

Emily Manetta

The structure of complex predicates in Hindi-Urdu: evidence from verb-phrase ellipsis

Abstract: While complex predicates in Hindi-Urdu have received significant attention (Hook 1974; Mohanan 1994; Butt 1995, 2003, 2010; Butt and Ramchand 2005; Mahajan 2012), not yet addressed in the literature are the ways in which these constructions interact with verb phrase ellipsis (VPE). This is a significant lacuna, as VPE has famously revealed much about the features of the verbal domain (as early as Ross 1969). New evidence and careful testing (following Goldberg 2005; Simpson, Chowdhury and Menon 2013; and Gribanova 2013a, b) demonstrates that Hindi-Urdu does indeed exhibit true verb-stranding verb phrase ellipsis (VVPE) and thus regular verb movement outside the vP-layer. This is an important discovery, since relatively little empirical evidence has been brought to bear on the question of verb movement in this head-final language. In a potentially surprising result, I show that unlike Persian (Toosarvandani 2009) Hindi-Urdu complex predicates resist VPE stranding the light verb (vVPE), indicating that the inflected light verb may not move out of the verb phrase independently of the main verb. I build on the approach to complex predicates featuring decomposed verbal structure found in Butt and Ramchand (2005) to develop an account of the verbal domain in Hindi-Urdu that captures the strong syntactic connectedness between the components of the complex predicate we find in VVPE, while also predicting a range of other properties of complex predicates.¹

Keywords: Complex predicate, ellipsis, anaphora, island, Hindi-Urdu

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Emily Manetta, Department of Anthropology, University of Vermont, 509 Williams Hall, 72 University Place, Burlington, VT 05405, USA. Email: Emily.Manetta@uvm.edu

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1 Introduction

Complex predicates are found in a diverse range of languages and feature multiple predicates which act as a single unit and map to a mono-clausal syntactic structure. While complex predicates in Hindi-Urdu have received significant descriptive and analytical attention (Hook 1974; Bashir 1989; Mohanan 1994; Butt 1995, 2003, 2010; Butt and Ramchand 2005; Mahajan 2012), not yet addressed in the literature are the ways in which these constructions interact with processes of verb phrase ellipsis (VPE). This is a significant lacuna, as VPE has famously revealed much about the features of the verbal domain (as early as Ross 1969). Complex predicates are important quite generally as they represent an instance of the systematic combination of syntactically and semantically independent elements to function as a single syntactic unit. Their cross-linguistic analysis remains a topic of much debate (e.g. the contributions to Alsina, Bresnan, and Sells (1996) and Amberer, Baker, and Harvey (2014)). The goal of this paper is twofold: first, to establish that VPE is indeed available in Hindi-Urdu, and second, to use VPE as a new tool for probing the structure and composition of the verb phrase in complex predicate constructions.

VPE in many languages has provided important information about the nature of head movement and the shape of the verbal domain (Sag 1976, 1981; Williams 1977; Hankamer and Sag 1976; Jayaseelan 1990; Hardt 1993; Fiengo and May 1994; Lobeck 1995; Kennedy 2008; Johnson 2001; *inter alia*). Hindi-Urdu does not permit the equivalent of classic VPE in English, in which the main verb and its internal arguments are omitted, leaving behind only an auxiliary verb.

(1) Meena bought a new car, and Manu did too.

(2) # मीना ने नयी गाड़ी खरीदी थी और मनु भी ___ थी।

Mīnā-ne nay-ī gārī kharīd-ī thī, aur Manu bhī ___ thī.

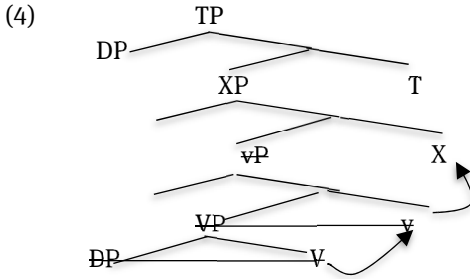
Mīna-ERG new.F car.F buy.PFV.F AUX.F and Manu also ___ AUX.F

Intended: 'Meena bought a new car and Manu did also (bought a new car).'

However, I will argue here that Hindi-Urdu does exhibit a form of VPE in which the verb undergoes head movement to escape the vP and is thus stranded outside the ellipsis site—verb-stranding VPE or VVPE. In VVPE, all vP internal material is elided save the verb itself.

- (3a) राम ने चॉम्स्की का नया लेख दो बार पढ़ा।
Rām-ne comskī-ka naya lekh do baar paṛhā.
 Ram-ERG Chomsky-GEN new paper two time read.PST.M.SG
 ‘Ram read the new paper by Chomsky twice.’
- (3b) राज ने भी ___ पढ़ा।
Raj-ne bhī ___ paṛhā.
 Raj-ERG also ___read.PST.M.SG
 ‘Raj also read (the paper twice).’
 (Simpson, Chowdhury, and Menon 2013: 112)

VVPE is known to occur in languages as diverse as Irish (McCloskey 1991), Hebrew (Doron 1991, Goldberg 2002), Portuguese (Martins 1994), and Russian (Gribanova 2013a, b), and is schematized in (4) for a head-final language.²



Positively identifying VVPE in Hindi-Urdu is complicated by the fact that there are other processes available which permit the internal arguments of a clause to go missing. Hindi-Urdu is known to exhibit null object pronominals (Davison 1999), and has been claimed to allow argument ellipsis (Simpson, Chowdhury, and Menon 2013). In this paper I perform delicate testing along the lines pursued in Goldberg (2002), Gribanova (2013a,b), and Funakoshi (2016) in order to tease apart VVPE from these alternative processes; what emerges is that Hindi-Urdu does indeed exhibit true VVPE.

The syntax and semantics of complex predicate formation has been a key focus of research in Hindi-Urdu (Hook 1974; Mohanan 1994; Butt 1995, 1998, 2013; Butt and Geuder 2001; Butt and Lahiri 2003; Butt and Ramchand 2005; Butt, King, and Ramchand 2008; Mahajan 2012). The process in Hindi-Urdu is particularly rich, in that so-called light verbs may be combined with verbal, nominal, or

² Also, for more controversial debate on VVPE in Chinese, Japanese, and Korean, see: Saito 1985; Kim 1999; Otani and Whitman 1991; and Hoji 1998.

adjectival components to create a single composed predicate with a single set of arguments.

(5) V-V complex predicate

मीना ने खत लिख लिया।

Amina-ne xat likh liy-ā.

Mina-ERG letter.M write take.PFV.M.SG

‘Amina wrote a letter (completely).’

(6) N-V COMPLEX PREDICATE

अमीना ने कहानी याद की।

Amina-ne kahāni yād k-ī.

Amina-ERG story.F memory do.PFV.F

‘Amina remembered the story’.

(7) A-V COMPLEX PREDICATE

अमीना ने मेज़ साफ की।

Amina-ne mez sāf k-ī.

Amina-ERG table.F clean do.PFV.F.SG

‘Amina cleaned the room.’

Leading accounts of complex predicates in a number of languages have productively employed a decomposed verbal structure that presupposes a tight relation between the semantics of events and syntactic structure (as developed in Halle and Marantz 1993; Hale and Keyser 1993; Levin and Rappaport Hovav 1995; Hale and Keyser 2003; see also Ramchand 2008). This line of analysis is undertaken for Persian in Folli et al (2005) and Megerdumian (2012), and for Hindi-Urdu by Butt and Ramchand (2005) and to a certain extent Davison (2005) (see also Davison (2014) and Butt (2014)). These diverse accounts share, among other things, the notion that the light verb component of the complex predicate originates at a point in the structure dominating the non-light-verb component, and that the light verb either originates in or combines via head movement/conflation with the *v* head (and thereby becomes associated with the meaning CAUSE).

On the other hand, there are a number of differences amongst various accounts of complex predicates in Hindi-Urdu, including the point at which the light verb is base generated, the nature of its movement to the *v* head and to higher, *v*P-external heads, and perhaps most importantly the degree of syntactic connectedness posited between the light verb and the non-light verb components of the complex predicate.

The investigation of VVPE in this article reveals that the Hindi-Urdu verb may regularly undergo head movement at least as high as the aspectual head (Asp⁰).

This is an important discovery, since up to this point relatively little empirical evidence has been brought to bear on the question of verb movement in the language. As we will see below, because the verbal complex in Hindi-Urdu (including main verbs, light verbs, and a number of potential auxiliary verbs) is clause-final, any verb movement into higher heads would typically be string-vacuous. For this reason, although verb movement out of the vP has sometimes been assumed to take place (Kumar 2006, Bhatt and Dayal 2007, Bhatt 2008), it has been difficult to show that it must occur.

Further, in the case of V-V aspectual complex predicates, this article finds that the light verb may not undergo head movement independently of the main verb. Thus a string equivalent to vVPE, in which the light verb is stranded while the main verb is elided, seems unavailable for Hindi-Urdu.

- (8a) अमीना ने खत पहली बार में लिख लिया।
Aminā-ne xat pahli bār me likh liy-ā.
 Aminā-ERG letter first time in write take.PFV.M
 ‘Aminā managed to write the letter on the first attempt.’
- (8b) समीर ने भी ___ लिख लिया।
Samir-ne bhī ___ likh liy-ā.
 Samir-ERG also ___ write take.PFV.M
 ‘Samir also managed to write (the letter on the first attempt).’
- (8c) समीर ने भी ___ लिया
 ?**Samir-ne bhī ___ liy-ā.*
 Samir-ERG also ___ take.PFV.M
 Intended: ‘Samir also (wrote a letter for the first time).’

The article is organized as follows: section 2 works through a wide range of diagnostics intended to differentiate VVPE from null pronominals and argument ellipsis in Hindi-Urdu, ultimately arriving at least three configurations which can be identified unambiguously as VVPE. Section 3 examines complex predicates in Hindi-Urdu and provides new data revealing the ways in which complex predicates interact with VVPE. From this data emerges a discussion of the correct analysis of the syntactic structure of the verbal domain, verb movement, and complex predicates, presented in section 4. Section 5 concludes the article and presents directions for further research.

2 Identifying VVPE

Hindi-Urdu permits a string resembling those generated by verb-stranding verb-phrase ellipsis or VVPE, illustrated with a naturally occurring example in (9).

- (9) KK: कभी किसी को दिल दिया।
kabhī kisī-ko dīl dī-yā?
 ever someone-DAT heart.M give.PFV.M
 ‘Have you ever given your heart to someone?’

Audience:

- ___ दिया।
 ___ *dī-yā!*
 ___ give-PFV.M
 ‘(I) have given (my heart to someone)!’

- KK: मैंने भी ___ दिया।
mē-ne bhī ___ dī-yā!
 1SG-ERG also ___ give.PFV.M
 ‘I have also given (my heart to someone)!’
 [from “Om Shanti Om” by Anand Bakshi, performed by Kishore Kumar
 in the film *Karz* (1980)]

Under the widely accepted account of VVPE, the main verb is understood to move outside the vP, and the entire vP is then elided (for claims that it is indeed the vP that is elided in VPE, see Aelbrecht 2010, Merchant 2013). But as is mentioned above, Hindi-Urdu exhibits two other independent syntactic processes that permit internal arguments to go missing. Isolating VVPE in Hindi-Urdu thus represents a serious challenge. Similar to languages like Persian (Toosarvandani 2009) and Russian (Gribanova 2013a, b), Hindi-Urdu permits null pronominals in object position (see Davison 1999, 2013).

- (10) मैंने (उसको) देखा।
Main-ne (us-ko) dekh-ā.
 1-ERG 3-ACC see.PFV.M
 ‘I saw it.’
- (11) अलिआ (उससे) मिली।
Alia (us-se) mil-ī.
 Alia 3.with meet.PFV.F
 ‘Alia met her.’

We must therefore exploit known properties of ellipsis that distinguish it from other kinds of anaphora in order to determine whether the construction of interest is truly VVPE. Hindi-Urdu has also recently been shown by Simpson, Choudhury, and Menon 2013 (henceforward SCM) to permit a more targeted ellipsis process called argument ellipsis. Argument ellipsis, also argued to take place in a number of East Asian languages (Oku 1998, Kim 1999; Takahashi 2006) is an ellipsis operation in which just the internal argument of a verb is elided. While I don't evaluate this analysis here, I mention it to illustrate that the analysis strings in which the internal argument alone is missing are far from straightforward.

- (12a) अमित अपनी प्रेमिका को प्यार करता है।
Amit apni premika-ko pyār kar-tā hε.
 Amit self's.F girlfriend-ACC love do.PRES.3MSG AUX.PRS.SG
 'Amit_i loves his_i girlfriend.'
- (12b) रवि भी ___ प्यार करता है।
Ravi bhī ___ pyār kartā hε.
 Ravi also ___ love do.PRES.3MSG AUX.PRS.SG
 'Ravi_k also loves (his_k girlfriend).'
- (Simpson, Choudhury, and Menon 2013:6)

The elliptical clause in (9b) above then has three potential analyses: one in which the missing object is a null pronominal, one in which it is an elided argument, and one in which it is contained in an elided vP out of which the verb has raised (VVPE).

In what follows I draw on a series of tests designed to tease apart argument ellipsis, null object pronominals, and VVPE drawing on a range of diagnostics developed for Hindi-Urdu in SCM (2013), for Russian in Gribanova (2013a,b), and for Japanese in Funakoshi (2016).

Tests designed to distinguish VVPE from other processes focus on the contents of the elided vP. The reasoning is as follows: for a given constituent XP that may go missing along with the internal arguments yet be interpreted within the ellipsis site, if that same constituent cannot otherwise be elided independently in the language, then it must have gone missing by virtue of VPE. Goldberg (2005) utilized this strategy in Hebrew with predicates that take both a DP and PP argument. Unfortunately, Hindi-Urdu permits both object DPs and argument PPs to go missing individually (Davison 2005), meaning that we will have to look to more complex VPs to isolate VVPE.

In the following section, I make use of a range of diagnostics to isolate VVPE from other processes that allow arguments to go missing. Unless the data is specifically cited otherwise, the judgments displayed were obtained from a group of nine native-speaker consultants who assessed sentences provided on a five-point scale. When native speakers judged the sentence anything but completely acceptable, a footnote explains the grammaticality marking.

2.1 Conjoined correlates

Gribanova 2013b proposes a second test that can isolate VVPE, differentiating this process from both null pronominals and argument ellipsis. If the correlate contains a disjunction, such as *yaa* ‘or’, and given that there is no known independent process permitting disjunction drop (Payne 1985, Winter 1995, Gribanova 2013b), we can be fairly sure that ellipsis of the larger verb phrase (containing two disjuncts in this case) must be true VVPE. In other words, neither null pronominal objects nor argument ellipsis could explain the interpretation of the elliptical structure in (13b).

- (13a) मुझे लगता है कि राम ने सीता को संतरा या मीना को अमरूद दिया होगा
mujhe lagtā he ki Ram-ne Sitā-ko
 me-DAT seem.HAB.M AUX.PRS.SG that Ram-ERG Sitā-DAT
santarā yā Mina-ko amruud diyā hogā.
 orange or Mina-DAT guava give.PFV.M AUX.FUT
 ‘It seems to me that Ram must have given an orange to Sita or a guava to Mina.’
- (13b) नहीं, राम ने ___ नहीं दिया होगा
nahī, Ram-ne nahī ___ diy-ā hogā.
 no Ram-ERG NEG ___ give.PFV.M AUX.FUT
 ‘No, Ram must not have given (an orange to Sita or a guava to Mina)’
 (Rajesh Bhatt, p.c.)

Thus the structure in (13b) must feature the ellipsis of a larger vP containing two disjoined smaller VPs.

2.2 VP adverbs

SCM 2013 point out that under VVPE, temporal and manner adverbs that modify the VP can go missing and then may be interpreted in the ellipsis site (as in (14a)

and (14b) below). I will call this reading of the elliptical structure the ‘null adjunct’ reading in what follows. The sentence in (14c) illustrates the fact that if the internal argument is not also missing, the null adjunct reading is not available. That is, there is not independent process by which adverbs alone may be elided.

- (14a) राम ने चॉम्स्की का नया लेख दो बार पढ़ा।
Ram-ne comskī-ka nayā lekh do bār paṛhā.
 Ram-ERG Chomsky-GEN new paper two time read.PST.M.SG
 ‘Ram read the new paper by Chomsky twice.’
- (14b) राज ने भी ___ पढ़ा।
Raj-ne bhī ___ paṛhā.
 Raj-ERG also ___ read.PST.M.SG
 ‘Raj also read (the paper twice).’
- (14c) राज ने भी वो लेख पढ़ा।
Raj-ne bhī vo lekh paṛhā.
 Raj-ERG also that paper read.PST.M.SG
 ‘Raj also read the paper.’ NOT communicated: ‘twice’ (SCM 2013: 112)

This is then our first piece of evidence that VVPE must be available in Hindi-Urdu, since there is no other clear explanation for the interpretation of the ellipsis in (14b).

We can further reinforce the conclusion that (14b) is indeed an instance of VVPE by checking another important property of VVPE. As Goldberg (2005) and McCloskey (1991) show for Hebrew and Irish respectively, in cases of VVPE the verb stem in the correlate and the verb stem in the ellipsis site must match. We will assume here that this is a general property of VVPE cross-linguistically. If (14b) above is in fact an instance of VVPE in Hindi-Urdu, attempting to change the verb following the ellipsis site should result in infelicity (provided that we restrict the interpretation to the null adjunct reading).

- (15a) राम ने चॉम्स्की का नया लेख दो बार पढ़ा।
Ram-ne comskī-ka nayā lekh do bār paṛhā.
 Ram-ERG Chomsky-GEN new paper two time read.PST.M.SG
 ‘Ram read the new paper by Chomsky twice.’

- (15b) राज ने भी ___ भेजा।
#Raj-ne bhī ___ bhj-ā.
 Raj-ERG also ___ send.PST.M.SG
 Intended: ‘Raj also sent (the paper twice).’³

The infelicity of (15b) in the context of (15a) then confirms that this is a true instance of VVPE in Hindi-Urdu, since the verb following the ellipsis site must match the verb in the correlate.

An interesting wrinkle emerges when we consider pairs in which the elliptical clause includes negation. Consider (16b), in which the downward entailing environment means that the situations described by the reading which includes the adverbial are not a subset of the situations described when the adverbial is excluded.⁴

- (16a) राम ने चॉम्स्की का नया लेख ध्यान से पढ़ा
Ram-ne comskī-ka nayā lekh dhyān-se paṛh-ā.
 Ram-ERG Chomsky-GEN new paper carefully read.PFV.M.SG
 ‘Ram read the new paper by Chomsky carefully.’
- (16b) राज ने नहीं ___ पढ़ा
Raj-ne nahī ___ paṛh-ā.
 Raj-ERG NEG ___ read.PFV.M.SG
 ‘Raj did not read (the new paper by Chomsky (??carefully)).’

The sentence in (16a) asserts that Ram read the paper with care, but many speakers have difficulty obtaining the reading which includes the null adjunct in (16b). Thus (16b) has a dominant reading that Raj did not read the paper at all. If the null adjunct reading were indeed completely unavailable in these environments (as opposed to just strongly dispreferred), this would suggest that the process at work in (16) could not be VVPE.

To complicate the matter further, it seems that this same observation has been made in a number of unrelated languages (as early as Oku 1998 for Japanese) and that the judgements are not straightforward, even among native speaker linguists. In Persian, Rasekhi (2014) claims that the null adjunct reading is not available in downward entailing environments, though a footnote (ftnt 7) suggests that “some” speakers can obtain these readings with very strong

³ Out of nine native speaker informants, eight judged this sentence “unacceptable in this conversation” and one judged this sentence “barely acceptable, unnatural in this conversation”.

⁴ I’m grateful to an anonymous reviewer for bringing this question to my attention.

contrastive stress on the equivalent of the adverb “carefully”. On the other hand, Toosarvandani (to appear) states the null adverb interpretation is indeed available in these environments in Persian without any further discussion (Toosarvandani to appear, p. 18). Turning to Russian, Vera Griбанова (p.c.) observes that the null adjunct reading is relatively difficult to obtain in the Russian equivalent of (16b). In Japanese, Oku 1998 claims that the null adjunct reading is not present at all (though this claim is hedged in a footnote), while Funakoshi (2016) disagrees.

Helpfully, Funakoshi goes further, claiming we can facilitate the null adjunct reading (a) if the antecedent sentence is also negated (see also Takahashi 2008); (b) if the two clauses are disjoined (Funakoshi 2014); or (c) if rich context is provided. It seems that these strategies also facilitate the reading in Hindi-Urdu.⁵

- (17a) राम ने चॉम्स्की का नया लेख ध्यान से नहीं पढ़ा।
Ram-ne comskī-ka nayā lekh dhyān-se nahī paṛh-ā.
 Ram-ERG Chomsky-GEN new paper carefully NEG read.PST.M.SG
 ‘Ram did not read the new paper by Chomsky carefully.’
- (17b) राज ने भी नहीं पढ़ा।
Raj-ne bhī nahī paṛh-ā.
 Raj-ERG also NEG read.PST.M.SG
 ‘Raj also did not read (the new paper by Chomsky carefully).’
- (18) राम ने चॉम्स्की का नया लेख ध्यान से पढ़ा मगर राज ने नहीं पढ़ा।
Ram-ne comskī-ka nayā lekh dhyān-se paṛh-ā
 Ram-ERG Chomsky-GEN new paper carefully read.PST.M.S
magar Raj-ne nahī paṛh-ā.
 but Raj-ERG NEG read.PST.M.SG
 ‘Ram read the new paper by Chomsky carefully, but Raj did not read did not read (the new paper by Chomsky carefully).’
- (19) Ram and Raj wash their parents’ cars to get their allowance. Ram was thorough in his work, while Raj was not.
- (19a) राम ने गाड़ी ध्यान से धोयी।
Ram-ne gāri dhyān-se dhoy-ī.
 Ram-ERG car carefully wash.PFV.F.SG
 ‘Ram washed the car carefully.’

5 Thanks to Ayesha Kidwai for her judgments and discussion of these examples. She reports that simply additional information about Raj’s habitual carelessness facilitates the null adjunct reading in (16b).

- (19b) राज ने नहीं धोयी। यह गाड़ी जिसको राज ने धोया अभी भी थोड़ी थोड़ी गंदी रह गयी।
Raj-ne nahī dhoy-ī. Yeh gāri jis-ko Raj-ne
 Raj-ERG NEG wash.PFV.FSG that car.M REL-ACC Raj-ERG
dhoy-ā abhī bhī thoṛī thoṛī gandī rah gay-ī.
 wash.PFV.MSG now also little little dirty.F stay go.PFV.F.SG
 ‘Raj did not wash (the car carefully). The car Raj washed still remained a bit dirty.’

Crucially, if the internal argument is not missing, the null adjunct reading cannot be drawn out by these means and remains unavailable (Funakoshi 2016).

- (20) राम ने चॉम्स्की का नया लेख ध्यान पढ़ा मगर राज ने नया लेख नहीं पढ़ा।
Ram-ne comskī-ka nayā lekh dhyān-se paṛh-ā
 Ram-ERG Chomsky-GEN new paper carefully read.PST.M.SG
magar Raj-ne nayā lekh nahī paṛh-ā.
 but Raj-ERG new paper NEG read.PST.M.SG
 ‘Ram read the new paper by Chomsky carefully, but Raj did not read did not read the new paper (NOT included: ‘carefully’).’⁶

Since it is possible to make the null adjunct interpretation more accessible in Hindi-Urdu, we can conclude that the elliptical clauses in (17)–(19) also represent true instances of VVPE, in which the elided VP includes both the internal argument and an adverbial. Space constraints do not permit a detailed investigation of the pragmatics of the cross-linguistic phenomenon in which the downward entailing elliptical environment makes the null adjunct reading less accessible, but we can at the very least show here that these pairs don’t provide an argument against VVPE analyses of elliptical strings altogether in these languages. This conclusion allows us to continue to use the adverbial test to isolate the VPE reading throughout the argumentation that follows.

⁶ An additional data point comes courtesy of Jim McCloskey (p.c.) who suggests that if the “low” (restitutive) reading (Johnson 2004) is available for an adverb like *again* (in Hindi-Urdu, *dubārā*) in a pair like (16), then that reading must be the one obtained from inclusion in the ellipsis site. As (i) illustrates, the restitutive reading does seem to be available. Thanks to Ayesha Kidwai and Rajesh Bhatt for their judgements.

- (1) *Ram-ne apnā darwazā dubarā khol-ā, magar Raj-ne nahī khol-ā.*
 Ram-ERG self’s door again open-PRF.M but Raj-ERG NEG open-PRF.M
 ‘Ram opened his door again, but Raj did not (open his door again)’ = Raj did not return his door to the open state.

2.3 Deep and surface anaphora and islands

As Hankamer and Sag (1976) famously demonstrated, ellipsis generally is an instance of surface anaphora, requiring a linguistic antecedent, as shown here for English VPE.

- (21a) [Hankamer attempts to stuff 9-inch ball through a 6-inch hoop]
 Sag: #It's not clear that you'll be able to ____.
 Sag: It's not clear that you'll be able to do it.
- (21b) Hankamer: I'm going to stuff this ball through this hoop
 Sag: It's not clear that you'll be able to ____.
 Hankamer and Sag (1976: 392)

A second well-known property of VPE in English is that it is permitted within islands that exclude the antecedent.

- (22a) Meena won't put the pig back in the barn.
 (22b) Don't worry, Jorge knows [a student [who will ____]].

Gribanova (2013a) provides detailed discussion concerning the fact that in Russian, null object pronominals are relatively unacceptable inside of islands. Though space does not permit a thorough review of the equivalent evidence, the examples below in (23) and (24) illustrate that the same holds true for Hindi-Urdu (see also footnote 7).

A test for VVPE laid out in detail for Russian in Gribanova 2013a exploits these two properties of VVPE (available in islands, requiring a linguistic antecedent) to create a context in which a felicitous sentence cannot be produced. If an alleged instance of VVPE in Hindi-Urdu is embedded within an island (ruling out a null pronominal analysis), but not provided with a linguistic antecedent (ruling out the ellipsis analysis), the result should be unacceptable.⁷

7 The fact that (23) and (24) are unacceptable indicates that VVPE, argument ellipsis, and null pronominals are all prohibited in these contexts. We can see from the improvement resulting from the provision of a linguistic antecedent in (25) and (26) below, that VVPE is certainly possible within islands. As we might expect, versions of (23) and (24) in which the gap is not embedded within an island are judged by the informants in this study to be significantly better (the ? label indicates that not all nine informants judged these to be fully acceptable).

(i) [Meena pulls up to the curb in a shiny vehicle while the two conversants watch]

Speaker: ?Kyā Manu-ne *bhī* ____ kharīdī thī?
 Q Manu-ERG also ____ buy-PRF.F AUX.F

This is indeed the case, as illustrated in (23) and (24) below:⁸

- (23) [Meena pulls up to the curb in a shiny vehicle while the two conversants watch]

Speaker:

आप जानते हैं यह बात कि मनु ने भी ___ खरीदी थी?

#āp jānte hē yeh bāt ki Manu-ne

2PL know.HAB.PL AUX that fact that Manu-ERG

bhī ___ kharidī thī?

also ___ buy.PFV.F AUX.F

‘Do you know the fact that Manu also bought (a new car)?’

- (24) [context: two conversants watch the salesman change a “for sale” sign on a car in the car dealership lot to a “sold” sign]

Speaker:

मैं यह आदमी जिसने ___ खरीदा था जानता हूँ

#mē yeh ādmi jis-ne ___ kharid-ā thā jāntā hū.

1SG this man REL-ERG ___ buy.PFV.M AUX.M know.HAB.M AUX.1SG

‘I know the man who bought (a new car).’

However, argument ellipsis is also an instance of ellipsis, and therefore should pattern with VVPE with respect to both the deep/surface distinction and islandhood, so this test alone does not rule out argument ellipsis as an analysis for (23)–(24). For our purposes in the case of Hindi-Urdu, we shall need to further complicate the structure by adding an adverbial in the correlate that is also

‘Did Manu also buy (a new car)?’

- (ii) [context: two conversants watch the salesman change a “for sale” sign on a car in the car dealership lot to a “sold” sign]

Speaker: *?us ādmi-ne ___ kharid-ī thī .*

That man-ERG ___ buy-PRF.F AUX.M

‘That man bought (the new car).’

I take this to mean that like in Russian, Hindi-Urdu does not permit null pronominal objects inside of islands, though space does not permit a detailed exploration of this claim here. For more on why this might be so, see Gribanova 2013a and references cited therein.

8 Out of nine native-speaker informants consulted, seven judged the contributions in (23) and (24) “unacceptable in this conversation” and two judged them “barely acceptable, unnatural in this conversation”. When asked, all nine strongly preferred versions of these sentences with the full overt noun phrase (no gap). Of course, they also judged as fully grammatical versions with overt linguistic antecedents as in (25b) and (26b) in the main text.

interpreted to be within the ellipsis site. This will ensure that we are testing structures that are only potentially VVPE.

If we now provide a linguistic antecedent, as in (25a)–(26a), the resulting ellipsis in (25b)–(26b) is fully grammatical.

- (25a) मीना ने नयी गाड़ी आज खरीदी थी।
Mīna-ne nayī gāṛī āj kharid-ī thī.
 Mīna-ERG new.F car.F today buy.PFV.F AUX.F
 ‘Meena bought a new car today.’
- (25b) क्या आप जानते हैं कि मनु ने भी ... खरीदी थी?
kyā āp jānte hē yeh bāt ki Manu-ne
 Q 2PL know.HAB.PL AUX that fact that Manu-ERG
bhī ___ kharidī thī.
 also ___buy.PFV.F AUX.F
 ‘Do you know the fact that Manu also bought (a new car today)?’
- (26a) मनु ने उस नयी गाड़ी को आज खरीदा था
Manu-ne us nayī gāṛī-ko āj kharid-ā thā.
 Manu-ERG that new.F car.F-ACC today buy.PFV.M AUX.M
 ‘Manu bought that new car today.’
- (26b) नहीं, मैं वो आदमी जिसने ... खरीदा था जानता हूँ।
Nahī, mē wo ādmi jis-ne ___ kharid-ā thā
 No, 1SG this man REL-ERG ___buy.PFV.M AUX.M
jān-tā hū̃.
 know.HAB.M AUX.1SG
 ‘No, I know the man who bought (that new car today).’

In sum, in comparing (23)–(24) with (25)–(26), we see that a pragmatic antecedent alone is not sufficient for this elliptical structure when embedded in an island. However, once a linguistic antecedent is provided, the sentence is markedly improved. Since this cannot be argument ellipsis due to the inclusion of the adverbial in the interpretation of the ellipsis site, nor can it be a null pronominal since it requires a linguistic antecedent, it must be understood as true VVPE.

2.4 Summary

In this section we have positively isolated at least three clear instances of true verb-stranding VPE in Hindi-Urdu. We can now confidently turn to using VPE as a diagnostic to learn more about the nature of verb movement and complex predicates in the language.

3 VPE and complex predicates

As in many Indic languages, Hindi-Urdu forms complex predicates in which a so-called light verb (a term attributed to Jespersen 1965) combines with a main verb, noun, adjective, or preposition to create a single composed predicate with a single set of arguments. In the case of complex predicates featuring two verbs, as in (27), the light verb typically contributes to the *aktionsart* of the overall predication. In noun-verb complex predicates as in (28), the light verb serves as a verbalizer. In each case, it is the light verb that carries inflection.

(27) V-V COMPLEX PREDICATE

अमीना ने खत लिख लिया।

Amina-ne *ḡat* *likh* *liy-ā*.

Amina-ERG letter.M write take.PFV.M

‘Amina wrote a letter (completely).’

(28) N-V COMPLEX PREDICATE

अमीना ने कहानी याद की।

Amina-ne *kahani* *yād* *k-ī*.

Amina-ERG story.F memory do.PFV.F

‘Amina remembered the story’.

The semantic and syntactic properties of these complex predicates have been the subject of extensive research (Hook 1974; Mohanan 1994; Butt 1995; Butt and Lahi 2003; Davison 2005; Butt and Ramchand 2005; Butt, King, and Ramchand 2008; Mahajan 2012).

In Hindi-Urdu, all light verbs are form-identical to a main verb in the language. As Butt 1995 reveals with careful testing, sentences with complex predicates are monoclausal. Yet it is clear from evidence including the potential for reduplication of the light verb and combinatory restrictions that light verbs are distinct from aspectual and tense auxiliaries (Butt and Geuder 2001; Butt 2003, 2010; Butt and Ramchand 2005). As these claims are uncontroversial and thoroughly reviewed elsewhere, I refer the reader to the cited literature for the detailed diagnostics.

A dominant analysis of light verbs within the Minimalist framework is that they are instantiations of the light verb *v* (Adger 2003, Butt and Ramchand 2005, Bhatt 2008, Mahajan 2012). However, there are some important differences in the way in which the light verb is treated across several of these approaches. These differences will be explored below, to determine whether the interaction of VVPE with complex predicates can provide new insights. For the purposes of this

section, we will assume that the light verb is found in *v* prior to the verb movement that must precede VVPE. This is consistent with all of the leading accounts of complex predicates in Hindi-Urdu in the current framework.

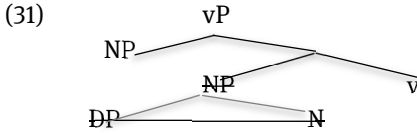
To this point we have demonstrated that VVPE does occur in Hindi-Urdu with simplex main verbs. We might expect to see VVPE with V-V complex predicate constructions in which both main and light verb are stranded and the internal arguments and other *vP*-internal material are elided, though to my knowledge the interaction between VPE and complex predicates has not yet been addressed in the literature. VVPE is indeed available in these contexts in Hindi-Urdu, as in (29) below:

- (29a) कबीर ने उस किताब को पहले पढ़ लिया।
Kabir-ne us kitāb-ko pehle bar paṛh liy-ā.
 Kabir-ERG this book-ACC first time read take.PFV.M
 ‘Kabir read this book for the first time.’
- (29b) मीना ने भी ___ पढ़ लिया।
Mīna-ne bhī ___ paṛh li-yā.
 Mīna-ERG also ___ read take.PFV.M
 ‘Meena also read (this book for the first time).’

But we also might wonder whether both components of the V-V complex predicate need to be stranded for VPE to be licit. After all, the two components of the complex predicate are separate lexical items with distinct functional profiles. Only the light verb is inflected for tense and agreement. Further, in other languages with light verbs, such as Persian, researchers have identified VPE in which the light verb, understood to be in *v*, is stranded, and the lexical projection complement to *v*, *VP*, is elided (Toosarvandani 2009). Persian, like Hindi-Urdu, features N-V complex predicates, but does not have V-V complex predicates. Thus *v*-stranding VPE (or *vVPE*) in Persian occurs when the nominal component of the complex predicate remains within the *vP* and is elided, and only the light verb is stranded, as shown in (30).

- (30) *Sohrāb pīranha-ra otu na-zad vali rostam [pīranha-ra-otu] zad.*
 Sohrab shirts-ACC iron NEG.do but Rostam shirts-ACC iron do
 ‘Sohrab did not iron the shirts but Rostam did (iron the shirts).’
 (Toosarvandani: (4))

Toosarvandani provides the following tree illustrating the clausal structure that feeds vVPE in complex predicates in Persian (see also Folli et al 2005, Karimi 1999a,b).



The question then becomes whether Hindi-Urdu also permits vVPE in V-V complex predicates. Ten native speakers of Hindi-Urdu were provided with VPE contexts in which the light verb in the complex predicate was stranded while the main verb component of the predicate and its internal arguments were elided. In the case of V-V complex predicates, speakers' judgments on these structures ranged from "barely acceptable, unnatural" (n=2) to "unacceptable" (n=8). I have marked these sentences (the (c) examples in (32)–(34)) with the symbol ?*. This is in sharp contrast to the VVPE versions of the same sentences in the (b) examples in which both main verb/nominal predicate and light verb were stranded. These were universally judged fully acceptable and thus unmarked below.⁹

v-v complex predicates

- (32a) कबीर ने उस किताब को पहली बार पढ़ लिया।
Kabir-ne us kitāb-ko pahli bār paṛh li-yā.
 Kabir-ERG this book-ACC first time read take.PFV.M
 'Kabir read this book for the first time.'
- (32b) मीना ने भी ___ पढ़ लिया।
Mīna-ne bhī ___ paṛh li-yā.
 Mīna-ERG also read take.PFV.M
 'Meena also read (this book for the first time).'
- (32c) मीना ने भी ___ लिया।
 ?**Mīna-ne bhī ___ li-yā.*
 Mīna-ERG also take.PFV.M

⁹ Note that adverbials were included in the correlate (and their potential for interpretation in the ellipsis site checked) in order to ensure that it is the properties of VPE that are being tested, and not other processes that allow internal arguments to go missing.

- (33a) कबीर एक बात कल समझ गया।
Kabir ek bāt kal samajh gay-ā.
 Kabir a fact yesterday understand go.PFV.M
 ‘Kabir understood a fact yesterday.’
- (33b) मीना भी ___ समझ गयी।
Mīna bhī ___ samajh gay-ī.
 Mīna also ___ understand go.PFV.M
 ‘Meena also understood (a fact yesterday).’
- (33c) मीना भी ___ गयी।
 ?**Mīna bhī ___ gayī.*
 Mīna also ___ go.PFV.F
- (34a) अमीना ने ख़त पहली बार में लिख लिया।
Aminā-ne xat pahli bār me likh liy-ā.
 Aminā-ERG letter first time in write take.PFV.M
 ‘Aminā managed to write the letter on the first attempt.’
- (34b) समीर ने भी ___ लिख लिया।
Samir-ne bhī ___ likh liy-ā.
 Samir-ERG also write take.PFV.M
 ‘Samir also managed to write (the letter on the first attempt).’
- (34c) समीर ने भी ___ लिया।
 ?**Samir-ne bhī ___ liy-ā.*
 Samir-ERG also ___ take.PFV.M

In the case of N-V complex predicates, the larger picture is a bit more murky, but preliminarily we can observe that the N-V predicate *yaad kar* ‘remember’ patterns much like the V-V complex predicates above.

N-V COMPLEX PREDICATES

- (35a) कबीर ने कहानी आसानी याद की।
Kabir-ne kahani āsāni yād k-ī.
 Kabir-ERG story.F easily memory do.PFV.F
 ‘Kabir remembered a story easily.’
- (35b) मीना ने भी ___ याद की।
Mīna-ne bhī ___ yād k-ī.
 Mīna-ERG also ___ memory do.PFV.F
 ‘Meena also remembered (a story easily).’

- (35c) ??मीना ने भी ___ की।
 ??*Mīna-ne bhī* ___ *k-ī*.
 Mīna-ERG also ___ do.PFV.F

Recent research suggests that there is in fact more than one class or type of N-V complex predicate that respond differently to a range of diagnostics (Ahmed and Butt 2011). Preliminarily, it seems that the predicates of different types also respond differently to VPE. This data is presented and discussed in greater detail in Manetta (in prep), so I won't address it further at present.

What emerges clearly here is that in V-V complex predicates, Hindi-Urdu does not seem to permit the light verb to be stranded alone in the absence of the main verb. The novel data concerning VPE presented in this section raises a number of questions, but here we will limit our focus to the following:

- (a) What does the potential for VVPE but not vVPE tell us about verb movement in Hindi-Urdu?
- (b) Does the availability of VVPE but not vVPE have any ramifications for existing approaches to the syntax of complex predicates in Hindi-Urdu and if so, does it favor one approach over others?

The following section explores the answers to these questions and outlines what we stand to learn from the interaction of VPE and complex predicates in Hindi-Urdu.

4 Verb movement in Hindi-Urdu

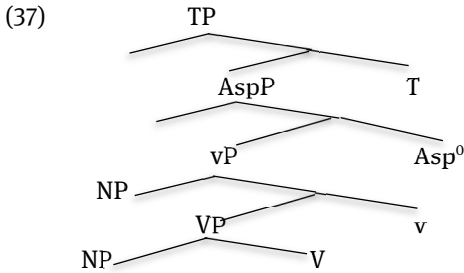
4.1 The verbal structure and the role of VVPE

The availability of VVPE and the unavailability of vVPE for V-V complex predicates reveal important properties of the verbal complex in Hindi-Urdu, including the potential for verb movement out of the verbal layer and the fine structure of complex predicates.

The Hindi-Urdu verbal complex is clause-final and rigidly ordered, and consists of a main verb potentially followed by the light verb and a number of auxiliaries.

- (36) Main verb (light verb) (passive aux) (aspectual morphology/aux) (tense aux)

Following a range of previous work (Bhatt 2003, 2005; Kumar 2006; Butt and Ramchand 2005; Manetta 2011; among many others), I will adopt the widely-assumed basic structure below for a simple Hindi-Urdu clause as in (37).

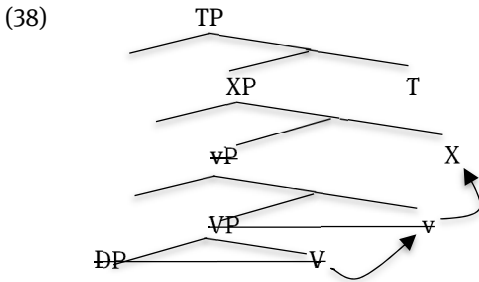


In a typical Hindi-Urdu sentence, any verb movement out of the vP would be string-vacuous, as all the heads of the verbal complex appear on the right. A number of researchers have assumed some degree of verb movement for various analytical reasons (e.g. Kumar 2006, Bhatt and Dayal 2007, Bhatt 2008). Kumar 2006, for instance, argues for obligatory successive head movement via adjunction for the purposes of better analyzing word order with respect to negation and the combination of aspectual morphology with the verb stem. Bhatt and Dayal 2007 assume optional verb movement to the head of the aspectual projection (over negation when present) in order to create VP-remnant structures that can subsequently be displaced. However, it is challenging to find direct evidence that verb movement has taken place, and tests for positioning of adverbs, post-verbal material, and subjects relative to the verb are unrevealing when the verb string is clause-final (Pollock 1989; McCloskey 1991; Depiante and Vincente 2012). The position of negation has the potential to be more useful, but as sentential negation can appear either immediately preceding or immediately following the inflected verb in the verbal string in Hindi-Urdu, these tests have not provided unambiguous information (Kumar 2006).

As a number of researchers working on head-final languages have suggested (Otani and Whitman 1991; Koizumi 2000; Simpson and Syed 2013), VVPE has the potential to provide just such evidence. The availability of VVPE in Hindi-Urdu demonstrates that at least the main verb and the light verb must be able to move out of the vP. VVPE is typically understood to be derived when the verb itself

raises out of the verbal layer, and the verbal layer is then subject to ellipsis (indicated by strikethrough) (McCloskey 1991, Goldberg 2005).

In this article I have represented the constituent that goes missing in VVPE to be vP (as in Gribanova 2013a,b). A consensus has emerged in more recent work that the size of the constituent that is elided in English-style VPE is also vP (Merchant 2013; Aelbrecht 2010, 2013). We have already seen some evidence in Hindi-Urdu that VPE may elide a constituent as large as vP, since vP-adjoined manner adverbs such as *dhyaan-se* ‘carefully’ are included in the ellipsis site (as in section 2; see Moulton 2008 and Sailor 2014 for discussion and Manetta (in prep) for more on the size of the constituent that goes missing in Hindi-Urdu VVPE). In the present article we will assume that closed-class functional head to which the verbal complex moves in Hindi-Urdu also possesses the [E] feature (Merchant 2001), meaning that its complement will go unpronounced. The complement vP is maximal and contains the verb root, verbalizer, verb arguments, and vP-adverbials—just the elements that go unpronounced in VVPE.



In section 3 above, we saw evidence that both a main verb and a light verb in a V-V complex predicate must escape the ellipsis site. If the light verb is indeed base generated or must combine with the v head, this means that both the main verb and the light verb must move to a functional head outside the vP prior to the point at which the vP then undergoes ellipsis. Since this movement is string vacuous, it is not entirely obvious to which functional head the V+v complex may move. Previous accounts of VVPE have posited that ellipsis is preceded by V-to-T movement (McCloskey 1991, Goldberg 2005). Gribanova (2013a) argues for Russian that the verb moves into the Aspect head located between V and T. There are at least two reasons to believe that V-to-Asp⁰ movement might also be at work in Hindi-Urdu.

Hindi-Urdu has a number of dependent aspectual morphemes that combine with the verb root. The example in (39a) features the imperfective/ habitual suffix *-ta/ti/te* while the example in (39b) features the perfective suffix *-a/i/e*. Under the

assumed framework, these components of verbal morphology are indeed syntactically independent, but are combined via head movement to produce a single morphophonological unit. In addition, the tense auxiliary *ho*, when present, follows the aspectually suffixed verb form as in (39a) and (39c).

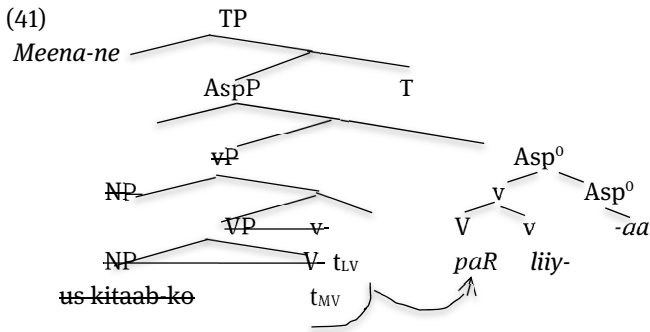
- (39a) खुशबू गाने गाती है
Khuśbū gāne gā-tī hε
 Khuśbū songs sing.HAB.F AUX.PRS
 ‘Khushboo sings songs.’
- (39b) खुशबू कल आयी
Khuśbū kal āy-ī
 Khuśbū yesterday come.PFV.F
 ‘Khushboo came yesterday.’
- (39c) खुशबू ने कल गाने गाये थे
Khuśbū-ne kai gāne gā-ye the
 Khuśbū-ERG many songs sing.PFV.PL AUX.PST.PL
 ‘Khushboo had sung many songs.’

Once combined, the inflected verb and the auxiliaries of the verbal complex cannot be separated by any kind of displacement, though they can be displaced as a unit (see Butt 1995). The word order of these components would suggest that the composed verb form is located in Asp⁰ while the independent tense auxiliary is in T. I will therefore propose, (along with others: Bhatt 2005, Bhatt and Dayal 2007) based on evidence from the availability of VVPE that in Hindi-Urdu the material in the V head, the v head, and the Asp⁰ head combine via syntactic (string-vacuous) head movement.¹⁰ Note that I have also assumed here that the subject will move to the specifier of TP (along with Bhatt 2003, 2005; Manetta 2011).

With this in place, we can now detail the head movement and ellipsis process required to create the VVPE in the complex predicate sentence in (40b) in the schematic in (41).

¹⁰ Kumar claims (contra Mahajan 1990) that the head hosting negation is found below the aspectual head in Hindi-Urdu. I instead follow Dwivedi (1991) and Bhatt and Dayal (2007) in the claim that the verbs move to an aspectual head above vP, and that head dominates negation when present. Though space does not permit a detailed discussion of negation in Hindi-Urdu, the interaction of negation with some complex predicates is discussed in section 4.3.

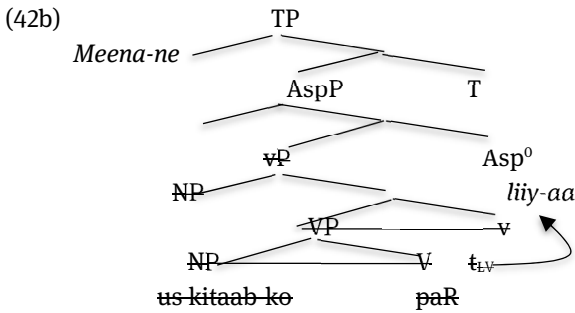
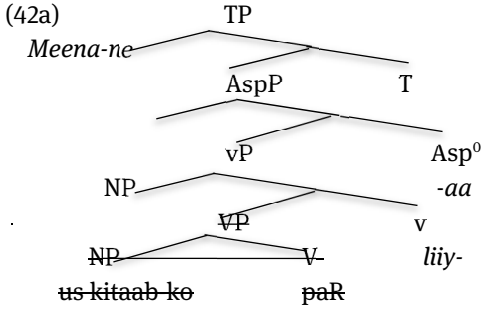
- (40a) कबीर ने उस किताब को पहली बार पढ़ लिया
Kabir-ne us kitāb-ko pahlī bār paṛh liy-ā
 Kabir-ERG this book-ACC first time read take.PFV.M
 ‘Kabir read this book for the first time.’
- (40b) मीना ने भी ___ पढ़ लिया
Mīna-ne bhī ___ paṛh liy-ā.
 Mīna-ERG also ___ read take.PFV.M
 ‘Meena also read (this book for the first time).’



4.2 Blocking v-stranding VPE

We now must turn to ways to block the ungrammatical string in which the light verb is stranded in the absence of a main verb in a serial verb construction could be derived in one of two ways. Either the VP in (42A) below could be elided in the absence of any head movement (as in Toosarvandani’s 2009 account of Persian), or the entire vP could be elided after only the v head alone has moved out, as in (42B).

- (42) ?*मीना ने भी ___ लिया
Mīna-ne bhī ___ liy-ā.
 Mīna-ERG also ___ take.PFV.M
 intended: ‘Meena also read (this book for the first time).’



In Hindi-Urdu both of these derivations must be ruled out, as the resulting strings are ungrammatical. There are two clear ways to do this, detailed under option I and II below.

Option I is to claim that VPs cannot undergo ellipsis in Hindi-Urdu. That is, the smallest verbal layer that can be elided is the vP. Further, we must say that the verb movement feeding VVPE, though overall optional, must proceed from the bottom up (that is, the main verb must instigate verb movement, never the v head) (Brody 1997), and it must proceed to Asp⁰. These two stipulations, working in concert, would exclude the derivations in (42A) and (42B) above.

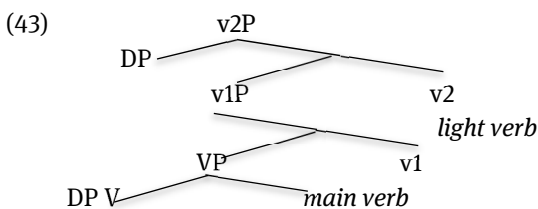
Option II would be to claim that V-to-Asp⁰ movement is obligatory in Hindi-Urdu. In this view it would be the case that in every clause, verb movement proceeded to a projection outside the verb layer, independent of the ellipsis process. There would then be no opportunity to strand the light verb alone, as it will always have formed a complex head with the main verb and (at least) the aspectual morphology/auxiliary. We would then no longer need stipulations about the size of the phrases that can undergo ellipsis, nor the nature of movement feeding specifically elliptical constructions. Further, movement of the verb into higher functional heads is assumed for many languages with a range of empirical motivations and consequences, and the theoretical mechanisms that drive it are

relatively well elaborated (e.g. for Romance: Emonds 1978, Pollock 1989, Belletti 1990; for Germanic: den Besten 1983, Travis 1984, Zwart 1993, Roberts and Rousou 2002; for VSO order: Emonds 1980, Sproat 1985, Borsley and Roberts 1996; for Slavic Bailyn 1995, Gribanova 2013a). For this reason, I won't pursue a detailed account of the mechanics of head movement and ellipsis here (for an feature-based approach see Aelbrecht 2010, and also Merchant 2013). Instead I will turn to developing a more nuanced view of the composition of the syntax of complex predication in Hindi-Urdu.

4.3 Implications for previous approaches to the syntax of complex predicates: Butt and Ramchand (2005) and Mahajan (2012)

Though VVPE structures do not provide evidence that there is always verb movement to Asp^0 in Hindi-Urdu, they do show that it must always be available in order to produce licit ellipsis structures. This requirement is at odds with a recent account of complex predicates and case assignment proposed in Mahajan 2012.

Mahajan 2012 presents an approach to complex predicates in Hindi-Urdu intended to account for the pattern of ergative case assignment, which he shows depends on the properties of the light verb and not the main verb. His proposal is to split the vP into two distinct vP projections, each with a separate functional verbal head (v1 and v2). The lower v1 assigns accusative case to the internal argument, while the higher v2 introduces the external argument in its specifier and the light verb in its head.



Though I will not review the details of this account here, most important for our purposes is the way in which ergative case is assigned. Mahajan claims that whenever ergative case is assigned (whether in a simplex or complex predicate structure) it is assigned by the higher v2 head to the argument introduced in its specifier. When no overt light verb is present, the main verb in V must move into v2 (through v1) to provide v2 information with respect to its idiosyncratic case

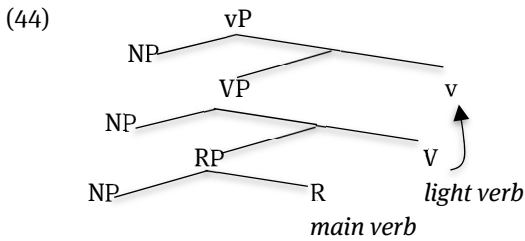
assignment properties. When an overt light verb is present, crucially the main verb in *V* must *not* move into *v*₂, as its idiosyncratic case assignment properties do not contribute to the ergative case assignment potential of the predicate as a whole.

In sum, this account would prohibit main verb movement into the head occupied by the overt light verb entirely, making it impossible to derive the VVPE cases discussed in section 3 above, in which the main verb and light verb are stranded together outside the *v*P and the *v*P itself is elided. In other words, the account of head movement for the purposes of ergative case assignment in Mahajan (2012) is incompatible with the nature of VVPE in Hindi-Urdu as investigated here. An alternative mechanism for accounting for ergative case in complex predicates is needed which does not rely on movement (see Manetta (in prep) for use of categorical feature-sharing in the extended projection as in Grimshaw (1991, 2005)).¹¹

Another leading approach to complex predicates in Hindi Urdu in which independent movement of the light verb to the *v* head is already required is that found in Butt and Ramchand 2005. They propose the structure below for serial verb constructions of the type we have analyzed here (that is, those in which the main verb is in its stem form and the inflected light verb contributes to the *aktionsart* of the predicate as a whole).¹² This account is situated in a framework termed ‘first phase syntax’ (Ramchand 2008) which relies on event structure decomposition. Although the details of this approach are beyond the scope of this article, crucial to our work here is the notion that *v*P introduces the causation event (also licensing the subject/causer), VP specifies the nature of the change or process (and any entity undergoing the change/process), and the result phrase or RP introduces the ‘result state’ of the event (licensing the entity that holds the result state) (Butt and Ramchand 2005).

¹¹ I am indebted to an NLLT reviewer for suggesting that this alternative approach to ergative case assignment be explored here.

¹² Butt and Ramchand (2005) also examine V-V constructions of the so-called ‘let’ type in which the main verb is in its infinitival form. I do not investigate these types of constructions here, though their interaction with verb phrase ellipsis should be part of a wider, more comprehensive approach to complex predication in the language.



In Butt and Ramchand's approach to V-V complex predicates of this type, the main verb is hosted in Result (R) head, as it represents the result/final state of the predicate. The light verb originates in the V head (associated with the change in state). The light verb then moves independently to the v head to become associated with causation. In their view, then, V-V complex predicates of this type are accomplishment predicates that happen to be made up of two distinct lexical heads.

This final V-to-v movement of the light verb alone is not fully compatible with the account of VPE in the present article. Here I have proposed that movement from the position at which the main verb is introduced) (R in (44), otherwise V in the structures above) is obligatory in Hindi-Urdu, and composes the complex verbal structure. However, recall that permitting the light verb to move alone outside of the vP layer could potentially generate an ungrammatical structure in which VVPE stranded the light verb yet elided the main verb. It would require an outright stipulation against additional movement beyond v for the light verb in the structure in (44) above to prevent this outcome, since the light verb is already being permitted to move independently of the main verb.¹³

An alternative would be to adopt the structure proposed for these predicates by Butt and Ramchand (2005) and depicted in (44), but to replace their short light verb movement with the account of verb movement I have proposed here, in which V-to-Asp⁰ (or indeed, R-to-Asp⁰) is routine in Hindi-Urdu. This would then

¹³ Another concern might involve the object created by head-adjoining movement. If the light verb moves into the v head, under standard Minimalist assumptions about head movement it will leave behind a trace/copy. The main verb in R would then need to adjoin to the trace/copy of movement. The complex head containing this adjunction would then move to adjoin to the v head, and that complex head in turn would move to adjoin to Asp⁰/T. Adjoining to the trace left by previous head movement, like excorporation, is generally considered undesirable (and/or to create a morphologically illicit object), though there is relatively little empirical evidence available to support this position (for more discussion see Baker 1988, Kayne 1990, Hoekstra 1993, Zwart 1993).

allow the light verb to pass through the v head and acquire the causal semantics Butt and Ramchand elaborate, while still deriving all and only the grammatical strings associated with VVPE.

4.4 v/VVPE: comparing Persian and Hindi-Urdu

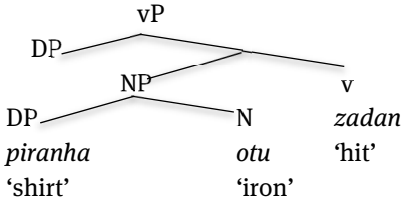
As mentioned above, Persian permits vVPE in the context of N-V complex predicates in which the light verb/verbalizer is stranded but the nominal component of the complex predicate is elided along with any internal arguments. However, V-V complex predicates in Hindi-Urdu do not permit the equivalent string.

- (45) *Sohrāb pīranha-ra otu na-zad vali rostam [pīranha-ra-otu] zad*
 Sohrab shirts-ACC iron NEG.do but Rostam shirts-ACC iron do
 ‘Sohrab did not iron the shirts but Rostam did iron the shirts.’
 (Persian; Toosarvandani: (4))
- (46a) कबीर ने उस किताब को पहली बार पढ़ लिया।
Kabir-ne us kitāb-ko pahli bār paṛh li-yā.
 Kabir-ERG this book-ACC first time read take.PFV.M
 ‘Kabir read this book for the first time.’
- (46b) मीना ने भी ___ पढ़ लिया।
Mīna-ne bhī ___ paṛh li-yā.
 Mīna-ERG also ___ read take.PFV.M
 ‘Meena also read (this book for the first time).’
- (46c) ?* मीना ने भी ___ लिया।
Mīna-ne bhī ___ li-yā.
 Mīna-ERG also ___ take.PFV.M

The question then becomes whether the contrast between (44) and (45b) stems from a difference in the syntax of complex predicates in Persian and Hindi-Urdu. A number of proposals already exist in the literature for the structure of Persian complex predicates, including those found in Folli et al 2005, Toosarvandani 2009, and Megerdooomian 2012.

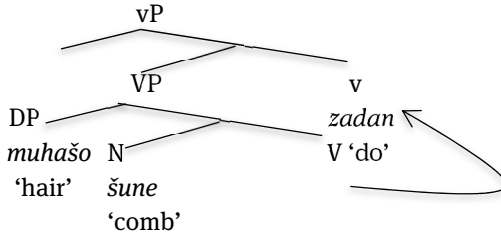
Folli et al 2005 propose the following syntax for a Persian complex predicate of the type we saw above (*otu zadan* = ‘iron hit’ = ‘iron’) in which the nominal component of the complex predicate is hosted in an NP complement to the main v containing the light verb. This is the structure employed by Toosarvandani 2009 in his approach to vVPE:

(47)



More recently, Megerdoomian 2012 has enhanced and refined this structure somewhat, based on evidence from a range of diagnostics including adjectival modification, degree of referentiality, and case assignment. She represents a structure that relies on verbal decomposition and conflation of empty functional heads with their overt complements via head incorporation (Hale and Keyser 2000). In this view a complex predicate like *šune zadan* 'to comb' will be comprised of the bare noun *šune* 'comb' and the verb *zadan* 'hit' conflated with an empty v head as in (47).

(48)



Crucially for our purposes here, Folli et al's proposal (as used by Toosarvandani 2009) and Megerdoomian's proposal have in common the fact that the light verb is ultimately found in v and that the nominal component remains in the head N. This means that in the case of vVPE, the nominal component of the complex predicate will be elided along with other VP-internal material, stranding the light verb alone.

Turning now to a comparison with the syntax developed here for Hindi-Urdu, the contrast is quite plain. The main verb in V-V complex predicates is located in the R head, which is an integral part of the verbal complex composed by obligatory head movement to Asp⁰. The main verb can thus never be elided alongside other vP-internal material, and so no vVPE will result.

The interesting question now becomes: what about N-V complex predicates in Hindi-Urdu? As I mentioned above, some N-V complex predicates in Hindi-Urdu also resist VVPE, such as *yaad kar* 'remember'

- (49a) कबीर ने कहानी असानी याद की
Kabir-ne kahani asāni yād k-ī.
 Kabir-ERG story.F easily memory do.PFV.F
 ‘Kabir remembered a story easily.’
- (49b) मीना ने भी ___ याद की
Mīna-ne bhī ___ yād k-ī.
 Mīna-ERG also ___ memory do.PFV.F
 ‘Meena also remembered (a story easily).’
- (49c) ?? मीना ने भी ___ की
Mīna-ne bhī ___ k-ī.
 Mīna-ERG also ___ do.PFV.F

Space does not permit a detailed investigation of N-V complex predicates here (though see Manetta (in prep)), but we might tentatively speculate that the syntax of N-V predicates like *yaad kar* ‘remember’ in Hindi-Urdu is more like that of V-V complex predicates in the language than like that of their Persian counterparts. Assuming the R head can host both nominal and verbal roots in Hindi-Urdu, a nominal root in R would also necessarily undergo R-to-Asp⁰ movement. Though there is certainly ongoing empirical work to be done to better understand the nature of N-V complex predicates in Hindi-Urdu, VPE has the potential to serve as a useful diagnostic for the degree of connectedness between the components of complex predicates.

5 Conclusions and future directions

Complex predicates have the potential to provide an important insight into the way the syntax functions, as they represent an instance of syntactically and semantically distinct elements combining to predicate as a unit. Crosslinguistically, their structure and composition is a matter of ongoing debate (see, for instance, the contributions to Alsina, Bresnan, and Sells (1996) and Amberer, Baker, and Harvey (2014)). Verb-phrase ellipsis is a tool that has been used extensively to probe the shape of the verb phrase and the nature of head movement in a language. This article has introduced the use of VPE to better understand complex predicates, and establishing the relevance of VPE for assessing the tightness of the connection between the independent components of the complex.

To this point, the behavior of complex predicates under VPE in Hindi-Urdu had not been explored in the literature. The new empirical work in this article

shows Hindi-Urdu V-V complex predicates permit VVPE, in which the verb is stranded outside of the elided vP. This provides evidence that Hindi-Urdu is a language with regular verb movement out of the verbal layer into the inflectional layer. While verb movement to the Tense or Aspect head had been assumed in some previous work, because Hindi-Urdu is verb final and the movement itself is thus string-vacuous, it was challenging to show that it must occur. I claim in this article that VVPE provides support for routine V-to-Asp⁰ movement, forming the morphologically complex verb.

A second important finding is that Hindi-Urdu V-V complex predicates permit VVPE, but not vVPE, in contrast to complex predicates in Persian (Toosarvandani 2009). In other words, the light verb cannot be stranded independently of the main verb, suggesting that the two form a unit and that must vacate the verbal layer together. Employing the basic syntactic structure for complex predicates proposed in Butt and Ramchand (2005) based on a decomposed verbal structure, I claim that the main verb stem found in the R head moves through V and v, combining with the light verb and the meaning CAUSE. This complex then moves into the Aspect head to combine with aspectual morphology. This R-to-Asp⁰ head movement is obligatory in Hindi-Urdu, meaning that only VVPE strings, but not vVPE strings, will be available for V-V complex predicates in the language. This analytical proposal (and the empirical observations which ground it) nicely capture the observation made by Butt and Ramchand (2005:144) that V-V complex predicates have “properties that indicate integrity with respect to determining argument structure and event structure properties, just as one would expect from a single lexical item”.

Certainly, V-V complex predicates are just one of many possible types of light verb constructions in Hindi-Urdu. Recent research suggests that there are multiple types or classes of N-V complex predicates in Hindi-Urdu (Mohanani 1994; Davison 2005; Ahmed 2011; Butt and Ahmed 2011; Ahmed et al 2012; Butt et al 2012; Sulger and Vaidya 2014) with distinct properties. Future research (pursued in Manetta (in prep)) asks whether evidence from the availability of vVPE might pattern in such a way as to support this distinction. Analytically, this would permit us to probe whether different basic structures might exist for different classes of N-V complex predicates, consistent with the differences in case-marking, agreement, adjectival modification, that were found to distinguish categories of N-V complex predicates in previous work.

This article reveals a number of open avenues for ongoing research. Within Hindi-Urdu, the rich inventory of N-V complex predicates and their properties is still under investigation, and complex predicates consisting of adjectives and prepositions have received very little attention. Research on A-V and P-V complex

predicates is in its earliest stages, and data-gathering from naturally occurring speech is sorely needed. We would hope that a more comprehensive study of complex predicates and verb phrase ellipsis cross-linguistically would prove fruitful, ideally revealing a limited set of patterns conditioned by the availability of regular head movement of the verb into the inflectional layer and the tightness of the connection between the separate components of the complex predicate.

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