

Reading Carefully: Verb Movement and Ellipsis in a Verb-Final Language

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ABSTRACT

Verb-stranding verb phrase ellipsis (VVPE) has been identified in a variety of languages, including Irish (McCloskey 1991), Hebrew (Doron 1991; Goldberg 2005), Russian (Gribanova 2013a, b), and Hindi-Urdu (Manetta, 2018). The present paper concerns the so-called “adverb test” for diagnosing VVPE (e.g. Oku 1998; Goldberg 2005; Simpson, Chowdhury, and Menon 2013), and in particular a solution to the puzzling failure of this test in languages which have otherwise been argued to exhibit VVPE. I propose an account which posits that the apparent failure of the adverb test in these contexts emerges due to the interaction of ellipsis, verb movement, and contrastive polarity (following insights in Gribanova 2017). I claim that in contrastive environments in which the verb moves as high as a TP-external Polarity head, MaxElide will force ellipsis of the largest possible constituent. The upshot of this claim is that the string which would appear to indicate failure of the adverb test is not a string generated by ellipsis at all, but instead by a missing internal argument. This small project contributes to the wider program of recent work investigating the nature of head movement and its role in the syntax (Chomsky 2001; Hartman 2011; LaCara 2016; McCloskey 2016; Keine and Bhatt 2016; Gribanova and Mikkelsen, 2018; Manetta, 2018).

1 The puzzle

Verb-stranding verb phrase ellipsis (VVPE) refers to a phenomenon in which an entire verb phrase is elided under identity with a verb phrase in an antecedent clause, but the verb itself is stranded outside the ellipsis site. VVPE has been discovered and analyzed in detail in a wide variety of unrelated languages, including Irish (McCloskey 1991), Hebrew (Doron 1991, Goldberg 2005), Portuguese (Martins 1994), Russian (Gribanova 2013a, b), and Greek (Merchant, 2018). I provide a naturally occurring example from Hindi-Urdu:

- (1) KK: Kabhi kisi=ko dil di-ya?
 Ever someone=Acc heart give-Pfv.M
 ‘Have you ever given your heart to someone?’
Audience: Di-ya!
 Give-Pfv.M
 ‘(I) have given (my heart to someone)!’
KK: MaiN=ne bhi di-ya!
 1SG=Erg also give-Pfv.M
 ‘I have also given (my heart to someone)!’
 [“Om Shanti Om” by Anand Bakshi, in *Karz* (1980)]

For those languages in which it has been investigated, identifying clear instances of VVPE is challenging when there are other syntactic processes at work that can cause internal arguments or other VP-internal material to go missing. For instance, Hindi-Urdu permits null arguments (e.g.

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Butt and King 1997). Further, Simpson, Choudhury, and Menon (2013) claim that Hindi-Urdu has a narrower ellipsis operation targeting arguments, argument ellipsis.

- (2) a. Main=ne (us=ko) dekh-aa.
 1st=Erg 3sg=Acc see-Pfv.M
 ‘I saw it.’
- (3) a. Amit apni premika=ko pyaar kar-ta hai
 Amit self’s.F girlfriend=Acc love do-Pres.3.M.Sg Aux
 ‘Amit_i loves his_i girlfriend.’
 b. Ravi bhi pyaar kar-ta hai.
 Ravi also love do-Pres.3.M.Sg Aux
 ‘Ravi_k also loves (his_k girlfriend).’ (Simpson, Choudhury, and Menon 2013:6)

The task then becomes to establish diagnostics which distinguish VVPE from these other processes producing similar strings.

One such diagnostic is the so-called “adverb test”: a two-clause sequence in which the antecedent clause contains a VP-adjoined adverb and that adverb may be interpreted as present in the VP-ellipsis site in the elliptical clause (this test has a relatively long history -- e.g. Matos 1992; Oku 1998; Doron 1991; Goldberg 2005; Simpson, Chowdhury, and Menon 2013). The reasoning is as follows: if internal arguments can only go missing due to the presence of a null pronominal or argument ellipsis, the adverbial reading should be completely absent for the second clause. If, on the other hand, the adverbial reading is available, the material must have gone missing as a result of VVPE. For Hindi-Urdu, Simpson, Chowdhury, and Menon show that temporal adverbials and VP-adverbs modifying manner can be elided and are optionally interpretable in the site of ellipsis, as in (4b) below. They also show that if the adverb is elided and interpreted in the ellipsis site, any VP-internal arguments must go missing as well. That is, (4c) indicates that there is no process permitting adjuncts within the VP to go missing independently without arguments doing the same (even though the reverse is certainly possible). (4b) must then represent a case of true VVPE.

- (4) a. Ram=ne Chomsky=ka naya lekh do baar paRh-a.
 Ram=Erg Chomsky=Gen new writing two time read-Prf.M.Sg
 ‘Ram read the new paper by Chomsky twice.’
 b. Raj=ne bhi paRh-a.
 Raj=Erg also read-Prf.M.Sg
 ‘Raj also read (the paper twice).’
 c. Raj=ne bhi vo lekh paRh-a.
 Raj=Erg also that writing read-Prf.M.Sg
 ‘Raj also read the paper.’ NOT communicated: ‘twice’ (SCM 2013: 112)

However, a puzzle emerges in the implementation of the adverb test in a number of languages in antecedent-correlate pairs in which the correlate clause includes negation. Consider (5b), in which the downward entailing environment means that the situations described by the reading which includes the adverb are not a subset of the situations described when the adverbial is excluded. If the adverb reading were available in (5b), it would represent a very strong argument in favor of VVPE. However, many speakers find that the reading of (5b) that includes the adverb, what we will call the null adjunct reading, is inaccessible.

- (5) a. Ram=ne Chomsky=ka naya lekh dhyaan-se paRh-a.
 Ram=Erg Chomsky=Gen new writing carefully read-Prf.M.Sg
 ‘Ram read the new paper by Chomsky carefully.’
 b. Raj=ne nahiiN paRh-a.
 Raj=Erg Neg read-Prf.M.Sg
 ‘Raj did not read (the new paper by Chomsky (?*carefully)).’

The sentence in (5a) asserts that Ram read the paper with care, but it seems that (5b) has a dominant reading in which Raj did not read the paper at all (carefully or otherwise). If the null adjunct reading were indeed completely unavailable in these environments, it would cast doubt on whether VVPE exists in the language at all, since the operation should hypothetically be possible for any verb phrase, regardless of its content or context.

The mystery deepens when we consider two additional factors. First, this apparent failure of the adverb test has been reported for a number of languages such as Persian and Russian, which have been argued to have VVPE and for which other diagnostics suggest VVPE is at work. Second, there is a remarkable amount of variability in the judgments reported for the equivalent of (5b) in these languages, even among native speaker linguists.

Here, I investigate the apparent failure of the adverb test in Hindi-Urdu as in (5b) and provide evidence that the null adjunct reading can be facilitated by additional context and by adjusting the structure of the antecedent (following methods developed in Funakoshi (2016) for Japanese). The fact that the null adjunct reading can be made more palatable supports the potential for VVPE in a given language, but we are still left with a serious question: if VVPE is readily available, why would it be so difficult to get the null adjunct reading to begin with?

In this paper, I advance a preliminary analysis of the interaction of contrastive clauses and ellipsis that explains the inaccessibility of the null adjunct reading for many speakers in the equivalent of (5b). The analysis draws on insights found in a rich program of research on the nature of head movement and in particular recent work investigating the interaction of syntactic processes of verb movement and ellipsis (Hartman 2011; LaCara 2016; McCloskey 2016; Griбанова and Harizanov 2016; Griбанова 2017; Sailor, forthcoming; Griбанова and Mikkelsen 2018). Locating the position of the verb in the syntax is made all the more challenging in head-final languages like Hindi-Urdu, since verb movement to higher functional heads would typically be string-vacuous. The account I propose for the apparent failure of the adverb test in (5b) hinges on the height of the verbal complex in the syntactic structure. If, in this kind of negated response, the verbal complex has moved quite high, outside of TP, then the ellipsis of vP will be blocked by a constraint like MaxElide (Merchant 2001, 2008; Takahashi and Fox 2005), which in effect forces ellipsis of the largest possible constituent. Of course, TP ellipsis would be possible, but that would presumably create a string distinct from (5b), with the subject missing. Importantly, the analysis I propose below also provides a formal way to understand the variability in judgments for the equivalent of (5b) that is evidenced crosslinguistically, and the fact that the null adjunct reading can emerge more clearly under certain circumstances.

Overall, the work done in this paper is part of a larger effort to better understand head movement in head-final languages, in which the evidence for syntactic verb movement can be relatively subtle (Manetta, to appear). Ellipsis provides an important window into how high the inflected verb must move to escape verb phrase ellipsis. The specific contribution in the present paper is a clear account for a crosslinguistic puzzle dogging analyses of VVPE grounded in current work on head movement, polarity, and wider conditions on ellipsis.

2 Investigating the null adjunct reading

Intriguingly, the failure of the adverb test in (5b) is not a feature of Hindi-Urdu alone, but found in a range of languages that have been argued to feature VVPE. For instance, in Persian, Rasekhi (2016) claims that the null adjunct reading is not available in downward entailing environments, though a footnote (ftnt 7) admits that some speakers can obtain these readings with very strong contrastive stress on the adverb “carefully”. On the other hand, Toosarvandani (2016) states the null adverb interpretation is indeed available in these environments in Persian without any further discussion (Toosarvandani 2016 p. 19).

- (6) a. az in ke ali ketāb=ro bā deqqat khund taʔjob na-kard-am
from this that Ali book=Acc with care read.3Sg surprise Neg-did-1Sg
'The fact that Ali read the book carefully didn't surprise me.'
b. vali az in ke maryam na-khund taʔjob kard-am
but from this that Maryam Neg-read.3Sg surprise did-1Sg
'But the fact that Maryam didn't read surprised me.' (Rasekhi 2016:9)

In Japanese, Oku (1998) claims that the null adjunct reading is not present at all (p. 172) and argues against VVPE analyses for these strings, while Funakoshi (2016) disagrees, claiming that it is indeed the preferred reading in certain scenarios.²

- (7) a. Bill=wa kuruma=o teineini aratta
Bill=Top car=Acc carefully washed
'Bill washed the car carefully.'
b. John=wa arawa-nakat-ta
John=Top wash-not-Past
'Lit. John didn't wash' (Oku 1998:172)

In the case of Russian, Vera Gribanova (p.c.) observes that the null adjunct reading is somewhat difficult to obtain in the Russian equivalent of (5b), yet she argues convincingly that Russian does indeed feature VVPE based on a number of independent diagnostics (Gribanova 2013a, b; 2017). By contrast, Bailyn (2014: (29)) argues that the null adjunct reading is completely unavailable and thus VVPE cannot be at work.

This crosslinguistic body of evidence leads us to ask why we find native-speaker variability in judgments concerning the availability of the null adjunct reading, and by what could it be conditioned? Indeed, one is driven to wonder whether this is a fact about VVPE at all, or if some other mechanism is interfering in the way in which these sentences are interpreted by speakers.

2.1 Facilitating the null adjunct reading

Although native speakers tend to report that the null adjunct reading is hard to obtain in (5b) above, if additional rich context is provided or the structure of the antecedent sentence is altered, the null adjunct reading emerges with greater ease. Funakoshi (2016) argues that the Japanese

² Similar variability concerning the availability of VVPE may exist for Korean as well but assessed in a different domain (see Han, Lidz, and Muscolino 2007).

equivalent of (5b) does not constitute evidence against a VVPE analysis for strings in Japanese in which internal arguments have gone missing because the adverbial reading in a downward entailing context can be drawn out by particular means. It seems that we can facilitate the null adjunct reading in Japanese (a) if the antecedent sentence is also negated (see also Takahashi 2008); (b) if the antecedent and elliptical clauses are joined by a connective equivalent to *but* (Funakoshi 2014); or (c) if rich context is provided. These strategies also serve to facilitate the reading in Hindi-Urdu.³

Negated Antecedent

- (8) a. Ram=ne Chomsky=ka naya lekh dhyaan-se nahiiN paRh-a.
 Ram=Erg Chomsky=Gen new writing carefully Neg read-Prf.M.Sg
 ‘Ram did not read the new paper by Chomsky carefully.’
 b. Raj=ne bhii nahiiN paRha.
 Raj=Erg also Neg read-Prf.M.Sg
 ‘Raj also did not read (the new paper by Chomsky carefully).’

Clauses connected by contrastive coordinator

- (9) Ram=ne Chomsky=ka naya lekh dhyaan-se paRh-a magar
 Ram=Erg Chomsky=Gen new writing carefully read-Prf.M.Sg but
 Raj=ne nahiiN paRh-a.
 Raj=Erg Neg read-Prf.M.Sg
 ‘Ram read the new paper by Chomsky carefully, but Raj did not read (the new paper by Chomsky carefully).’

Rich context:

- (10) Ram and Raj wash their parents’ cars to get their allowance. Ram was thorough in his work, while Raj was not.
 a. Ram=ne gaaRi dhyaan-se dhoy-ii.
 Ram=Erg car carefully wash-Prf.F.Sg
 ‘Ram washed the car carefully.’
 b. Raj=ne nahiiN dhoy-ii. yeh gaaRi jis-ko Raj=ne
 Raj=Erg Neg wash-Prf.F.Sg that car.M Rel=Acc Raj=Erg
 dhoy-aaa abhii bhii thooRi thooRi ganDi rah gay-ii
 wash-Prf.N.Sg now also little little dirty.F stay go-Prf.F.Sg
 ‘Raj did not wash (the car carefully). The car Raj washed still remained a bit dirty.’

Indeed, Ayesha Kidwai (p.c.) reports that for her, simply additional knowledge about Raj’s habitual carelessness is sufficient to facilitate the null adjunct reading in sentences like (5b) above.⁴

³ Some data which was provided in the original FASAL 2018 presentation on which this paper is based was eliminated here due to space restrictions. Please see the presentation for additional examples.

⁴ Bhamati Dash and Andrew Simpson (p.c.) report that inverting the order of the adverb and the internal argument makes the null adverbial reading more available under ellipsis:

- (i) a. Ram=ne Chomsky=ka dhyaan-se naya lekh paRh-a.
 Ram=Erg Chomsky=Gen carefully new writing read-Prf.M.Sg
 ‘Ram read the new paper by Chomsky carefully.’

Crucially, if the internal argument is not missing, the null adjunct reading cannot be drawn out by any means and remains unavailable:

- (11) Ram=ne Chomsky=ka naya lekh dhyaan-se paRh-a magar Raj=ne
 Ram=Erg Chomsky=Gen new writing carefully read-Prf.M.Sg but Raj=Erg
 naya lekh nahiiN paRh-a.
 new writing Neg read-Prf.M.Sg
 ‘Ram read the new paper by Chomsky carefully, but Raj did not read did not read the
 new paper (NOT included: ‘carefully’).’
- (12) Ram and Raj wash their parents’ cars to get their allowance.
 a. Ram=ne gaaRi dhyaan-se dhoy-ii.
 Ram=Erg car carefully wash-Prf.F.Sg
 ‘Ram washed the car carefully.’
 b. Raj=ne gaaRi nahiiN dhoy-ii. #Yeh gaaRi jis-ko Raj=ne
 Raj=Erg car Neg wash-Prf.F.Sg that car.M Rel-Acc Raj=Erg
 dhoy-aa abhii bhii thooRi thooRi ganDi rah gay-ii
 was-wash-Prf.M.Sg now also little little dirty.F stay go-Prf.F.Sg
 ‘Raj did not wash a car. #The car Raj washed still remained a bit dirty.’

3 Polarity and MaxElide

A possible explanation for the inaccessibility of the adverbial interpretation for the negated elliptical sentence may be found in the interaction between verb movement, negation, and polarity. In this section I develop an account in which clausal polarity helps to determine which constituents are available for ellipsis.

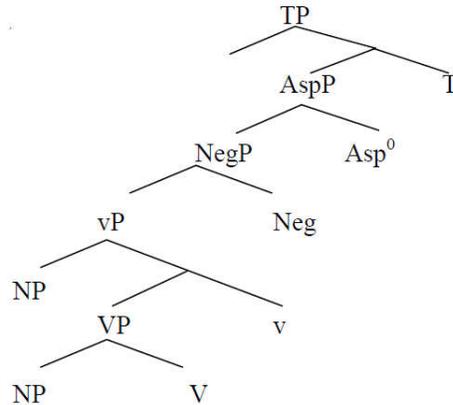
3.1 Background assumptions about clause structure

The analysis I propose below takes as a starting point a clause structure informed by a range of previous work (e.g. Bhatt 2003, 2005; Kumar 2006; Butt and Ramchand 2005; Bhatt and Dayal 2007; Manetta 2011):

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- b. Raj=ne nahiiN paRh-a.
 Raj=Erg Neg read-Prf.M.Sg
 ‘Raj did not read (the new paper by Chomsky (carefully)).’

While I don’t offer a detailed account of this fact here it seems likely that this further cements our initial observation that the accessibility of the null adverb reading is unlikely to be a fact about V-stranding VPE alone; instead, it must stem from the interaction of ellipsis with other discourse-sensitive mechanisms.

(13)



The structure in (13) assumes that the verb undergoes regular syntactic movement to at least the Aspect head, combining with inflectional material via head adjunction (Kumar 2006; Bhatt and Dayal 2007; Baker 2014; Manetta (to appear)). I have further assumed that negation in Hindi-Urdu heads a right-headed maximal projection NegP which is located between vP and AspP (Dwivedi 1991; Kumar 2006; Bhatt and Dayal 2007). This ultimately results in a complex amalgamating the verb stem, negation, and potentially aspectual suffixes: unmarked word order NEG+verb+auxiliaries. In what follows, the subject raises to Spec, TP (along with Bhatt 2003; 2005; Manetta 2011), though this is not necessarily crucial to what is proposed here.

3.2 Negated responses

A useful question to begin is what is unique about the elliptical environments above in which where the adverb reading seems to be rendered more available? Each seems to feature negative polarity focus as well as strong contrast with antecedent clause. Sentential negation and the discourse particle serving as a negative response to a question are the same lexical item in Hindi-Urdu: *nahiiN*. Interestingly for our purposes, there is a telling contrast between the availability of the null adjunct reading in elliptical responses stranding the subject and the negated verb in (14b) and (15b) vs. those stranding the subject and *nahiiN* alone as in (14a) and (15a):

- (14) Sita=ne kah-aa ki Ram Chomsky=ka naya lekh dhyaan-se paR-eega
Sita=Erg say-Prf.M.Sg that Ram Chomsky=Gen new writing carefully read-Fut.M.Sg
'Sita said that Ram will read the new article by Chomsky carefully.'
a. magar Raj nahiiN
but Raj Neg
'But not Raj' = 'But Raj will not read the new article ?(carefully).'
- b. Raj nahiiNpaRh-eega
Raj Neg read-Fut.M.Sg
'Raj will not read.' = 'Raj will not read the new article (?*carefully).'
- (15) Sita=ne kah-aa ki Mina Hamid=ko tofah jaldi bhej-egi.
Sita=Erg say-Prf.M.Sg that Mina Hamid=Dat gift quickly send-Fut.F.Sg
'Sita said that Mina will send a gift to Hamid quickly.'
a. magar Ayesha nahiiN
but Ayesha Neg
'But not Ayesha' = 'Ayesha will not (send a gift to Hamid (quickly))'

- b. Ayesha nahiiN bhej-egi.
 Ayesha Neg send-Fut.F.Sg
 ‘Ayesha will not send (a gift to Hamid (?quickly))’

For (14b) and (15b), as for (5b) above, in which the subject, negation, and verb remain, the null adjunct reading is often difficult to obtain without additional context. By contrast, in (14a) and (14a), which contain only the subject and a negative particle, the reading including the adverb *carefully* is not only available, but in fact the dominant reading. It seems clear that finding a solution to the puzzling failure (and successful remediation) of the adverb test in these environments turns out to be part of building a broader account of elliptical responses to statements or questions that raise polar alternatives.

3.3 PolarityP

In this account, I follow Laka (1990) and much subsequent work suggesting that there is a functional head Pol(arity) quite high in the clause structure which introduces features associated with polarity. The Pol head is the head in which the negative particle *nahiiN* is generated when present. In this view, Pol is connected to the Neg head (in which sentential negation is realized) via an instance of the Agree relation.

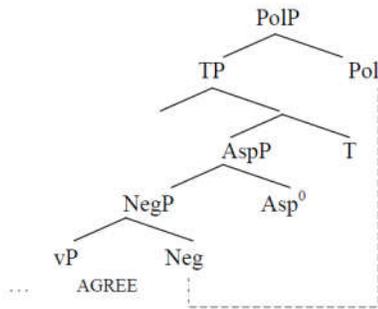
There are empirical reasons why we should consider a position high in the clausal structure for features associated with negation in Hindi-Urdu. First, the lexeme corresponding to sentential negation in Hindi-Urdu must be adjacent to the main verb, preceding the inflected verb in unmarked clauses, but as is well-known, Hindi-Urdu negation licenses NPIs in subject position (Mahajan 1990) (in (16)), takes scope over subject quantifiers (17), and scopes outside of restructuring non-finite clauses (in (18)).

- (16) kisi=ne bhi John=ko nahiiN dekh-aa
 anyone=Erg even John=Acc Neg see-Pfv.M
 ‘No one saw John.’ (Mahajan 1990:(3))
- (17) koi aadmi nahiiN aay-aa
 some man Neg come-Pfv.M
 = ‘No man came’ $\neg > \exists$
 ?*= ‘There was a man that didn’t come.’ $\exists > \neg$ (Bhatt 2003:(64))
- (18) Ram [Dilli nahiiN jaa-Naa] chaah-taa (hai)
 Ram Delhi Neg go-Inf.M want-Hab.M be-Pres.S
 ‘Ram does not want to go to Delhi.’ (Bhatt 2003:(65))
 (see also Bhatt and Homer 2014: (26c))

These facts have signaled to a number of researchers the need to posit a relatively high position for features associated with negation at some point in the derivation (e.g. Mahajan 1990; Lahiri 1998; Kumar 2006; Bhatt and Homer 2014) -- certainly higher than the surface position of sentential negation, as in (19) below.⁵

⁵ The valuation between Pol and Neg would seem to be best understood one of upward agree, by which the Pol head contains interpretable features associated with negation which are copied onto Neg (much debated – see Preminger and Polinsky 2015; Bjorkman and Zeijlstra 2014; Keine and Dash, 2018).

(19)



It is of note that other languages posited to have a high Pol head hosting features associated with negation are also reported to license NPIs in subject position and preferentially takes scope over subject quantifiers (for Irish see McCloskey (2017); for Russian see Bailyn (2014)). The question now becomes what role this high Pol head plays in clauses featuring ellipsis.

3.4 vP-ellipsis and contrastive polarity

Let us now turn to the mysterious (14b), repeated here, which features the subject, negation, and the fully inflected verb:

- (14b) Raj nahiiN paRh-eega.
 Raj Neg read-Fut.M.Sg
 ‘Raj will not read.’ = ‘Raj will not read the new article (?*carefully).’

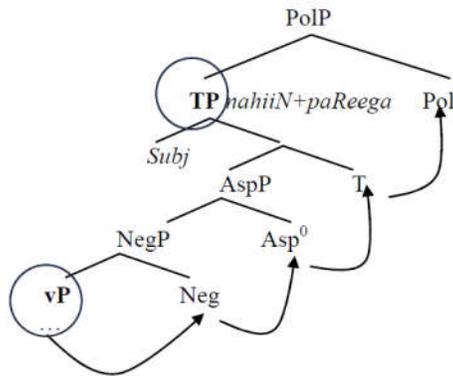
Under the account in Manetta (to appear) (14b) could potentially have one of two underlying structures: one featuring a null internal argument and one featuring VPE.

- (20) a. [_{TP} Raj [_{vP} *pro* ___] NEG-read]]
 b. [_{TP} Raj [_{vP} ~~the new article carefully~~ ___] NEG-read]]

Of course, if the internal argument is *pro*, the unavailability of the null adjunct reading is easily explained since no adverb is present in the correlate clause at all. If, on the other hand, the internal argument is missing as the result of being contained within a larger ellipsis site (VPE), then the adverbial reading should be uniformly available.

The solution to this problem lies in the following notion: there are actually no elliptical parses for (14b). I propose here that in an environment of contrastive negative polarity which lacks the negative discourse particle, the entire verbal complex (including negation when present) is attracted to the Polarity head (Holmberg 2001, 2016; McCloskey 2017; Griбанова 2017). In this case, there would actually be two constituents of different sizes which could conceivably undergo ellipsis: vP and TP.

(21)



This configuration would certainly permit TP ellipsis, but in that case the subject should be missing, generating not (14b), but instead a string like (22):

- (22) ...magar nahiiN paRh-eega⁶
 ...but Neg read-Fut.M.Sg
 ‘...but (he) will not read (the new article by Chomsky (?carefully))’

While this string is possible, the missing agent of the reading action must be identical to that in the antecedent (Ram). This is not a scenario in which Ram and Raj are being contrasted, and thus not a scenario in which (14b) can be produced.

The adverbial reading will naturally emerge here, as the adverb is well-contained within the elided TP. Why can vP-ellipsis not occur in the configuration in (30)? I argue here, alongside Gribanova 2017, that vP ellipsis is impossible here due to the restriction on ellipsis size termed *MaxElide* (Merchant 2008, classically used to block VPE in environments where sluicing (TP-ellipsis) is available. The condition as formulated in Takahashi and Fox (2005:229) has three parts:

Ellipsis Condition: For ellipsis of EC to be licensed, there must be a constituent which reflexively dominates EC and satisfies the parallelism condition.

Parallelism Condition: [A domain which satisfies the Parallelism Condition is a Parallelism Domain (PD).] A PD satisfies the Parallelism Condition if it is semantically identical to another constituent AC, modulo focus-marked constituents.

Max Elide: Elide the biggest deletable constituent reflexively dominated by the PD.

In cases where there is a variable in the elided constituent bound from outside (rebinding), there must be a PD containing the variable’s binder that is semantically identical with another constituent. This is exemplified in the contrast between the English sentences in (23a) and (23b) below:

⁶ Note that there are also two possible analyses for the string in (22). Since null external and internal arguments are available in the language, (22) could be derived without ellipsis having roughly the structure: [TP *pro*_{RAM} *pro*_{ARTICLE} NEG+VERB.] In this case, the adverb *carefully* is not present; a reading that excludes the adverb is certainly available.

- (23) Sita invited one of the students,
 a. but we don't know which one [_{PD} λX [_{TP} ~~she invited x~~]]
 b. *but we don't know which one [_{PD} λX. [_{TP} she did <λy. y invite x>]]

In the case of sluicing in (23a), the PD is large (clause-sized), and the largest deletable constituent within that PD (the TP) is elided. By contrast in (23b), the smaller constituent (vP-sized) cannot be elided, as this operation would violate MaxElide.

To the extent that we understand head movement to be a syntactic phenomenon, we should ask whether it can leave traces interpreted as variables subject to MaxElide (Hartman 2011; though see Messick and Thoms 2016). Gribanova 2017 argues that syntactic head movement in Russian leaves behind a variable, forcing the PD to be large enough to include the binder. Applying this reasoning to (21) above, if verb movement goes as high as Pol, the PD is again very large (clause-sized). TP ellipsis is thus possible, since we must choose the largest deletable constituent in the PD. On the other hand, vP ellipsis is blocked by MaxElide.

Given this analysis, the string in (14b) cannot be generated via vP ellipsis (excluded by MaxElide), nor can it be generated by TP ellipsis, as this creates a string that does not contain the subject. Instead, this string can only be generated via a null/missing internal argument, and this is why for most speakers, the null adjunct reading is not the most accessible.

We must now turn to an explanation for why the null adjunct reading in a string equivalent to (14b) can be facilitated with additional context or a change in the nature of the antecedent clause. To do this, we must explore an additional intersection of polarity and ellipsis in Hindi-Urdu.

3.5 Contrastive polarity ellipsis

Hindi-Urdu also features a structure that looks like what others have called *contrastive polarity ellipsis* (see also Vicente 2006; Kazenin 2006; Morris 2008; Barros 2014; Gribanova 2017) in which a contrastive phrasal remnant and the negative discourse particle are stranded:

- (24) Sita=se wo mil-eega, magar Raj=se nahiiN.
 Sita=with 3Sg meet-Fut.M.Sg but Raj=with NegPart
 'Sita he will meet, but not Raj.' = 'He will not meet with Raj.'

These previous accounts suggest that contrastive polarity ellipsis is TP ellipsis, stranding the negative discourse particle in Pol and the contrastive phrasal remnant in Spec, PolP. The contrastive phrasal remnant must bear the case consistent with its role in the elided clause (as in (24)). Further, as (25) illustrates, while the negative discourse particle is typically homophonous with sentential negation, the two can be distinguished in the context of negated subjunctives. In subjunctives, sentential negation can appear as either *nahiiN* or *na*. However, only *nahiiN* is permitted as a remnant in contrastive polarity ellipsis in subjunctive clauses, indicating that this remnant is the negative discourse particle and not sentential negation.

- (25) Aap kah-eN to Sita=se, wo mila-yee, magar Raj-se nahiiN/*na
 2PI say-Subj then Sita=with, 3Sg meet-Subj but Raj-with Neg/na
 'If you say so, he will meet with Sita, but not with Raj.'

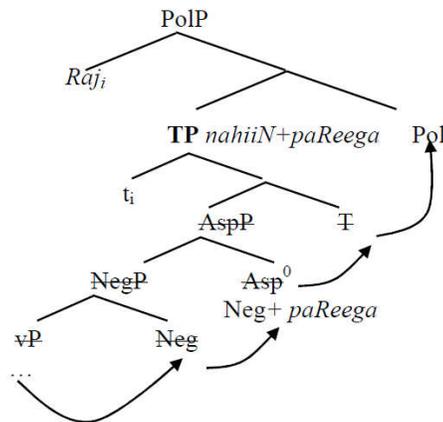
As we might expect, subjects and other clause internal material cannot appear preceding the negative discourse particle in this construction, as they are contained within the TP ellipsis site.

- (26) Sita=se wo mil-eega, magar Raj=se (*wo) nahiiN.
 Sita=with 3sg meet-Fut.M.Sg but Raj=with 3Sg Neg
 ‘Sita he will meet, but not Raj.’ = ‘He will not meet with Raj.’

We are now in a position to explain why the null adjunct reading of (14b) can be facilitated with additional contrast/context: it can be construed as a case of contrastive polarity ellipsis in which the verbal complex is attracted all the way to the Pol head.

Given the analysis above, when the null adjunct reading does emerge, it must be because there exists a Pol head which hosts the NEG+Vcomplex and may also host the contrastive topic in Spec, PolP.

- (27)



In this case, TP-ellipsis complies with MaxElide (it is the largest deletable category), and can create the desired string. This possibility emerges in discourse conditions of strong contrast between both the two topics and the two clausal polarities. Under such conditions (in the absence of the negative discourse particle), verb raising to Pol is obligatory, and the adverbial reading should be relatively accessible, because it is easily contained within the TP being elided.⁷

What then is the source of the variation we see in the accessibility of the null adjunct reading, both within and across individual speakers (and indeed, across a range of unrelated languages)?⁸ We can speculate that the Pol head in (27), which attracts a contrastive topic to its specifier and the verbal complex to its head, might be in the lexicon of most speakers under just these discourse conditions, but not otherwise. This would explain why rich context and the contrastive coordinator would help render the null adjunct reading more accessible. It might also

⁷ Of course, in discourse environments without strong polarity contrast, verb movement need not proceed to POL and thus vP-ellipsis should be possible. This is likely the structure for (8b), in which the adverbial reading is facilitated by the presence of negation in the antecedent.

⁸ This state of affairs is strongly reminiscent of the split found in the literature and in experimentation on judgments of relative scoping of quantifiers and verbal complex negation in Korean. Han, Lidz, and Musolilo (2007) propose that Korean has two grammars operating simultaneously: one with verb-raising and one without.

be that there is speaker-to-speaker variation with respect to this head and it is not necessarily present in the lexicon of every speaker (or in every variety of the relevant language), or that variation is found in the strength of the discourse conditions with which it is associated. While a crosslinguistic investigation into the scope of variation will be important, the analysis presented here provides a way of couching this variation in the syntax of ellipsis.

This analysis identifies two manifestations of contrastive polarity ellipsis in Hindi-Urdu: TP-ellipsis with a contrastive topic and negative discourse particle remnant, and TP-ellipsis with a contrastive topic and verbal complex remnant. Note that the Pol head can either host the negative discourse particle or the verbal complex. We correctly predict that it cannot host both:

- (28) a. Ram Chomsky=*ka naya lekh dhyaan-se paR-eega*
 Ram Chomsky=Gen new writing carefully read-Fut.M.Sg
 ‘Ram will read the new article by Chomsky carefully...’
 b. ?**magar Raj nahiiN paRh-eega nahiiN*
 but Raj Neg read-Fut.M.Sg NegPart
 Intended: ‘but Raj will not read (the new article by Chomsky (carefully)).’

The string in (28b) also suggests that the Pol heads hosting the negative discourse particle are obligatorily elliptical. What about when Pol hosts the verbal complex? Verb-final word order makes this hard to discern (though they are not obligatorily elliptical in e.g. Irish or Russian).

Through this approach to verb movement, polarity, and ellipsis, we can solve both the initial puzzle of the variation in accessibility of the null adjunct reading under ellipsis, and map out the pattern of responses to clauses raising polar alternatives in the discourse.

4 Conclusion

The analysis proposed in the present paper offers a solution to the puzzling failure of the so-called “adverb test” in languages which have otherwise been argued to exhibit VVPE. At first glance, the difficulty in obtaining the null adjunct reading in downward entailing environments would suggest that VVPE may not be available in languages like Farsi, Japanese, Russian, and Hindi-Urdu. But given enough context or an appropriate antecedent, the null adjunct reading can be facilitated, illustrating that some other constraint is at work here.

I propose in this paper that Hindi-Urdu, like Russian, features a Polarity head dominating TP, and capable of hosting either the negative discourse particle *nahiiN* or the negated verbal complex in strongly contrastive negative sentences. In contexts in which the verb moves as high as Pol, only TP ellipsis is available due to the restriction on ellipsis termed MaxElide, forcing ellipsis of the largest possible constituent. This means that the problematic string which would at first glance appear to indicate failure of the adverb test is not a string generated by ellipsis at all, but instead by a missing internal argument. No adverb is present, so the reading including the adverb is not expected. For many speakers, context is needed to provide a scenario of sufficient contrast to warrant a version of Pol that can also attract a contrastive topic to its specifier. In this case, TP ellipsis will strand the contrastive topic and verbal complex, and the null adjunct reading will emerge. I have posited here that it is availability of this Pol head in the lexicon of a speaker (and the discourse pressures which condition it) that is the source of variation in the availability of the null adjunct reading in Hindi-Urdu.

To this point, responsive/polarity ellipsis and the role of Pol has been most richly investigated in head-initial environments (e.g Landau 2006 for Hebrew; Merchant 2013a, Kramer and Rawlins 2011 for English; McCloskey 2017 for Irish; Gribanova 2017 for Russian) in which

word order variation engendered by head movement is readily apparent. To the extent that the wider research program successfully argues for the existence of syntactic processes of head movement, these processes should in principle be able to operate in a head-final language, and if so, they must be detectable. Further, if vP/TP ellipsis are found to be independently available, they should interact with verb movement when present. A language like Hindi-Urdu, in which optional phrasal movement, and indeed optional leftward movement of the verb, is strongly linked with discourse conditions and interpretive effects, is an ideal testing ground for theories asserting the existence of discourse-sensitive head movement

Variation amongst speakers and contexts in evaluation of contrastive polarity ellipsis structures illuminates the degree to which this head movement interacts with the interpretive component.

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