV be.PST] buy.PFV
INTENDED: 'Who was such that Gita bought a sari that they had seen?'

Sluicing in HU is island-insensitive, as it is in many other languages (Merchant 2001). In the example below, the island in (8) is present in the underlying structure of the sluice, and the WH-remnant has moved out of it, but its non-pronunciation ameliorates the expected ungrammaticality of the island violation (see Bagasur 2014, Bhattacharya & Simpson 2012).

(8) giita-ne vo saaRii [jo kisii-ne dekhii thii] khariidii
Gita-ERG that sari [REL.PRON someone-ERG see.PFV be.PST] buy.PFV

par mujhe nahi pata kis-ne$_i$ [CP ~~giita-ne vo saaRii~~
but I-DAT NEG know who-ERG [CP Gita-ERG that sari

~~[jo t$_i$ dekhii thii] khariidii~~
[REL.PRON see.PFV be.PST] buy.PFV

'Gita bought a sari that was seen by someone, but I don't know who$_i$ ~~Gita bought a sari that was seen by t$_i$~~.' (based on Bagasur 2014)

We have shown above that HU sluicing exhibits properties which are typical of sluicing crosslinguistically—case connectivity and island insensitivity.

3 Why sluicing looks like WH-fronting: Subjacency

In this section, we discuss the basic properties of WH-fronting in HU and demonstrate that WH-fronting in questions and in sluicing exhibits uniform behaviour with respect to the Subjacency Condition (Chomsky 1977). This condition has the consequence of creating WH-islands.

It is well known (Mahajan 1990) that the characterization of HU as a WH-in situ language is not a perfect fit. In the surface syntax, HU employs various question-forming strategies, namely: WH-in situ, fronting, and scope-marking (Dayal 1996, Manetta 2010). While pronouncing the WH-

phrase immediately before the verb is the most natural, HU clearly allows WH-phrases to be fronted; that is, moved to a clause-initial position relative to neutral word order *S-(IO)-DO-V*. There is wide scope construal of the WH irrespective of whether it is pre-verbal (9a) or clause-initial (9b).

(9) a. giita-ne saaRii kis-ko dilayii? [*S DO IO$_{WH}$ V*]
Gita-ERG sari who-DAT buy.PFV
'Who did Gita buy a sari (for)?'

b. **kis-ko$_i$** giita-ne **t$_i$** saaRii dilayii? [*IO$_{WH}$ S DO V*]
who-DAT Gita-ERG sari buy.PFV

Some contexts in fact ban WH-in situ. To form a wide scope question out of an embedded finite clause, it is obligatory to either use scope marking (Dayal 1996), or to front the WH-phrase to the higher clause, (10) (though see Dayal 2016 for complications):

(10) **kis-ko$_i$** ram-ne socaa ki mohan-ne **t$_i$** maaraa thaa?
who-DOM Ram-ERG think.PFV COMP Mohan-ERG hit.PFV be.PST
'Who did Ram think Mohan had hit?' (Mahajan 1990:129)

A WH-phrase can only reach a fronted position by successive cyclic movement, but this is blocked if the intermediate landing site is already filled by another WH-phrase. In (11), based on Mahajan (1990), we see that in HU questions, a fronted WH-phrase cannot cross over another WH-phrase. In (11b), *kis-ko* cannot cross *kab* in the embedded clause, thus fronting is bad due to a subjacency violation. While subjacency is typically obeyed in WH-movement languages like English as well (**Who(m) was Ram wondering who had seen ___ ?)*, the HU case has slightly differing properties—fronting both WH-phrases together does not cause a subjacency violation (11c).

(11) a. raam soc rahaa thaa [ki **kab** giitaa-ne **kis-ko**
Ram think PROG be.PST COMP when Gita-ERG who-DOM
dekhaa thaa]
see.PFV be.PST
'Ram was wondering when Gita had seen whom.'
UNAVAILABLE: 'Who is such that Ram was wondering when Gita had seen them?'

b. ***kis-ko$_i$** raam soc rahaa thaa [ki **kab** giitaa-ne **t$_i$**
who-DOM Ram think PROG be.PST COMP when Gita-ERG
dekhaa thaa]?
see.PFV be.PST

c. **kab$_j$ kis-ko$_i$** ram soc rahaa thaa [ki **t$_j$** giitaa-ne **t$_i$** dekhaa thaa]?
when who-DOM Ram think PROG be.PST [COMP Gita-ERG see.PFV be.PST]
'Who is such that Ram was wondering when Gita had seen them?'

In (12) we see that following up a WH-containing antecedent (12a) with the sluice in (12b) is ill-formed. Assuming isomorphic structure in the sluice, this shows that subjacency holds in sluicing—a WH-remnant cannot cross over another WH-phrase in the ellipsis site (schematic in 12d)[3].

(12) a. ram soc rahaa thaa ki kab giitaa-ne kisi-ko bulaaya
Ram think PROG be.PST COMP when Gita-ERG someone-DAT call.PFV
'Ram was wondering when Gita invited someone…

[3] We abbreviate *par mujhe nahi pata* and *but I don't know* as PNMP and BIDK respectively.

b. …*PMNP **kis-ko$_i$** Δ

BIDK who-DAT

… but I don't know who.'

c. Δ = ram soc rahaa thaa ki kab giitaa-ne **t$_i$** bulaayaa

Ram think PROG be.PST COMP when Gita-ERG call.PFV

d. **kis-ko$_i$** … [$_{CP}$ WH … **t$_i$** …]

As noted in (11) above, a subjacency violation in HU is avoided when both WH-phrases are fronted together. Similarly in the context of sluicing as well, we see that following (12a) by a sluice with neither of the WH-phrases elided, is grammatical (13).

(13) … PMNP **kab** **kis-ko**

BIDK when who-DAT

…but I don't know who and when. (lit. *BIDK when who*[4].)

Thus, we see uniformity in the properties of WH-fronting in questions and in sluicing with respect to subjacency supporting the claim that sluicing involves WH-fronting in HU.

4 Why sluicing cannot be reduced to WH-fronting: Intervention

In this section, we investigate cases where WH-fronting in sluicing and questions diverge, looking specifically at intervention configurations. "Intervention effect" describes a situation in which a question is rendered ungrammatical because an in-situ WH-phrase is c-commanded at LF by an offending intervener (quantification/negative/focus-sensitive element), see (14a).

(14) INTERVENTION CONFIGURATION (Beck 2006):

a. * [$_{CP}$ C … intervener … WH]

b. √ [$_{CP}$ C … **WH$_i$** … intervener … **t$_i$**]

In HU questions, when a focus-marked element c-commands a pre-verbal WH, the sentence is ungrammatical (15a)[5]. Fronting the WH-phrase rescues the structure (14b) and renders the sentence grammatical – (15b). Amelioration of intervention effects via fronting of the WH-phrase above the intervener has been observed in other languages as well (Beck 2006, Tomioka 2007).

(15) a. *[giita-ne-hii] kis-ko tohfaa diyaa?

Gita-ERG-ONLY who-DAT gift give.PFV

INTENDED: 'Who did only Gita give a gift to?'

b. **kis-ko$_i$** [giita-ne-hii] **t$_i$** tohfaa diyaa?

who-DAT Gita-ERG-ONLY gift give.PFV

'Who did only Gita give a gift to?' (Based on Malhotra 2009)

4.1 Sluicing and intervention

In contrast to WH-fronting in questions, sluicing – which also purportedly involves WH-fronting – does not appear to ameliorate intervention effects (16). This has, to our knowledge, not been noticed in the literature before.

[4] Hindi-Urdu lacks superiority. See Bhattacharya & Simpson (2007, 2012) who suggest that superiority effects ought to be attributed to a representational constraint on the linear sequencing of information.

[5] Intervention effects do not occur with *all* focus-sensitive elements; absent with 'only'-like Adv *sirf/keval*.

(16) CONTEXT: I know Gita's office is organizing Secret Santa. Gita has the reputation of being a generous person. She has brought a gift to give. No one else has brought a gift, which is not surprising, since the other employees have a reputation of being very miserly. At the end of the day, I report to my friend:

a. giita-ne-hii kisii-ko tohfaa diyaa thaa …
Gita-ERG-ONLY someone-DAT gift give.PFV be.PST …
'Only Gita gave a gift to someone…

b. …??/* PMNP **kis-ko$_i$** Δ
BIDK who-DAT
…but I don't know to who.'

c. Δ = giita-ne-hii **t$_i$** tohfaa diyaa thaa
Gita-ERG-ONLY gift give.PFV be.PST

d. … ??/*[**kis-ko$_i$** [$_{= \Delta}$ INTERVENER **t$_i$**]]

The unavailability of sluicing in (16) is most salient when compared with its counterpart without the focus-sensitive element *hii* in the antecedent, which allows sluicing:

(17) giita-ne kisii-ko tohfaa diyaa thaa PMNP kis-ko$_i$ Δ
Gita-ERG someone-DAT gift give.PFV be.PST BIDK who-DAT
'Gita gave a gift to someone but I don't know to who.'

At first glance, it appears that intervention effects are ameliorated by WH-fronting in questions but not by WH-fronting in sluicing. However, as we demonstrate next, intervention amelioration is possible in sluicing under a specific structural configuration – parallelism between the antecedent and the sluice.

4.2 Parallelism in sluicing and intervention

In HU, having both the correlate and the WH-remnant fronted in their respective clauses makes sluicing available even in intervention configurations. In the example below, the indefinite is fronted in the antecedent (18a). Now, following (18a) with the sluice in (18b) is grammatical, in contrast to (16) above. Crucially, nothing in the sluice itself has changed from (16b) to (18b) – their structures are the same (16d, 18d).

(18) a. **kisii-ko$_k$** giita-ne-hii **t$_k$** tohfaa diyaa thaa …
someone-DAT Gita-ERG-ONLY gift give.PFV be.PST
'There is someone to whom only Gita had given a gift…

b. … PMNP **kis-ko$_i$** Δ
BIDK who-DAT
…but I don't know to who.'

c. Δ = giita-ne-hii **t$_i$** tohfaa diyaa thaa
Gita-ERG-ONLY gift give.PFV be.PST

d. … [**kis-ko$_i$** [$_{= \Delta}$ INTERVENER **t$_i$**]]

We propose that the contrast between un/availability of sluicing is modulated by the position of the correlate in the antecedent. In HU, this is equivalent to a statement in terms of scope. In general, HU encodes relative scope in terms of linear order (Mahajan 1997, Kidwai 2001), and leftward movement of scope bearing elements impacts scope relations. One formalisation of this

generalization has been offered by Bhatt & Dayal (2007) in the context of binding and coreference, (19). In (20) we see an example of a Weak Crossover (WCO) violation in the neutral order (20a) which is amnestied by leftward scrambling (20b).

(19) LINEAR SCOPE GENERALIZATION (Bhatt & Dayal 2007):
Variable binding and pronominal coreference possibilities between coarguments (i.e., phrases thematically related to the same predicate) reflect linear order: if XP1 and XP2 are coarguments and XP1 precedes XP2, then XP1 has scope over XP2 at LF.

(20) a. *[us-ke$_i$ bhaai-ne] [har aadmii-ko]$_i$ maaraa
he.OBL-GEN brother-ERG each man-DOM hit.IPFV

b. **[har aadmii-ko]$_i$** [us-ke$_i$ bhaai-ne] **t$_i$** maaraa
each man-DOM he.OBL-GEN brother-ERG hit.IPFV
'His$_i$ brother hit [every man]$_i$.'

In (20a) above, the object quantifier cannot bind the subject pronoun that c-commands it. This rules out the possibility of QR or any other covert scope-taking mechanism in this case. Only overt movement (20b) can ameliorate the WCO violation. The analogy with the intervention cases now emerges: as seen in (15) above, the indefinite was similarly ungrammatical when c-commanded by an intervener (15a), and could only ameliorate the violating structure via overt movement (15b).

Now let us turn again the fact that sluicing in an intervention configuration is grammatical only when there is overt fronting of the correlate. This can be immediately explained in the following manner: sluicing involves fronting the WH-phrase, which gives it *widest scope* in the sluice. Given the Linear Scope Generalization, fronting the indefinite correlate in (18a) gives it *widest scope* in the antecedent. Thus, we have *parallel wide scope* of the correlate (in the antecedent) and the WH-remnant (in the sluice). Thus, intervention amelioration is possible in sluicing, but it requires parallel wide scope of the correlate and WH-remnant.

5 Scope Parallelism

The formulation of scope parallelism as an identity constraint on ellipsis has a long history (see Thoms 2015 for a recent overview). In the context of sluicing in particular, scope parallelism has been developed further by Chung et al. (1995), Romero (1998), and Johnson (2001).

The main insights from Chung et al. (1995) (though embedded in an LF-copying view, not the Ross-Merchant approach) relate to how the scope relations in the sluice determine the scope relations in the antecedent clause, and how fixing the scope relations in the antecedent rules out sluicing. A WH-remnant definitionally has wide scope. In (21a, b) the unambiguous WH-remnant disambiguates the reading of a scopally ambiguous correlate. By contrast, in cases where the correlate is banned from taking wide scope, sluicing is prohibited. In (21c) below, the indefinite is an NPI and therefore in a trapping configuration ("roofed" by negation), making its wide scope construal impossible.

(21) a. She always reads a book at dinnertime. We can't figure out which one.
b. Both dogs were barking at something, but she didn't know at what.
c. She doesn't meet anyone for dinner. *They can't figure out who. (Chung et al. 1995)

In this section, we more precisely characterize the nature of scope parallelism in HU. We argue that a formulation based solely on the scope relations in the sluice does not work for HU. We motivate

a version of Scope Parallelism which takes into account the linear scope characterization of HU, and suggest that this has implications for other languages with similar scope properties.

5.1 Indefinites do not neatly conform to the Linear Scope Generalization

Indefinites appear to obey the Linear Scope Generalization in some cases. We have already seen cases where an intervener creates a scope trapping configuration which the c-commanded indefinite can only escape by overt fronting. The same holds for negation as well. Indefinites like *kisii-ko* 'someone-DOM' can be trapped by c-commanding negation, and behave like NPIs in such cases (22a). When overtly moved, they can escape the trapping configuration (22b).

(22) a. giita-ne kisii-ko-(bhii) nahii dekhaa (*PMNP kis-ko)
Gita-ERG someone-DOM-EVEN NEG see.IPFV BIDK who-DOM
'Gita didn't see anyone (*but I don't know who).' NEG >> ∃, *Bad*: ∃ >> NEG

b. **kisii-ko$_i$** giita-ne **t$_i$** nahii dekhaa (PMNP kis-ko)
someone-DOM Gita-ERG NEG see.IPFV BIDK who-DOM
'There's someone who Gita didn't see (but I don't know who).' NEG >> ∃, (∃ >> NEG)

Given that the behaviour of indefinites so far suggests that their scope is determined by their linear position, our baseline sluicing sentence (2, repeated as 23) is now surprising: the indefinite correlate is in a linear position corresponding to narrow scope, while the WH-remnant has wide scope.

(23) giita-ne [koi saaRii] khariidii PMNP (ki) kaunsii
Gita-ERG [some sari] buy.PFV BIDK COMP which
'Gita bought some sari but I don't know which.' [=2]

The licitness of sluicing in (23) above despite the mismatch between the linear position (and therefore scope) of the correlate and that of the WH-remnant has two potential reasons. The first potential reason is that perhaps the picture of linear scope sketched above is incomplete, and indefinites actually can take exceptional (i.e. non-surface) scope. The second possibility is that sluicing is in itself exceptional in its ability to coerce non-surface scope of the indefinite. The next two subsections show that it is the first option that is the right one.

5.2.1 Indefinites are exceptional: Can take non-surface scope

As mentioned above, indefinites do not neatly fit in to the picture sketched so far. In (24a) the surface low indefinite marginally can allow wide scope construal. This non-surface scope is more salient with distinct prosodic marking on the indefinite. Thus, HU indefinites in some cases appear to have access to covert scope-taking mechanisms not generally available in the language.

(24) a. har aadmii kisii aurat-ko pyaar kartaa hai
each man some woman-DOM love do.IPFV be.PRES
'Each man loves some woman.' EACH >> SOME, *Marginal*: SOME >> EACH[6]

b. **kisii** **aurat-ko$_i$** har aadmii **t$_i$** pyaar kartaa hai
some woman-DOM each man love do.IPFV be.PRES
'Some woman, every man loves.'
SOME >> EACH, *Unavailable*: EACH >> SOME (Kidwai 2001:7)

[6] Kidwai (2000) reports that (26a) unambiguously allows only surface scope.

The fact that the language has an overt strategy to disambiguate scope makes the wide scope indefinite reading necessarily marginal, since in most situations speakers will prefer fronting, as in (24b). The exceptional scope status of indefinites has been observed in other contexts (Reinhart 1997, among others) - quantifier phrases headed by *some* and *a* are able to be interpreted as if they take scope wider than the clause they are in. There is also in the case of indefinites the ever-present confound: the so-called "wide scope reading" in basic sentences like (24a) is actually a special case which makes (24b) true as well. In these basic cases of indefinites, it is unclear whether a scope mechanism even needs to be appealed to.

5.2.2 Sluicing is not exceptional in HU: Cannot coerce non-surface scope for the correlate

Johnson (2001) presents a case from English where the sluicing scope parallelism requirement is able to coerce scope configurations in sluicing which are otherwise absent. The base sentence (25a), does not allow the interpretation with *most* taking scope over *necessary*. The *most* is in a trapping configuration (trapped in a scope island) and is thus blocked from taking wide scope. The licitness of sluicing (25b) leads Johnson to conclude that just in the case of sluicing, the scope parallelism requirement is able to coerce wide scope of the correlate to produce a grammatical sluice.

(25) a. It is necessary for Sally to win most races.
≠ ∃x, a majority of races, [it is necessary for Sally [to win x]]
b. It is necessary for Sally to win most races, but I don't know which.
= ∃x, a majority of races, [it is necessary for Sally [to win x]] (Johnson 2001)

The intervention configurations already examined in §4 instantiate a *different* kind of scope island configuration. Significantly, the HU facts do not pattern with the English case above. In the repeated example (26a) below, we saw that the antecedent clause contains a focused phrase which c-commands an indefinite correlate. That indefinite *kisii-ko* cannot in this case have a wide scope construal—it is in a trapping configuration caused by the intervener. Though that clause itself is well-formed, is not a good antecedent for sluicing (26a). In contrast to English, here sluicing alone is unable to coerce wide scope of the correlate in this structural context, despite its scope parallelism requirement. The correlate can have parallel wide scope and license the sluice if and only if it is itself fronted in the antecedent clause (26b).

(26) a. giita-ne-hii kisii-ko tohfaa diyaa thaa ??/*PMNP kis-ko
Gita-ERG-ONLY someone-DAT gift give.PFV be.PST BIDK who-DAT
'Only Gita gave a gift to someone but I don't know to who.' [=18]

b. kisii-ko$_i$ giita-ne-hii __$_i$ tohfaa diyaa thaa PMNP kis-ko
someone-DAT Gita-ERG-ONLY gift give.PFV be.PST BIDK who-DAT
'To someone, only Gita gave a gift, but I don't know to who.' [=20]

This pair of sentences demonstrates that the scope parallelism requirement of sluicing cannot coerce new scopal configurations in the antecedent. Rather, whether a sentence obeys scope parallelism (grammatical) or violates it (ungrammatical) is contingent on the scopal relations independently fixed by the antecedent. We propose a modified requirement on sluicing in (27).

(27) SLUICING SCOPE PARALLELISM:
The scope fixed for the correlate within the antecedent is the only scope available to the WH-remnant within the sluice.

Our formulation is framed with a directionality from antecedent to sluice (contra Johnson 2001). It is only when the correlate is able to have wide scope within the antecedent, that sluicing is licensed: since the WH-remnant has wide scope as well, scope parallelism is obeyed. On the other hand, if the correlate cannot take wide scope within the antecedent, its scope is contradictory to that of the remnant in the sluice. causing ungrammaticality in sluicing cases like (26a).

The intervention examples are non-trivially distinct from Chung et al.'s (1995) ungrammatical "roofing" sentences (*She doesn't meet anyone for dinner. *They can't figure out who*). In the case of *anyone* (or the HU equivalent in (22a, b), one might consider the licensing requirement of the NPI itself (or some relevant feature on it) as the cause of its scopal trapping. In the HU intervention cases, however, licensing dependent trapping in the antecedent clause cannot explain the lack of scopal coercion, because unlike the NPI case (22b, English 21c), the indefinite correlate in (26a) has no particular need of its own that can be satisfied by staying in the scope of the focused phrase.

To sum up, we saw above that sluicing cannot coerce new scope configurations in HU, and that violations of Sluicing Scope Parallelism (27) can only be ameliorated in one way: by performing overt movement in the antecedent clause to ensure that the condition of parallel wide scope between the antecedent and the sluice is met. Indefinites are exceptional in their ability to (appear to) take non-surface scope in certain contexts—this exceptionality is what causes them to be good antecedents for sluicing. They are consistent with our statement of Sluicing Scope Parallelism.

In the next section, we show that the formulation in (27) correctly predicts the behaviour of a different kind of quantifier in HU. Specifically, it makes the prediction that if a potential correlate is barred from taking wide scope and that cannot be ameliorated in any way, sluicing should be totally ruled out. This prediction is borne out by low-scoping numerals.

6 Low-scoping quantifiers cannot be antecedents for sluicing

In HU, reduplicating a numeral gives it obligatory low scope (distributive). which holds irrespective of linear order. Independently of the discussion in this section, the existence of a fixed-scope quantifier suggests that the Linear Scope Generalization (21) needs to be qualified. This is a case that has not, to our knowledge, received attention in the literature.

(28) har aadmii [tiin-tiin ciizen]-(to) khariidegaa
each man [three-three.DIST things]-(TOP) buy.FUT
EACH >> 3, *Unavailable*: 3 >> EACH
'Each man will buy three things.'
UNAVAILABLE: 'There exist three *specific* things A, B, C, s.t each man will buy A, B, C.'

(29) [tiin-tiin ciizen]-(to) [har aadmii] khariidegaa
[three-three.DIST things]-(TOP) [each man] buy.FUT
EACH >> 3, *Unavailable*: 3 >> EACH

In (30), we see that sluicing is ungrammatical, no matter whether the antecedent was (28) or (29). Importantly, fronting the correlate *tiin-tiin ciizen* 'three-three.DIST things' in the antecedent cannot make the low-scoping numeral a good antecedent.

(30) a. (28)… or (29)… EACH >> 3 ⎫ *SLUICING* ☹
b. …*****PNMP [**kaunsii**] 3 >> EACH ⎭
BIDK which
…but I don't know which.'

The example above shows that if the correlate has low scope in the antecedent, low scope is fixed for the WH-remnant in the sluice as well. This is a contradiction—a remnant cannot simultaneously have low scope and widest scope in the sluice. This leads to ungrammaticality in (30).

A similar case has been noted in English by Romero (1998), who shows that implicit arguments—inherently low-scoping—can never be correlates for sluicing, (31). Our formulation of scope parallelism can explain this as follows - low scope of the potential correlate is fixed, and scope parallelism required the WH-remnant to have parallel low scope. However, WH-movement gives the remnant widest scope, leading to a contradiction: the WH-remnant cannot simultaneously have low scope and widest scope in the sluice. Scope parallelism is violated, causing ungrammaticality in (31). In (32), wide scope is available to *some*. This having been fixed, the WH-remnant has wide scope, is thus parallel, and licenses sluicing.

(31) a. To win is possible for Sally… POSSIBLE >> SOME
b. …*even though I don't know (exactly) **what**$_i$ Δ. WH >> POSSIBLE
c. Δ = to win $\mathbf{t}_i$ is possible for Sally *SLUICING* ☹

(32) a. To win some race is possible for Sally… SOME >> POSSIBLE
b. …even though I don't know exactly **which**$_i$ Δ. WH >> POSSIBLE
c. Δ = to win $\mathbf{t}_i$ is possible for Sally *SLUICING* ☺

7 Conclusion

To sum up, in this paper we investigated sluicing in the surface scope language Hindi-Urdu. We demonstrate that in scope-trapping configurations in sluicing, such as intervention, scopal coercion is impossible, and instead overt movement of the correlate in the antecedent is necessary. This is attributed to Sluicing Scope Parallelism which must be evaluated in a stepwise manner: *the scope fixed for the correlate within the antecedent is the only scope available to the WH-remnant within the sluice*. We show that this directionality from the antecedent to the sluice correctly predicts that elements independently prohibited from taking wide scope can never be correlates for sluicing. The results presented in this paper give us the typology of sluicing in (33).

(33) A TYPOLOGY OF AVAILABLE SLUICING

ANTECEDENT CONFIGURATION	SURFACE SCOPE LANGUAGES (**HINDI-URDU**)	INVERSE SCOPE LANGUAGES (**ENGLISH**)
A. QUANTIFIER … INDEFINITE CORRELATE	SLUICING OK	SLUICING OK
B. QUANTIFIER…LOW-SCOPING CORRELATE	*SLUICING	*SLUICING
C. [$_{\text{ROOFING}}$ NEGATION…NPI CORRELATE]	*SLUICING	*SLUICING
D. **[$_{\text{SCOPE ISLAND}}$ QUANTIFIER…INDEFINITE CORRELATE]**	***SLUICING**	**SLUICING OK**

Both surface scope languages and inverse scope languages, exemplified by Hindi-Urdu and English respectively behave surprisingly uniformly with respect to the availability of sluicing in various scope configurations (33A,B,C). When the indefinite correlate surfaces lower than a scope bearing (but not scope trapping) element in the antecedent exceptional wide-scope is licensed for both language types. For inherently low-scoping correlates, scopal coercion in sluicing is impossible for both types of languages, as evidenced by implicit arguments in English and low-scoping numerals in Hindi-Urdu (33B). Both sets of languages are subject to roofing as evidenced

by the NPI cases (33C). It is only in the context of scope-islands that these languages come apart (33D). In English, the formulation of scope parallelism does not require antecedent scope maintenance and scopal coercion i.e. covert alteration of the scope relations in the antecedent clause is possible. In contrast, in a surface-scope language like Hindi-Urdu parallelism is always subordinate to the requirement of maintaining antecedent scope.

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References

Abels, Klaus. 2014. Ellipsis and problem of *significatio ex nihilo*. LISSIM-7 Course handout.
Bagasur, MJ. 2014. Sluicing in HU. LISSIM-7 Workshop presentation by Sakshi Bhatia, Mike Clauss, Bhamati Dash, Mahima Gulati, Jyoti Iyer, Gurmeet Kaur, Ayesha Kidwai, and Utpal Lahiri.
Beck, Sigrid. 2006. Intervention effects follow from focus interpretation. *Natural Language Semantics* 14.1:1–56.
Bhatt, Rajesh and Veneeta Dayal. 2007. Rightward scrambling as remnant movement. *Linguistic Inquiry* 38.2 287–301.
Bhattacharya, Tanmoy, and Andrew Simpson. 2012. Sluicing in Indo-Aryan: An investigation of Bangla and Hindi. In *Sluicing: Cross-linguistic perspectives* 183–219.
Chung, Sandra, William A. Ladusaw, and James McCloskey. 1995. Sluicing and logical form. *Natural Language Semantics* 3.3:239–282.
Dayal, Veneeta. 1996. *Locality in wh Quantification*. Studies in Linguistics and Philosophy.
Dayal, Veneeta. 2016. Does Hindi-Urdu have feature driven wh movement to Spec vP? *Linguistic Inquiry* 48.1:159–172.
Giannakidou, Anastasia and Jason Merchant. 1998. Reverse sluicing in English and Greek. *The Linguistic Review* 15.2-3: 233–256.
Gribanova, Vera and Emily Manetta. 2017. Ellipsis in wh-in-situ languages: Deriving apparent sluicing in Hindi-Urdu and Uzbek. *Linguistic Inquiry* 47.4:631–668.
Johnson, Kyle. 2001. Sluicing and constraints on quantifier scope. *GLOT* 5.6:217–221.
Kidwai, Ayesha. 2000. *XP-Adjunction in Universal Grammar: Scrambling and Binding in Hindi-Urdu*. OUP.
Mahajan, Anoop. 1990. The A/A-bar distinction and movement theory. PhD, MIT.
Mahajan, Anoop. 1997. Rightward scrambling. In *Rightward movement* 185–213.
Malhotra, Shiti. 2009. Quantifier induced barriers and wh-movement. In *Proceedings of the 32nd Annual Penn Linguistics Colloquium* 15:139–145.
Manetta, Emily. 2010. Wh-expletives in Hindi-Urdu: The vP phase. *Linguistic Inquiry* 41.1:1–34.
Manetta, Emily. 2013. Copy theory in wh-in-situ languages: Sluicing in Hindi-Urdu. In *Journal of South Asian Languages III.*
Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis.* OUP.
Reinhart, Tanya. 1997. Quantifier scope: How labor is divided between QR and choice functions. *Linguistics and Philosophy* 20.4:335–397.
Romero, Maribel. 1998. *Focus and reconstruction effects in wh-phrases*. PhD, UMass.
Thoms, Gary. 2015. Syntactic identity, parallelism and accommodated antecedents. *Lingua* 166:172–198.
Tomioka, Satoshi. 2007. Pragmatics of LF intervention effects: Japanese and Korean wh-interrogatives. *Journal of Pragmatics* 39.9:1570–1590.